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in Europe 2013

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Foreword

Through more than five years of economic crisis, the European Social Model has been challenged and re-defined in many ways. The 2011 and 2012 editions of the Employment and Social Developments in Europe review analysed this process from many angles and have proven useful in helping policy-makers understand the scale and nature of the problems Europe faces.

ESDE 2013 further develops the European Commission's analysis of the difficult and increasingly diverse labour market and social conditions in Europe, examining also to what extent employment and social policies have helped to counteract the growing challenges and what policy responses need to intensify or change. It shows, for instance, how allocation between different types of social spending could be improved, as debated already in the context of the 2013 Social Investment Package. It analyses where future jobs are likely to come from and how they might look like given longer-term structural trends shaping the economy. It seeks to identify the right policy mixes for narrowing gender gaps in labour markets, fighting poverty in working age and limiting its negative social consequences, and also for reducing the incidence of undeclared work. It contributes to the 'beyond GDP' debate by analysing various proposed metrics of prosperity and social progress, trying in particular to capture the impact of growing income inequalities on the socio-economic reality. Finally, ESDE 2013 offers further analytical backing to the recently launched policy debate on strengthening the social dimension of the Economic and Monetary Union by examining the causes of growing economic and social disparities in the euro area and ways in which they can be tackled in order to improve the economic and social performance of Europe as a whole.

However hopeful we may be that the economic crisis in Europe has finally reached its bottom, the fact is that employment and social conditions will not improve without sufficiently strong public policies, further integration in the euro zone and greater solidarity within and between societies. Ensuring a job-rich rather than jobless recovery, minimising the long-term scarring effects of the crisis on people's skills and preventing entrenched poverty is possible, but will not happen simply as a result of a mild and uneven economic upturn. All economic activity and public policy as well as the architecture of the EMU need to be organised in a way to achieve social objectives. The fact that the Europe 2020 targets on employment and poverty reduction are very distant after many years of recession cannot be an excuse for the EU and its Member States to do less; it is a reason to do more.

I hope that ESDE 2013 will prove to be not only a solid analytical contribution for employment and social policy-makers, but also a stimulus for all political leaders to take greater responsibility in their respective fields for improving today's deeply worrying employment and social situation.

László Andor
Commissioner for Employment, Social Affairs and Inclusion

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Executive summary

Already the third ESDE Review.

This is already the third edition of the Employment and Social Developments in Europe Review (ESDE). Starting in 2011, the newly launched analytical publication has focused on key themes and developments linked to employment and social objectives of the Europe 2020 strategy, in order to provide analytical underpinning to the European semester process, in particular to the preparation of the Annual Growth Survey 2014 and the Joint Employment Report. Its consistent efforts to combine and integrate both labour market and social inclusion aspects of the issues addressed have been a reflection of the integrated and mutually reinforcing character of the Europe 2020 goals.

Tentative signs of recovery...

Many of the themes covered in the two previous issues of this review were driven by the protracted economic and social crisis affecting all EU Member States, albeit to varying degrees. At long last, 2013 has seen the first tentative signs of economic recovery following the combined impact of active ECB policies, differentiated and growth friendly fiscal consolidations and a small rebound in internal demand. Furthermore, the rise in unemployment, even for young people, has recently flattened; even in some of the worst-hit countries. But economic growth is unlikely to be job-rich without sustained policy reforms and more effective public support and investment facilitating the labour reallocation process.

... amidst still highly challenging labour markets...

Weak labour markets have seen long-term unemployment rising in most Member States and to an all-time high in the EU. Structural unemployment and labour market mismatches have been growing. Net job destruction has been coinciding with an increase in precarious jobs even though, compared to before the crisis, the share of temporary contracts has fallen in the EU as they bore the brunt of the downturn. Part-time, especially involuntary part-time, jobs have been increasing. The threat to the future of many young people, with an EU average unemployment rate of 23%, remains acute.

... and social conditions.

Increasing hardship now sees nearly a quarter of the EU population at risk of poverty or exclusion. The biggest increase has been among those of working age as unemployment has risen and the number of jobless households has increased. In-work poverty has also risen, partly reflecting the fact that those who remain in work have tended to work fewer hours and/or for lower wages. Children in such households are also exposed to increased poverty. Growing social distress in employment and poverty are the result of the crisis and the lack of resilience of the labour market and social institutions.

Growing divergences in the euro area...

These challenges have been increasing recently as the situation has worsened in many Member States. Divergences between countries have been growing, especially within the euro area. Southern EU Member States have been particularly hard hit. High unemployment, low employment, rising poverty and social exclusion, and declining household incomes in several Member States reduced aggregate demand and eroded confidence throughout the currency union and the EU as a whole.

...have roots in unbalanced growth patterns in some Member States.

The chapter entitled Convergence and divergence in EMU — employment and social aspects takes a closer look at this issue. It shows how the seeds of the current divergence were already sown in the early years of the euro, as unbalanced growth in some Member States, based on accumulating debt fuelled by low interest rates and strong capital inflows, was often associated with disappointing productivity developments and competitiveness issues. Cost competitiveness problems built up in some Member States with labour costs increasing much more than labour productivity. The Member States with the weakest productivity performance also underperformed in human capital formation, thus compounding the problem with declining non-price competitiveness, so critical for strong external performance.

Internal devaluation has some limitations as a solution to cost competitiveness problems.

In the absence of the currency devaluation option, euro area countries attempting to regain cost competitiveness have to rely on internal devaluation. This policy, however, has some limitations. It comes with a timing issue, as the negative demand effects of wage containment precede the positive effects of improved export performance. The effectiveness of wage containment policies depends on a series of factors including the openness of the economy, the strength of external demand, and the presence of flanking policies and investments enhancing non-cost competitiveness factors and facilitating the labour reallocation process. The longer-term human capital damage resulting from increased unemployment and social hardship also need to be taken into account (hysteresis effects).

Persistent economic and social disparities within the euro area threaten core objectives of the EU.

Macroeconomic instability and still growing macroeconomic, employment and social divergences might jeopardise the functioning of EMU and thus core objectives of the EU as set out in the Treaties, namely to benefit all its members by promoting economic convergence and to improve the lives of citizens in the Member States. Enhanced surveillance of employment and social developments was proposed by the Commission recently in its Communication on the Social Dimension of EMU. In the long term and after Treaty changes, an EMU-wide fiscal capacity with a shock absorption function could complement existing policy coordination instruments.

Trends in EU public spending in recent years differed from those in other OECD countries...

How effectively have the welfare systems in the EU in recent years fulfilled their economic and social objectives, and what possible lessons can be drawn for the future? After resisting the first phase of the recession better than some other OECD countries, the EU has seen comparatively worse labour market performance since 2011. Unemployment has risen rather than fallen and employment rates have declined. Poverty has also been on the rise since 2007 in the EU overall while it has fallen moderately in several other OECD countries. At the same time, while far from uniform across Member States, overall public expenditure levels showed trends different to those in other advanced countries.

...and from those in previous recessions.

Public expenditure trends also differed from those in past downturns. In the early phase of the crisis (until 2009), social expenditures played a strong role in stabilising household incomes. Following the European Economic Recovery Plan (EERP) recommendations of November 2008, enhanced unemployment benefit systems played an essential role in income stabilisation, while other items of social expenditures (notably pensions and health) also played a role in maintaining aggregate demand. From 2011, however, social expenditure declined and the fiscal stimulus was phased out against the background of the sovereign debt crisis in the euro zone. Subsequently, employment and social challenges further grew during the second dip of the recession. In this context it is more important than ever to examine the role of social protection expenditure as an economic stabiliser as well as ways to maximise its effectiveness and efficiency in terms of social outcomes achieved.

Effectiveness and efficiency of social spending gained importance in the crisis...

The size, structure and design of social expenditure are all important for its effectiveness and efficiency. While the intensity of fiscal consolidation has differed across countries, it is also observed that Member States may achieve markedly different economic (such as automatic stabilisation) and social outcomes (such as income smoothing, poverty and inequality reduction or health outcomes) despite having similar levels of spending.

...but its allocation has not always been adequate.

The dynamics of different types of social expenditure between 2007 and 2010 have not always been balanced. In some instances stronger increases occurred in less efficient areas with already high expenditure levels but relatively weaker social or employment outcomes. Conversely, low expenditure increases occurred in areas of initially low expenditure levels where the potential for greater impact existed.

Gender gaps remain prominent in EU labour markets…

The gender dimension is one of a number of structural labour market and social inclusion challenges, which may over time harm both the supply and demand side of labour markets in the EU. Women have historically faced unfavourable labour market and social outcomes compared to men, which is clearly reflected in persistent gender gaps in core labour market variables. Although the crisis has contributed to a contraction of gender gaps, this development has mostly been the result of male-dominant sectors being hit worse by the crisis. Meanwhile, gender differences still persist in key areas such as labour market participation, pay and the risk of poverty. Moreover, women tend to accumulate fewer total hours worked compared to men, which leads to an even wider gender employment gap than a simple comparison of employment rates would suggest. Although this gap has also narrowed during the crisis years, it is still high and persistent. While the lower labour intensity can reflect individual preferences and can be associated with some favourable effects, it still leads to diminished career opportunities, lower pay, lower prospective pensions and underutilisation of human capital resulting in lower GDP. Many societal or institutional barriers or constraints remain to be tackled in this respect.

…but the right policy mixes can contribute to their narrowing.

Although Member States perform differently in terms of the gender gap in hours worked, there are some distinct patterns: in some cases a high share of women are working but with relatively shorter hours, in others female participation is lower, but once in employment, women tend to work relatively longer hours. Only some Member States succeed in combining high female employment rates with a low gender gap in total hours worked. An effective policy mix appears to include gender-equal working time, widely available flexible work, incentives for the division of unpaid work within a couple, and employment-friendly, accessible and affordable childcare with longer day-care hours.

Undeclared work also remains an important structural labour market challenge…

Undeclared work remains another structural problem for European labour markets. Growing unemployment and poverty fuelled by the crisis increase the pressure on employees to accept undeclared payments, notably in small companies. To a lesser extent, the crisis also creates conditions for a possibly higher supply of undeclared services by individuals. By accepting undeclared payments and undertaking undeclared work, individuals forego their social security rights, while weakening social security systems in their entirety. New data from a large-scale survey suggests that the incidence of undeclared work in Europe has remained relatively high and, interestingly, unchanged compared to pre-crisis levels, although the intensity and drivers differ across the EU. Within the regions most affected, the lack of regular income and jobs, and insufficient trust in the effectiveness of the welfare state, count as the main reasons for performing undeclared work.

…although some Member States have been successful in reducing its incidence.

Although the regularisation of undeclared work requires country-specific action, there is scope for mutual learning at European level. Several Member States have managed to reduce the incidence of undeclared work substantially as a result of decisive measures aimed at tax compliance, incentives, awareness and sanctions. Labour market, regulatory and tax policies thus create a lot of scope for improving employment figures, as shown by several Member States that have successfully implemented reforms to regularise occasional or minor jobs.

Taking up a job helps getting out of poverty only in half of the cases.

Significant increases in poverty among those of working age are among the most tangible social impacts of the economic crisis and even a gradual reduction of unemployment level may not provide guarantees for a reversal of this situation. This ESDE review shows how taking up a job helps getting out of poverty, but only in half of the cases: much depends on the type of job found, but also on the household composition and labour market situation of the partner.

People receiving unemployment benefits have greater chances to take-up a job than non-recipients.

Combining adequate income support, and measures promoting inclusive labour markets and access to enabling services, is needed to reduce working age poverty and its drivers. In some countries, significant shares of unemployed are not covered by standard safety nets (unemployment benefits, social assistance), and tend to rely on pensions, including elderly pensions received by other members of the household. Such situations are not supportive of returns to employment because they are not associated with any incentive structures (activation, conditionality, etc.). In contrast, adequate and widely available systems of income support do not prevent or discourage returns to employment if they are well-designed (for example, with reducing generosity over time) and accompanied by appropriate conditions (job search requirements). Analysis shows that all other things being equal, people receiving unemployment benefits have greater chances to take-up a job than non-recipients.

A longer-term view of structural factors of future job creation...

Signs of a gradual labour market recovery also offer an opportunity to take a longer-term view and to assess how the key structural factors, such as further technological progress, globalisation, demographic change and greening of the economy, are likely to impact on future job creation in the EU.

... indicates potential for relatively robust employment outlook...

Technological progress, especially in the field of key enabling technologies and information and communication technologies (ICT), in combination with globalisation, could support the creation of new higher quality jobs, allowing the EU to exploit its comparative advantages in world markets to a fuller extent. In turn, demographic change will doubtlessly increase pressure to design and implement strategies supporting skill formation and education, in order to speed up productivity gains as the necessary major source of future growth in the environment of declining working-age populations. At the same time, ageing populations and changing family structures will also give rise to the creation of new jobs in the health and care sectors. Finally, the greening of the economy and a more intensive use of ICT should also bring about a profound change in the skill profiles that employers want and employees need.

... but not without appropriate policy responses addressing skill mismatches and growing labour market polarisation.

Nevertheless, this positive outlook has a number of caveats. The benefits of these transformations can only be sustained by creating a virtuous circle of continuous innovation supporting a strong knowledge- and technology-intensive enterprise sector backed by expanding international trade. Greater investment in human capital is crucial in this respect. Moreover, some jobs will be destroyed or will benefit less from the overall improvements in job quality. Skill mismatches, gaps and shortages are likely to play an important role in this respect, while persistent unemployment in the current economic downturn may reduce the future employability of the unemployed. Such developments carry the risk of accelerating labour market polarisation, preventing realisation of the full job potential by 2020. Quick stabilisation of the economy combined with adequate policy responses, including stronger synergies between education/training systems and the needs of enterprises are necessary preconditions to mitigate this risk.

Adequate measures of social progress...

Apart from looking at recent developments and structural trends in Europe's labour markets and social situations, this ESDE Review also attempts to contribute to another important on-going debate relevant for economic, employment and social policy making. The 'Beyond GDP' debate has in recent years drawn attention to the need to complement measurement of GDP with indicators that encompass environmental and social aspects of progress. At the same time, in the global arena, discussion is now underway to set up a new post-2015 framework for sustainable development, where goals supported by indicators looking beyond GDP and including a focus on social cohesion would help direct policies towards more inclusive and sustainable growth. The limitations of GDP as a measure of key societal goals such as well-being and sustainable development are widely recognised. Alternative measurement concepts are being tested and increasingly used for policy making at regional, national and international level. Economic growth is a key component of well-being, via improvement in standards of living, but needs to be sustainable and ensure that the benefits are widely and fairly distributed across society. This has been recognised at the top political level with the adoption in 2010 of the 'Europe 2020' strategy, which is based on a vision of smart, green and inclusive growth. Nevertheless, there is widespread concern that the benefits of economic growth have not been shared fairly, and that the current crisis further widens the gap between rich and poor.

... should start playing a stronger role in guiding key policy decisions.

Additional indicators need to be discussed to complement the standard socio-economic accounting, so as to better measure the progress of societies, and in particular to integrate distributional measures in the monitoring of growth. Such indicators include the growth rate in real median income, income inequality as measured by one of the widely accepted inequality indicators, median income developments within specific quintiles, inequality-adjusted growth in GDP per capita, and median life satisfaction.

Conclusions: well-designed policies for a sustained recovery.

The nascent economic recovery in Europe is still fragile, while labour market and social conditions remain extremely challenging. Ensuring a sustained exit from the lengthy economic downturn, a job-rich recovery and a return to the path towards the Europe 2020 targets will require well-designed policies to confront the employment and social challenges. Investing in jobs and people; improving labour market functioning; increasing the effectiveness and efficiency of tax and benefit systems; supporting transitions away from unemployment and poverty; and restoring socio-economic convergence within the EMU all remain crucial priorities.

Key employment and social trends in the face of a long delayed and fragile recovery[1]

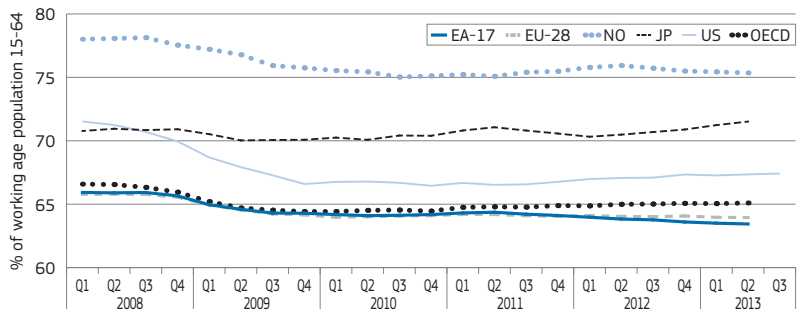
1. Introduction

The protracted economic and social crisis affecting all EU Member States, albeit to varying degrees, has in 2013 been finally accompanied by the first tentative signs of economic recovery. However, both labour market and broader social conditions remain highly challenging, and the inclusive character of the possible recovery is uncertain.

The challenges have been compounded by growing divergences between Member States, especially within the euro area. Southern EU Member States have been particularly hard hit. High unemployment, low employment, rising poverty and social exclusion, and declining household incomes have hit the Member States directly affected but may also impact on other Member States through trade (as they weigh on aggregate demand and competitiveness) and eroded confidence.

Reflecting this situation, this chapter begins with an analysis of the situation in the EU compared to that in some other key global economies. It continues with an overview of the key elements of the divergent employment and social developments, especially in the euro area. The final section looks in more detail at the employment and social situation in the EU[2].

Chart 1: Employment rate developments in the EU and OECD



Source: OECD, LFS, data seasonally adjusted.

2. The EU in the global context: how does it compare to its main partners?

The effects of the prolonged crisis have adversely affected the EU labour markets, exacerbated poor social conditions, and weakened the public finances of the Member States. While similar trends are to some extent observed globally, the EU has performed worse on average in comparison to its partners. However, the overall trends and outcomes in the EU conceal significant variations between Member States.

Some Member States weathered the initial crisis well compared to Europe's global partners and quickly recovered, while others have seen prolonged problems and systematically underperformed. This divergence in labour and social outcomes within the EU is linked to the national institutional and policy framework, as well as to their different economic structures. The following analysis provides an overview of trends in employment, social situations, welfare spending, and competitiveness in the EU vis-à-vis its global partners, highlighting the importance of institutional and policy design for labour market and social systems.

2.1. Employment trends and labour market resilience

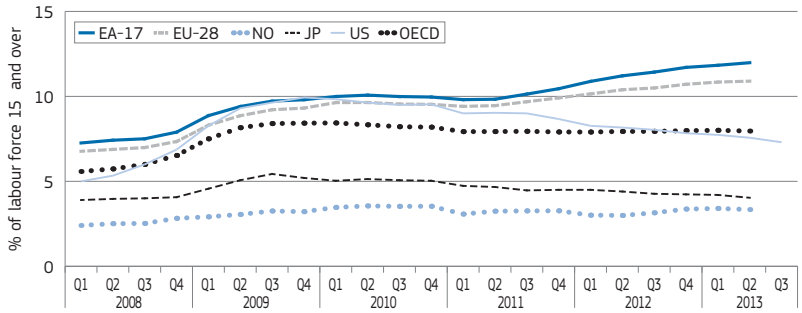
The 2008 crisis had a substantial negative impact on labour markets across the world. Global unemployment peaked in 2009 at around 6.2%, but subsequently dropped during 2010 and 2011 to 5.9%. However, in 2012, the global unemployment rate increased again, if modestly, and is projected to reach approximately 6.0% in 2013 with the unemployment rate in developed economies forecast to be 8.7%[3].

(1) By Ana Yancheva, Frederic Lagneaux, Isabelle Maquet-Engsted, Laurent Aujean, David Arranz, Emmanuel Joseph

(2) See also Chapter 5 in this review on 'Convergence and divergence in the EMU: employment and social aspects'

(3) ILO (2013), 'Global Employment Trends 2013' Note: The data points are taken from the Facts and Figures and Summary pages on http://www.ilo.org/global/research/global-reports/global-employment-trends/2013/lang--en/index.htm

Chart 2: Unemployment rate developments in the EU and OECD



Source: Eurostat and OECD, harmonised series on unemployment, data seasonally adjusted.

During the crisis period, the labour market performance in the EU was, on average, worse than that in other developed countries. Employment rates in the EU between 2008 and 2013 were lower than the OECD average, while unemployment rates were higher, continuing pre crisis trends.

However EU labour markets proved to be relatively more resilient during the first years of the crisis, in particular in comparison to the US ([4]). This has been attributed to a lower exposure to shocks in the construction, property and financial sectors in some Member States (e.g. France, Germany), the activation of short-time working schemes and similar actions undertaken by the social partners that helped reduce job losses (e.g. Germany, the Netherlands), and a continuing growth of labour market participation of older workers and women ([5]).

These negative labour developments in the EU contrast with the moderate improvements that other OECD countries have experienced. While labour markets in the EU recovered moderately during the second half of 2010, in 2011 employment started falling again. As a result, unemployment increased rapidly and reached a historic high of 27.3 million in the first quarter of 2013 (11.5 %) ([6]). The deterioration in European labour markets was accompanied by negative GDP growth in both the EU and EA-17 in 2011 and 2012 at a time when the unemployment rate decreased in the US, Japan and Canada. Labour market improvements in those countries are partially explained by positive, if low, rates of GDP growth and, in the case of the US, decreasing labour participation rates. However, estimations that link unemployment to GDP growth (Chart 16) also indicate that the labour market resilience of the euro area decreased post-2011.

While the overall employment outcomes in the EU have been worse than those in other OECD countries during recent years, some Member States, such as Germany, Finland, Denmark, have consistently outperformed Europe's global partners. This demonstrates how the impact of the crisis has varied substantially across the labour markets of different EU Member States with labour market outcomes in the North and Centre of the Union being consistently better than those in its South and Periphery ([7]). Furthermore, during the past two years, the EU outperformed the EU-17 in terms of both unemployment and employment rates.

Differences in the severity of the crisis in terms of lost GDP do not completely explain divergences in labour market outcomes between the Member States. Countries that were affected by an international trade shock due to a reduction in world demand experienced smaller losses of employment compared to those affected by internal (if still linked to the global crisis) shocks in the financial, construction, or property sectors. Other country-specific characteristics also had an impact on the severity of the output shock.

Research suggests a number of factors that might account for cross-country differences in labour market resilience ([8]) including the degree of labour market segmentation, the share of temporary contracts in the labour market, the strictness of employment legislation protection, the use of active labour market policies, the average tax wedge, and the role of the social partners, with the relative labour market resilience being largely influenced by the institutional and policy environment.

2.2. Inequality and poverty trends

Recent analysis ([9]) highlights that income and wage inequalities have increased sharply across most OECD countries during the past three decades. While substantial differences between countries persist, in the great majority the incomes of those in the top decile increased much faster than those in the bottom decile. In addition, in some traditionally low inequality countries such as the Central European and Nordic states, inequality increased substantially post-2000, although it still remains below the OECD average. In comparison, in some traditionally high inequality countries, such as Greece and Turkey, it has fallen during the last years. The OECD report attributes these outcomes to a variety of forces, including globalisation and technological change and developments in policy and institutional features.

During the crisis, income inequality in the EU as measured by the GINI index and the S80/S20 quintile ratio did not rise significantly overall, although there were sizeable increases in a number of Member States, particularly in Southern Europe. Based on EU-SILC data, between 2008 and 2011 the EU-27 GINI decreased by 0.1 point although, for EA-17, it increased by 0.3 points. Moderate increases in inequality as measured by the GINI were observed in the US as well — 0.4 GINI points during 2008–2010. However the GINI coefficient provides only a limited understanding of developments in inequality since it does not show developments in different

(4) Between 2008-Q1 and 2010-Q1, unemployment in the EU-27 and EA-17 increased by an average of 0.22 and 0.14 percentage for each percentage point decrease in GDP in the same quarter, while in the US — by 1.52 percentage points (Commission Calculations).

(5) European Central Bank (2012), 'Euro Area Labour Markets and the Crisis'. See also European Commission *Industrial Relations in Europe 2010, and 2012.*

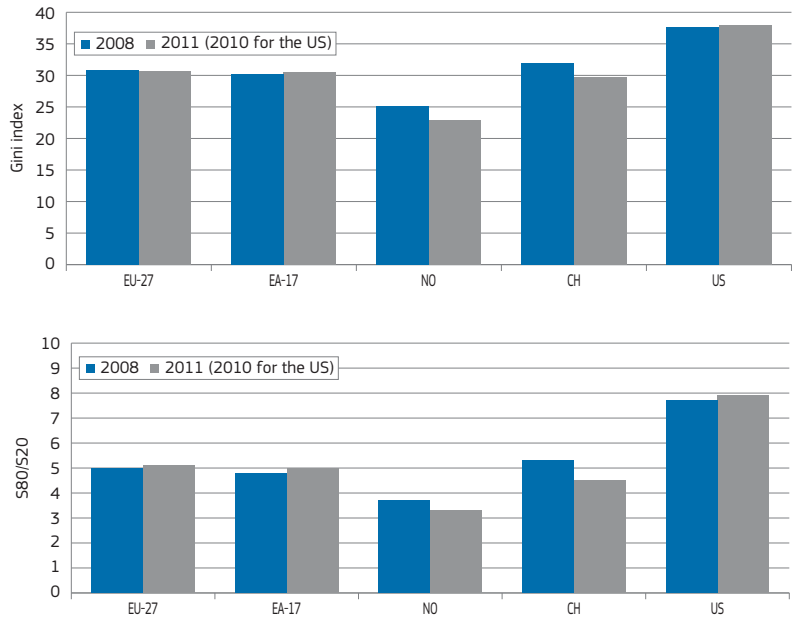
(6) European Commission (2013a), 'EU Employment and Social Situation: June 2013'.

(7) For more details on this issue, see Section 3 of this chapter.

(8) See for example, OECD 2012b, 'What Makes Labour Markets Resilient' or ECB 2012, 'Euro Area Labour Markets During the Crisis'.

(9) OECD 2011: Divided We Stand: Why Inequality Keeps Rising; European Commission (2011): Employment and Social Developments in Europe – Annual Review 2011; GINI project: http://www.gini-research.org/articles/home.

Chart 3: Changes in GINI and income share of top 80 against bottom 20 percentiles



Sources: Eurostat and OECD (for the US).

Note: GINI post taxes and transfers. Eurostat and OECD have a different methodology for calculating equalised household income, so data might not be directly comparable.

income quintiles. On the basis of another measure of inequality (the ratio of the income received by the top 20% of the population to that of the bottom 20% of the population) similar trends, namely a very slight increase, were seen in the EU, the euro area and the US over the period of the crisis.

Significant variations in the inequality trends were observed between different Member States with changes in the GINI coefficient between 2008 and 2011 ranging from decreases of over 2 pps for Romania, Latvia, and Netherlands to increases of 2.7 pps for Denmark and Spain.

The average poverty rate also increased moderately for the 21 OECD countries in the EU. In comparison, in the US the poverty rate actually decreased between 2008 and 2010 by 0.2 pps. However, such changes in the poverty rate should be treated with caution since the poverty threshold is related to the general level of income, which can fluctuate between years. Trends in the poverty gap show the negative impact of the crisis more clearly, with substantial increases for a number of countries between 2007 and 2010, most notably Slovakia, Spain, and Sweden.

Variations in trends of inequality and poverty across different EU Member States are partially explained by factors such as the labour market changes, social protection spending, and other policy and institutional features. The significant job losses during the crisis contributed strongly to the rising inequality and poverty rates but the institutional and policy features that improve labour market resilience (discussed in the previous section) have played a major role in limiting the social effects of the output shock.

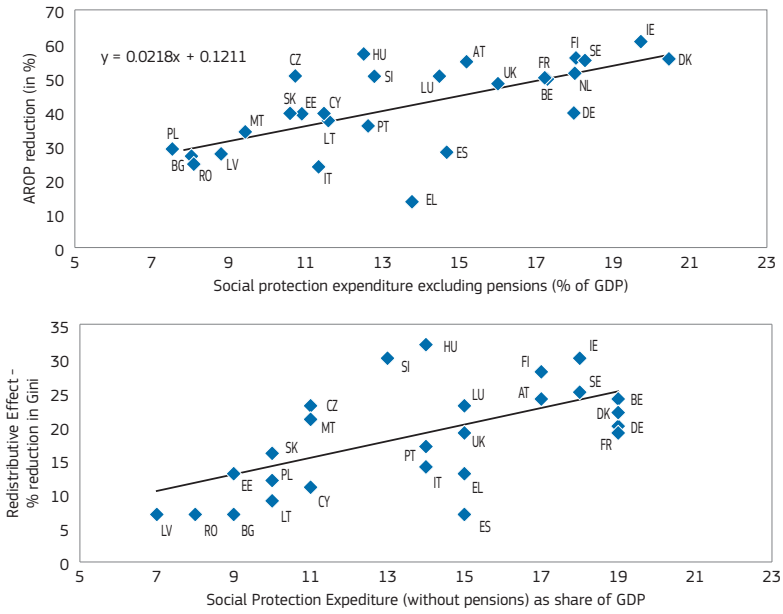
The effectiveness and efficiency of social protection spending has also played an important role in cushioning the effects of the crisis on inequality and poverty. Estimates presented in ESDE 2011 indicate that taxes and cash benefits decrease the GINI coefficient by 19% on average, and the P90/P10 ratio by 34%. However, there are large variations across Member States: GINI inequality in Hungary, Denmark, and Ireland is reduced by a third, while in Bulgaria, Romania, and Latvia the effect is below 10%. Again, social protection benefits contribute substantially to poverty reduction in the EU. However, social protection spending in the Southern Member States, and the Baltic and South-Eastern Member States has a below average effectiveness in terms of reducing poverty, while the Nordic States are well above average.

The size of social protection spending is directly related to its effectiveness in tackling inequality and poverty. The fiscal measures introduced to limit excessive government budget deficits have also had an impact on household incomes. Although the scale of the effect is difficult to establish given the limited data available, a EUROMOD simulation carried out by Avram *et al.* (2012) shows that depending on their design, fiscal consolidation packages impacted differently on high and low income households. In a few countries, regressive impacts put an additional strain on the living standards of low income households. Other Member States managed to avoid disproportionate effects on low income households paying careful attention to the distributional impact of their measures ([10]).

Efficiency aspects are also important for poverty and inequality reduction. An indication of the potential efficiency gains can be seen in the evidence that the same level of expenditure (as a % of national GDP, excluding pensions) reduces original GINI income inequality two or three times more in some Member States than others (e.g. Hungary vs. Greece and Spain). In the same way, social protection spending (which amounts to 14–15% of the GDP) reduces poverty much more in Luxembourg and Austria than it does in Greece and Spain. Reducing spending inefficiency could therefore support Member States in maintaining access to adequate social protection benefits, services, health and long-term care in order to contain and reduce poverty. Finally, the effectiveness of social spending in terms of poverty reduction is also positively correlated with the degree of benefit coverage, the replacement rate, and the take-up rate.

(10) EU Employment and Social Situation Quarterly Review — March 2013 (2013).

Chart 4: Social protection expenditure and reduction of inequality and poverty in the EU Member States (1)



Source: Eurostat, ESSPROS and EU-SILC, DG EMPL calculations.

(1) Pulled from ESDE 2012 (European Commission, 2013c) and ESDE 2011 (European Commission, 2012l), poverty and inequality chapters.

2.3. Government spending and the functioning of the economic stabilisers

Social protection expenditure has a triple role, namely: redistributing income across generations and income groups; investing in social and human capital; and insuring individuals against individual risks (unemployment, ill health, old age, etc.) as well as macroeconomic shocks. As such, social protection expenditure can safeguard households against income shocks, prevent poverty and promote social equality, while it also contributes to short-term macroeconomic stabilisation by dampening the effects of business cycles, typically by supporting aggregate demand. Estimates from ESDE 2012 indicate that unemployment expenditures in the 1995–2005 period increased, on average, by 6% for each percentage point decrease in the output gap; social exclusion, family, and housing expenditures by 2%; and pensions and health expenditures by around 1–1.5%.

Public social protection expenditure in the EU is relatively high in comparison to its global partners. According to Commission services calculations, public social protection expenditure in the EU amounted to 25% of the GDP in 2005 (11). In contrast, social protection expenditure in the World stood at 14% of the GDP: in the OECD it was slightly higher – 19% of the GDP, and in the US it was 16%. It should be noted however that, account is taken of mandatory and voluntary social expenditures in the estimations, the gap in social spending between the EU and the world decreases substantially. On this basis, total public and private social spending in the EU was 28% of GDP in 2005 against 24% in the OECD and 26% in the US (12).

There are, however, substantial variations across Member States in spending patterns with social protection spending in 2005 ranging from around 30% of GDP in France and Sweden to around 13% in Latvia and Lithuania. Also, while some countries may appear to have different levels of social spending relative to GDP, the actual spending per capita measured in purchasing power standard (PPS) terms might be the same. Finally, the composition of protection spending and how the benefits are provided (in cash or in kind) also varies across countries.

While assessments of the outcomes from the working of automatic stabilisers may differ due, for example, to different benchmark as regards government budget (budget without stabilisers), research shows that public spending in the EU does translate into a substantial degree of output smoothing. Dolls *et al.* (2012) estimate that automatic stabilisers absorb 23% of the effect of a proportional income shock and 32% of the effect of an unemployment shock on aggregate demand in the EU.

This indicates that the degree of demand stabilisation by the tax and benefit system in the EU is comparable to that of the US in the case of a proportional income shock (19% for US), but that it is much higher in the case of an unemployment shock (again 19% for the US). However this analysis also shows a significant variation across Member States: demand stabilisation varies from 11.2% in Slovenia to 38.8% in Austria in the case of a proportional income shock and from only 5.4% in Italy to 58.9% for Portugal in the case of an unemployment shock. These different results for Member States reflect a number of factors, including the degree to which individuals are liquidity constrained, the characteristics of the labour markets and the size and design of social spending.

The effectiveness of automatic stabilisers can be partially discerned through changes in public spending during the recession. Due to greater need of social support during the crisis, the real public social spending for OECD countries increased on average by 12% during 2007–2011 (OECD) (13). In particular, in Chile, Estonia, Korea, and the United States they rose by 20% or more. Public social expenditures in the European Union during the same period grew very modestly by comparison – by 6% in the EA-17 and by only 2% in the EU-27 (14).

Differences between the developments in the EU and the OECD partially reflect a different composition of social expenditures (such as a larger share of unemployment benefits in public social expenditures in the OECD), but they also capture some of the decline in the volume of social spending after 2010 in the EU with large decreases observed in particular in Greece, Spain, Hungary, Ireland, Italy, Lithuania, Latvia, Portugal and Romania.

An overall reduction in tax and benefits contributions relative to gross household disposable income also occurred during this period. The increase of long-term unemployed relative to short-term unemployed persons in the EU contributed to these developments since unemployment benefits for the long-term unemployed are

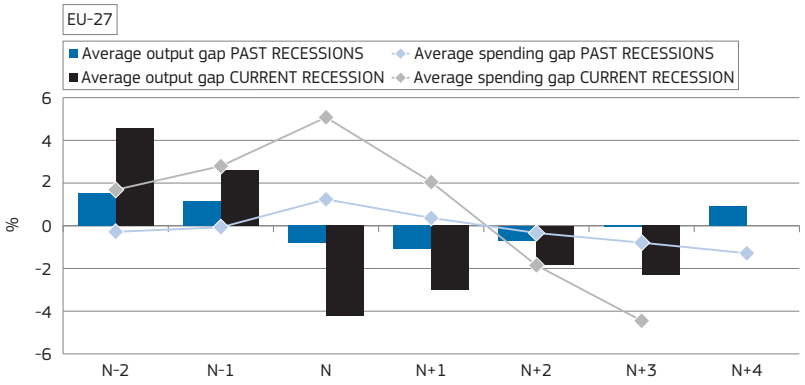
(11) Bontout & Lokajickova (2013).

(12) OECD (2009).

(13) Adema, Fron and Ladaique (2011) and OECD (2012a).

(14) Bontout & Lokajickova (2013).

Chart 5: Deviation from trend of public social expenditures and GDP in current crisis and past periods of below-par performance in the EU



Source: Eurostat, National Accounts and AMECO, DG EMPL calculations. In the current crisis, N is year 2009 in most countries. Reading notes: in the initial year of below-par performance in the current crisis, social expenditures were around 5% above their trend in Europe, while the GDP was about 4% below its potential (output gap of -4%) (1). Averages are unweighted country averages (since countries do not always experience a negative output gap the same year).

(1) For more elements, see Bontout & Lokajickova (2013).

usually lower. In addition, fiscal tightening in countries such as Greece, Portugal and Hungary played a major role in the reduction in public social expenditures. In a number of countries, changes to the tax and benefits systems and widespread wage moderation (including cuts in public sector wages) also had an impact on the developments of household incomes, in some cases putting a heavy strain on the living standards of low income households in particular. The weak developments of disposable income contributed to subdued demand, although in some cases this was required by the existence of high external imabalances.

Developments in public social expenditure in the EU during the crisis not only differed from those in OECD countries, but also diverged from past trends. Recent results (15) show that, in the initial phase of the current recession, social expenditure reacted slightly more strongly to the economic cycle than in the past. However, in 2011 and 2012, the adjustment of social expenditure to changes in the output gap was well below expected levels, although it is not clear whether this was a result of a temporary correction in the cycle of social protection in the crisis or a permanent adjustment of expenditures as a result of fiscal changes.

Whatever the explanation, the decrease represents a weakening of the automatic stabilisation function of social protection systems in Europe. This issue is especially critical for those Member States in which the automatic stabilisers would normally play a strong role in terms of maintaining demand, but where fiscal tightening has brought about significant reductions in expenditures (e.g. Hungary, Portugal).

2.4. Competitiveness

Global competitiveness affects external demand and is an important determinant of economic growth and prosperity. In the past two decades, Europe's performance has compared favourably with its competitors, including the US and East Asia. The share of EU GDP that has directly or indirectly satisfied final demand in other regions of the world increased by 5 percentage points (pps) over the last 15 years and currently amounts to 15% of the overall GDP. However, the long-term competitiveness of the European countries is endangered by a number of factors, including slow productivity growth, high unemployment, ageing populations, resource limitations, and climate change. The evidence outlined in the sections below shows that the crisis period has begun to compromise EU's competitiveness and that a more effective and efficient use of resources, including labour, will be necessary to ensure economic growth and jobs in the future.

The World Economic Forum's Global Competitiveness Report (16) ranks countries based on a global competitiveness index which combines micro and macro-economic aspects, with competitiveness defined as 'the ability of countries to provide high levels of prospects to the citizens'. For 2013–14 EU Member States held 11 of the top 30 positions with Finland, Germany, Sweden and the Netherlands at numbers 3, 4, 6 and 8. These very competitive countries were those who weathered the recession the best (the USA fell from position 1 in 2008–09 to 7 in 2012–13, although it is back at 5 in 2013–14) but they were also those with relatively high shares of their GDP going to social expenditure, thus demonstrating that high social expenditure is not necessarily detrimental to competitiveness, and may be more of a positive contributory factor. Furthermore, this is consistent with the Wagner law (17), which holds that the most dynamic countries are more competitive, grow more and generate higher demand for services related to social expenditure.

3. Employment and social divergences in the EMU

Prior to the recession, the European Union saw convergence of most social and employment performance indicators. Since 2008, however, most employment and social indicators point to a growing divergence between the southern and peripheral European Member States and those of Northern and Central Europe.

3.1. Divergences and risks of impacts across borders

Across the EU, but particularly within the euro area, Member States have experienced widening gaps in terms of employment, income, poverty, inequalities, youth employment and many other important aspects of their social situation. Although many factors have influenced the overall economic performance of different Member States in the past years, much of the current divergence results from how labour markets and social systems have reacted to the global downturn.

Countries that before the crisis had relatively un-segmented labour markets, solid industrial relations institutions and strong welfare systems have tended to fare better during the crisis than those with highly segmented labour markets,

(15) ibid.

(16) http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2013-14.pdf

(17) In A. Wagner. 'Grundlegung des Politischen Ökonomie' (1863).

strained labour relations and weak or ineffective and costly welfare provisions. The ability of countries to cope with the shock was frequently determined by their initial public debt and deficit levels, as well as the property markets situation, and subsequent developments following the reaction of financial markets ([18]).

Chart 6 highlights developments in employment over the last five years with a further focus on recent trends. In this respect it can be noted that the Baltic States, which suffered the most from the labour market crisis, have posted significant improvements over recent quarters. Divergence is most striking between the North and core parts of the euro area and the South and periphery countries.

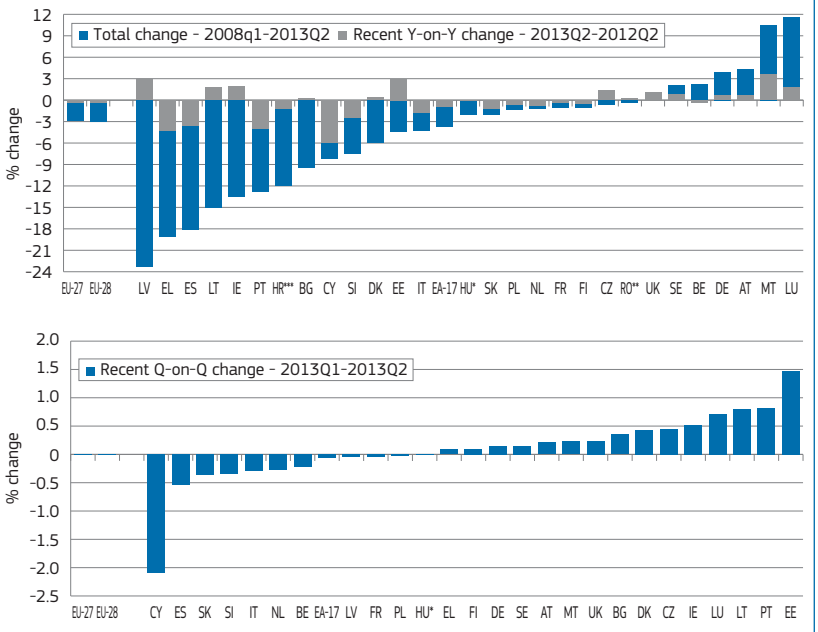
The average unemployment rate reached 17% in the south and periphery of the EA-17 ([19]), against 7% for the north. The gap has now reached 10.2 pps, against 1.7 pps between the North and Periphery of the non-euro area. In the mid-2000s, the currency union produced a convergence in unemployment rates across its Member States, partly because weak financial supervision and lower risk perception stemming from the launch of the currency union resulted in large capital flows into 'peripheral' countries. However, the financial crisis that erupted in 2008 has unleashed divergence on a much larger scale, partly due to the slow deleveraging process and the uncertainty around the recovery prospects of the 'periphery'.

When looking at other employment and social indicators, the divergence within the euro area is again larger than within the rest of the EU. The average rate of people who are not in employment, education or training (NEETs 15–29) reached 22% in the south and periphery of the euro area, against just above 11% in the north, and the gap between the two areas continues to increase, following a similar pattern to that of unemployment trends.

(18) For more information please consult the IZA/VEF Workshop paper 'Labour markets and social inequalities in Europe: Should employment, wages and social protection policies be more coordinated at the EU level?' presented by G. Fischer and R. Strauss in Bonn, on July 11-12, 2013, http://www.iza.org/conference_files/EULaMaFuEm_2013/fischer_g2202.pdf. Theme of the Workshop: 'A European Labour Market with Full Employment, More Income Security and Less Inequality in 2020'.

(19) For the purpose of this analysis, the 'North and core' of the euro area includes Belgium, Germany, France, Luxembourg, Austria, the Netherlands and Finland; the South and periphery of the euro area includes Greece, Spain, Italy, Portugal, Estonia, Ireland, Cyprus, Malta, Slovenia and Slovakia.

Chart 6: Changes in employment: since 2008, over the recent year and over the recent quarter for EU Member States



Source: Eurostat, National Accounts [namq_nace10_e].

Notes: * HU 2008q1–2013q1, 2012q1–2013q1, 2012q4–2013q1.
** RO 2008q2–2013q2, 2012q2–2013q2 (nsa), np Q-onQ change.
*** HR 2008q1–2013q1, 2012q1–2013q1 (nsa), no Q-onQ change.

In the crisis, household incomes (as measured by the growth rate of real gross household disposable income) ([20]) in the North and central part of the euro area kept increasing though at a reduced pace (except for the year 2009) while, in the peripheral countries, household income in real terms stagnated or declined after 2009. Since 2010 household disposable incomes have been declining in real terms on average in the EU and in the euro area. Declines were especially strong (above 5 percentage points cumulated over the two years) in Greece, Spain, Ireland, Italy, Cyprus and Portugal and more moderate in the Czech Republic, Hungary, the Netherlands, Romania, Slovenia and Slovakia. In other countries household incomes stagnated or increased slightly.

The stabilising effect of social spending on household incomes weakened after 2010. Net social benefits and reduced taxes contributed positively to the change in gross household disposable income (GHDI) during 2009 and in the first two quarters of 2010, as a result both of automatic stabilisation and of fiscal stimulus measures put in place by Member States, in line with the European Economic Recovery Plan of November 2008. Yet, from mid-2010 on, the contribution of social benefits to the change in gross household income lessened, despite the further deterioration of market incomes. This may have occurred because of the increase in the number of long-term unemployed losing their entitlements, along with the partial phasing-out of the stimulus measures. In some countries, measures taken to reduce the level or duration of benefits, or to tighten eligibility rules had the effect of excluding some beneficiaries from some schemes. Finally, in some Member States the tapering off of the impact of social spending also reflected improvements in the economic situation and outlook. In addition, fiscal tightening — concentrated in southern EA countries — has adversely affected employment, and changes to tax and benefits systems along with cuts in public sector wages also contributed to the decline of real household incomes (Avram *et al.* 2013) ([21]).

The crisis was also a turning point in the evolution of poverty and income inequalities. The risk of poverty among the working-age population also increased more strongly in the South and periphery of the European Union than in the North. Before the crisis, inequalities were rising in the North of Europe, while they were

(20) The growth rate of real gross household disposable income is an important indicator of aggregate demand and helps assessing to what extent policies are able to stabilise the social situation and household demand in cases of economic shocks.

(21) See Quarterly Review of March 2013 (European Commission, 2013b) for more details.

declining from high levels in the South and the periphery, partly thanks to the maturing of welfare systems in these countries. Since 2008, however, the data shows a strong increase in differences in terms of income inequalities between the core and the periphery.

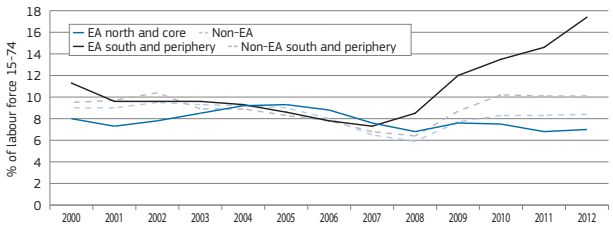
In the south and periphery of the euro area, the combination of rising unemployment and long-term unemployment, falling incomes, increasing poverty, and increasing inequalities provide an indication of the scale of the economic and social challenges ahead. They will require extensive policy responses given the importance of inclusive labour markets and a cohesive society for long-term growth prospects and societal developments.

Employment and social divergences are a sign that the EU does not fulfil its fundamental objective to benefit all its Member States by promoting economic convergence, and to improve the lives of all citizens. In addition, these trends are not only severely undermining the employment, social cohesion and human capital of individual Member States but are also affecting competitiveness and sustainable growth within the EU as a whole. Socio-economic divergence is of even greater concern within the EMU given the limitations that currency union membership imposes to counteract an economic crisis, particularly when pre-existing levels of sovereign debt are high, and insufficient attention has been paid to external and internal macro imbalances.

Divergences in employment and social trends within the euro area

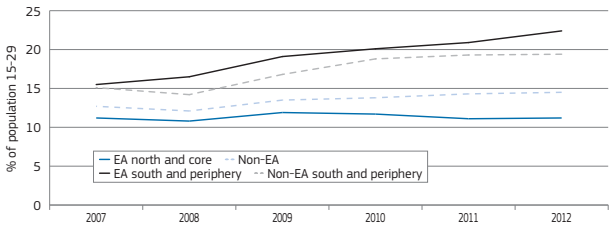
Definition of areas:
EA north and core: AT, BE, DE, FI, FR, LU, NL;
EA south and periphery: EE, EL, ES, IE, IT, CY, MT, PT, SI, SK;
Non-EA north: CZ, DK, PL, SE, UK;
Non-EA south and periphery: BG, HR, LV, LT, HU, RO.

Chart 7: Unemployment rates by groups of EA and non-EA Member States since 2000



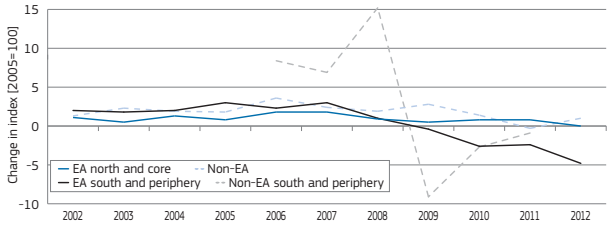
Source: Eurostat, LFS, DG EMPL calculations; weighted averages.
Note: 2001–02 HR excluded.

Chart 8: NEET rates by groups of EA and non-EA Member States since 2007



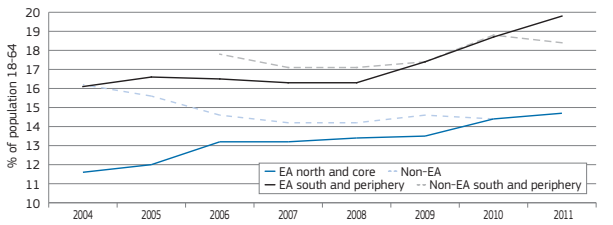
Source: Eurostat, LFS, DG EMPL calculations; weighted averages.

Chart 9: Real gross household disposable income, annual change by groups of EA and non-EA Member States since 2002



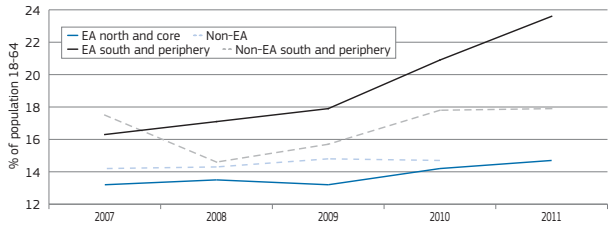
Source: Eurostat, National Accounts, DG EMPL calculations; weighted averages.
Note: Aggregates do not include: LU, MT and HR in 2002–12, and DK in 2011; 'non-EA south and periphery' excluded in 2012, because no data for RO.

Chart 10: At-risk-of-poverty rates in working age by groups of EA and non-EA Member States since 2004



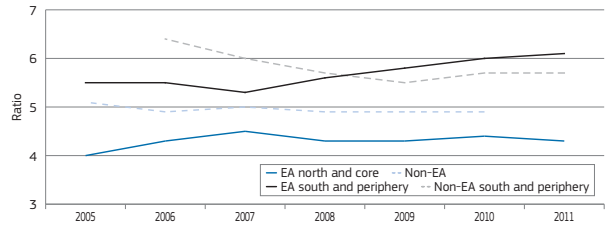
Source: Eurostat, EU-SILC, DG EMPL calculations; weighted averages — years refer to income year.
Note: 'non-EA south and periphery' excluded in 2004–05, because no data for RO; 'non-EA north' excluded in 2011, because no data for UK; aggregates do not include AT, BE and IE in 2011.

Chart 11: Anchored poverty rates (2008) by groups of EA and non-EA Member States since 2007



Source: Eurostat, EU-SILC, DG EMPL calculations; weighted averages — years refer to income year.
Note: 'non-EA north' excluded in 2011, because no data for UK; aggregates do not include AT, BE and IE in 2011.

Chart 12: Inequality (S80/S20 measure) by groups of EA and non-EA Member States since 2005



Source: Eurostat, EU-SILC, DG EMPL calculations; weighted averages — years refer to income year.
Note: 'non-EA north' excluded in 2011, because no data for UK; aggregates do not include AT, BE and IE in 2011.

Given the high degree of economic interdependence among members of the EU, such employment and social crises are also likely to have an impact beyond national borders. The 'spillover effects' of fiscal measures and structural reforms ([22]) demonstrate how national situations or actions can generate macro-economic effects beyond national borders. The adverse employment and social developments described above have the potential to exacerbate and aggravate the macro-economic spillover effects that operate through trade (within the EU and the euro area) and international competitiveness. In addition, it is often argued that severe employment and social problems can affect the confidence in the capacity of a government to run sound policies and the political legitimacy of the European project.

Higher unemployment and social problems mean a loss of income for significant parts of the population or for society as a whole and weigh on national internal demand. Indeed, higher unemployment or poverty implies weaker aggregate demand (also depending on the effectiveness of automatic stabilisers), which, in turn, affects demand in other euro-area Member States as many euro-area Member States have most of their trade with the rest of the euro area ([23]) ([24]).

High levels of long-term unemployment, youth unemployment, NEETs, poverty and inequality also hold back competitiveness and the growth potential of the economies concerned, because present and future human capital is underutilised or lacks investment. Indeed, such trends erode skills and discourage labour market participation. As a result, the long-term growth potential of one Member State and, through trade, of other Member States is undermined. Such lasting output effects of a reduction in human and physical capital caused by a cyclical downturn are typically known as hysteresis ([25]). Reductions in public budgets for education, active labour market policies or other 'social investments' have a similar negative effect. A measure that bring fiscal rewards in the short-term but reduces the medium-term growth potential of an economy will lead to a less comfortable medium-term fiscal situation, due to lower growth. As the OECD puts it: '... GDP increases brought about by policies that increase labour utilisation are likely to have a greater effect in boosting fiscal sustainability' (OECD Economic Outlook, May 2013).

High unemployment rates and severe social gaps can also lead to social pressures on current and/or future public budgets that are perceived as unsustainable ([26]). More generally these tensions can weaken the capacity of governments to maintain the kinds of sound, long-term policies that are required in order to maintain confidence in the common currency. In addition, Vandenbroucke ([27]) argues that, if the creation of the monetary union fails to benefit all of its Members and appears to lead to divergence instead of convergence, 'it can undermine the credibility of the European project both in the countries perceived as 'losers' of the process and in countries perceived as the 'winners'. In all countries, public opinions may increasingly lose trust in the European project either because, in the South, they perceive the constraints of the EMU as the cause of their trouble or because, in the North, people perceive euro area members facing social distress as 'socially inefficient and economically uncompetitive. In such cases governments will then be hampered in their capacity to take the deepening measures that are necessary to secure the effective functioning of the EMU.

3.2. Major employment and social problems in the EU

This section focuses on employment and social problems that are likely to affect the sustainability of economic growth and which risk creating negative spillover effects between members of the EMU in the medium to long term. The analysis concentrates on five important indicators of such problems:

- Rising unemployment rates;
- Rising shares of young people not in education employment or training (NEET);
- Declining household disposable income;
- Rising risk-of-poverty among the working-age population;
- Rising inequalities.

The charts below present the data for four euro-zone countries which experienced quite different trends before and after the crisis:

- Germany;
- Spain;
- France;
- Portugal.

They illustrate how the five key indicators, supplemented by additional information on the labour market and the functioning of social policies, can help identify major employment and social problems.

(22) See e.g. B. van Aarle and K. Weyerstrass, eds., 'Economic Spillovers, Structural Reforms and Policy Coordination in the Euro Area', Physica-Verlag, Heidelberg, 2008.

(23) See for example ECB (2013), 'Intra-euro area trade linkages and external adjustment', Monthly Bulletin, January 2013.

(24) See for example ECB (2013), 'Intra-euro area trade linkages and external adjustment', Monthly Bulletin, January 2013.

(25) See for example J. B. DeLong and L. Summers, 'Fiscal Policy in a Depressed Economy', Brookings Papers on Economic Activity, Spring 2012, http://www.brookings.edu/~/media/Projects/BPEA/Spring%202012/2012a_DeLong.pdf.

(26) IMF (2012) 'Fiscal Monitor: fiscal adjustments that are seen as unfair are unlikely to be sustainable'.

(27) F. Vandenbroucke, R. Diris and G. Verbist (2013), 'Excessive social imbalances and performance of Welfare States in the EU'.

The evidence shows that the first signs of severe employment and social problems appeared in Spain in 2007 as witnessed in a deterioration of the labour market conditions, notably for young people. By 2008 and 2009, Spain also witnessed rising inequalities and increased poverty, indicating the need to carefully interpret this information alongside that on underlying institutional and economic factors. It can be argued that the strong increase in unemployment in 2007 partly reflected the uneven distribution of the economic shock across society accentuated by labour market segmentation and gaps in social protection. Already before the crisis, rising indebtedness of households, worsening transitions from temporary to permanent contracts, very high rates of early school leavers and increasing in-work poverty may have deserved greater attention from policy makers. During the crisis, labour market segmentation worsened and rising long-term unemployment led to increasing shares of jobless households and in-work poverty. Very high rates of youth unemployment and NEETs together with rising levels of child poverty are likely to impact on the quality of future labour supply thereby on productivity and competitiveness, and to further increase inequalities and poverty in the medium to long term.

In the decade before the crisis, Portugal experienced a significant improvement in the educational level of its work force which, together with the expansion of social safety nets, led to a reduction in what had previously been very high levels of inequality. These positive developments were undermined, however, by an erosion of employment rates coupled with increases in unemployment and long-term unemployment and a high degree of labour market segmentation, partly reflected in high and persistent levels of working-age poverty. These negative trends worsened in the crisis, while NEETs rates increased strongly adding to the high shares of early school leavers and of low skilled ([28]) remaining well above the EU average. The decline in market incomes starting at the end of 2010 was not significantly offset by the tax and benefit system, leading to a drop in gross household disposable income in 2011 and 2012. This partly reflects the weakness of safety nets in Portugal, still characterised by low levels of coverage. The debt to income ratio of households increased sharply between 2000 and 2007, reaching 125 % in 2007, and has stabilised since, affecting the spending capacity of households.

France and Germany resisted the crisis better than most euro area countries. However unemployment in France increased significantly during the crisis as its labour market remained segmented, with young people facing great difficulties finding a first and stable job.

Unemployment

Unemployment in Spain increased strongly in 2008, one year before the rest of the euro area. Before the crisis, employment rates in Spain had increased strongly, including for the low skilled, but the labour market remained segmented, though with moderate signs of improvements. Even if the share of involuntary temporary contracts had started to decline in 2006, it remained much higher than in the rest of the euro area, with transitions from temporary to permanent jobs declining strongly in 2007, giving an early signal of the weakening of the labour market. The share of people participating in activation measures dropped dramatically during the crisis, despite the increase in long-term unemployment. Moreover the crisis interrupted the upward trend in the employment rate of women and young people (25–29), with possible lasting consequences for the mobilisation of human capital.

In Portugal, rates of unemployment and long-term unemployment were low before the crisis, with high rates of employment. The crisis accelerated the decline in the relatively high employment rate of young people which, before the crisis, was partly explained by higher participation in education, but should now draw attention to a risk of lost generation. The Portuguese labour market remains segmented with high shares of involuntary temporary contracts, but with better chances of moving to a permanent contract than on average in the euro area.

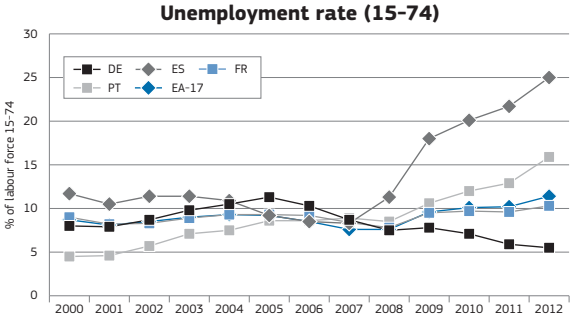
In France, unemployment rates are close to the euro area average but the long-term increase in the employment rates of young people and women was interrupted by the crisis. The labour market remains segmented with very low levels of transitions from temporary to permanent contracts.

Germany resisted the macro-economic shock much better than the rest of the euro area and is characterised by a less segmented labour market, even if wage polarisation and a certain level of gender segregation are sources of rising labour market inequalities (see below). The employment rate of young people (25–29) and women continued to increase during in the crisis.

(28) Low skilled relates to poorly educated people according ISCED classification: between levels 0 and 2.

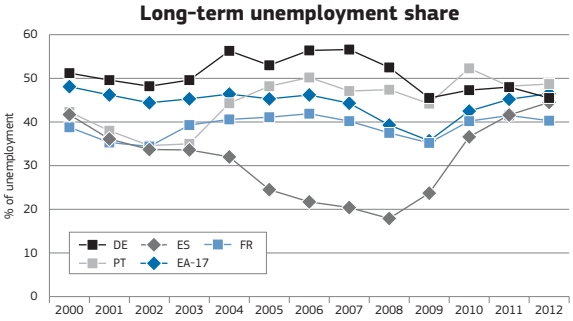
Panel Chart 1

Unemployment rate (15-74)



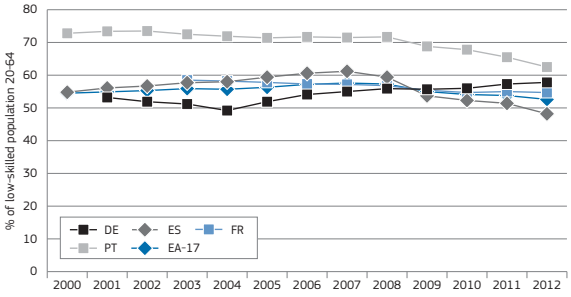
Source: Eurostat, LFS.

Long-term unemployment share



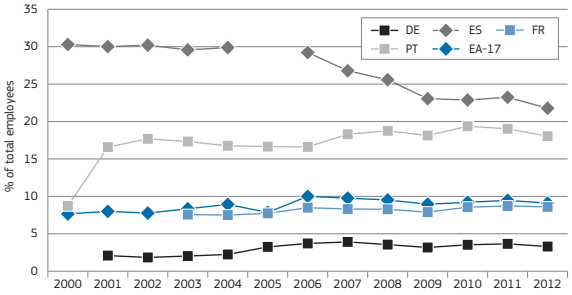
Source: Eurostat, LFS.

Employment rate (20-64) low skilled



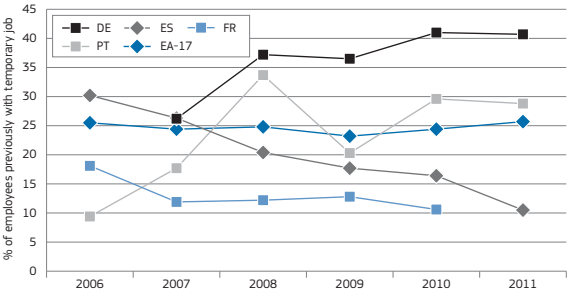
Source: Eurostat, LFS.

Involuntary temporary employment (% of total employees)



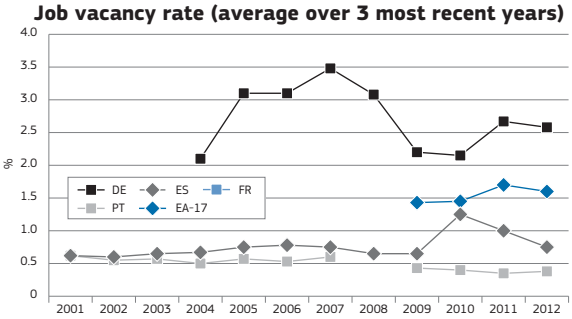
Source: Eurostat, LFS.

Transitions from temporary to permanent contracts



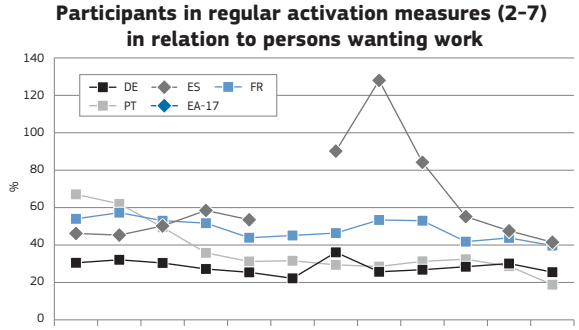
Source: Eurostat, LFS.

Job vacancy rate (average over 3 most recent years)



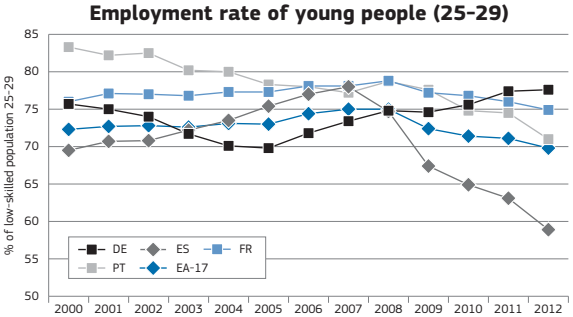
Source: Eurostat, EU Job Vacancy Statistics.
Note: Break in series for Spain in 2010.

Participants in regular activation measures (2-7) in relation to persons wanting work



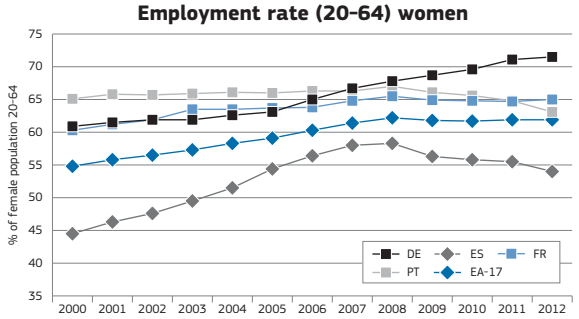
Source: Eurostat, LMP database.

Employment rate of young people (25-29)



Source: Eurostat, LFS.

Employment rate (20-64) women



Source: Eurostat, LFS.

Young people not in education, employment or training

In Spain, the share of young people not in education, training or employment (NEET) was at the same level as the euro area average and following the same trend until 2006. However it began to increase sharply from 2007 onwards following the sharp rise in youth unemployment. Before the crisis, the share of early school leavers among the 18–24 population was one of the highest in the EU, and even slightly increased during the decade, contrary to the declining trend generally observed in other EU countries. The poor performance of the country's education and vocational training system (also signalled by the higher and increasing share of NEETS among the youngest age group — 15–19) may have been compounded by the attractive wages being offered to the low skilled in some sectors of the economy prior to the crisis. Such high and increasing levels of early school leavers are likely to have a detrimental impact on the quality of human capital in the future, both in the short and long term.

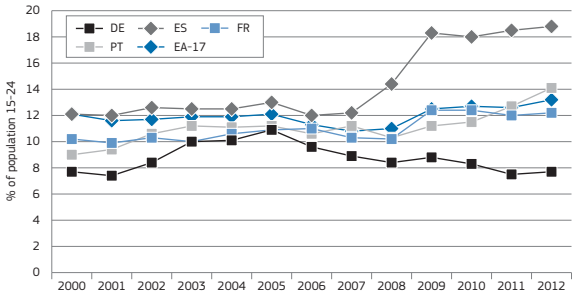
In Portugal, the significant improvement in the educational level of the work force observed since the mid-90s continued during the crisis. Since 2009, the increasing share of young people not in employment, education or training was mainly driven by the rise of youth unemployment. However, the shares of early school leavers and of low skilled remain well above EU average, calling for sustained efforts to improve access to education and training in Portugal.

In France, the share of young people not in employment, education of training remained stable at around 10 % before the crisis. Since 2009, the share of NEETs rose to 12 %, remaining just below the euro area average. Even if lower than average, the share of early school leavers did not follow the trend observed in the rest of the euro area, and the share of NEETs among the youngest population group (15–19) is on the rise.

In Germany, the educational attainment and the integration of youth on the labour market is significantly better than in the rest of the euro area, and has been improving since 2006.

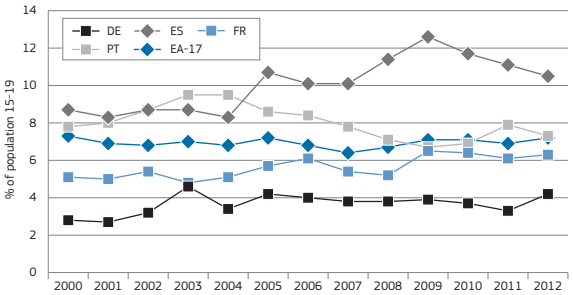
Panel Chart 2

NEETs (15-24)



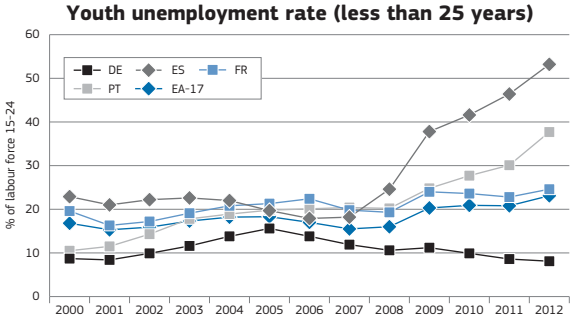
Source: Eurostat, LFS.

NEETs (15-19)



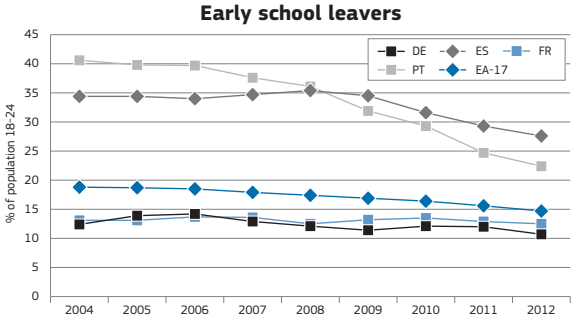
Source: Eurostat, LFS.

Youth unemployment rate (less than 25 years)



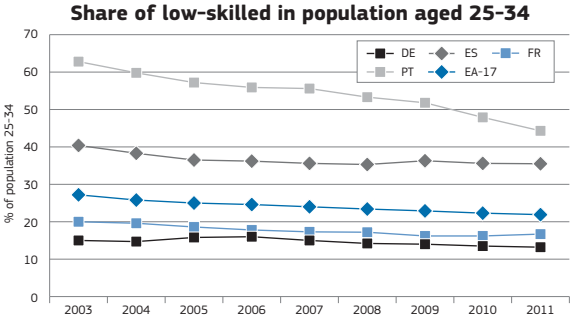
Source: Eurostat, LFS.

Early school leavers



Source: Eurostat, LFS.

Share of low-skilled in population aged 25-34



Source: Eurostat, LFS.

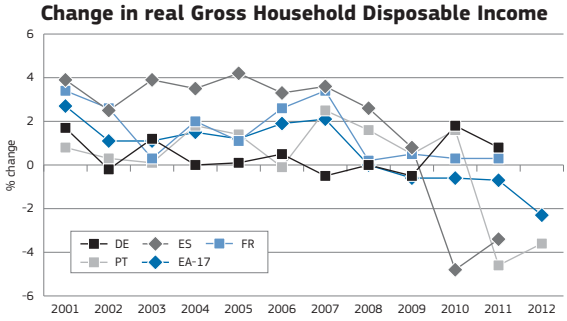
Household disposable income

A persistent decline in the real gross disposable income of households indicates that declines in labour market incomes (wage income and income from self-employment) are not being offset by replacement income schemes (primarily unemployment benefits and pensions), with a direct negative impact on aggregate demand and the general living standards of populations. After a decade of growth, the contribution of labour market incomes to household incomes started to decline in the second quarter of 2008, but was compensated by the strong reaction of automatic stabilisers (AS) in all countries.

In Spain, however, the stabilising impact of social transfers on household incomes lessened from 2010 onwards, despite the continuous deterioration of market incomes, thereby undermining private consumption and aggregate demand. Between 2007 and 2009, the gross saving rate of households increased by around 10 pps, which was probably necessary to reduce excessive debt, but nevertheless cancelled out a significant part of the stabilisation effect of the tax-benefit system on the economy. After 2009, saving rates dropped significantly reflecting the pressure on current incomes. The debt to income ratio of households nearly doubled between 2000 and 2007, reaching 125% in 2007, and has remained at that level since. Together with falling disposable household income and the decreases in real wages, it indicates that private consumption is likely to be hampered, as a factor in economic recovery, by the need for households to deleverage.

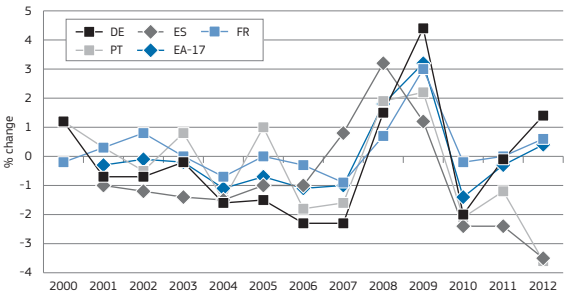
Panel Chart 3

Change in real Gross Household Disposable Income



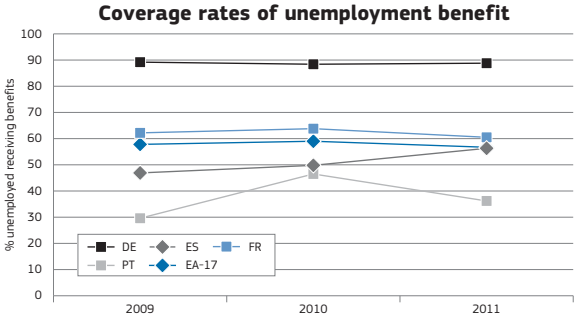
Source: Eurostat, National Accounts.

Real unit labour cost



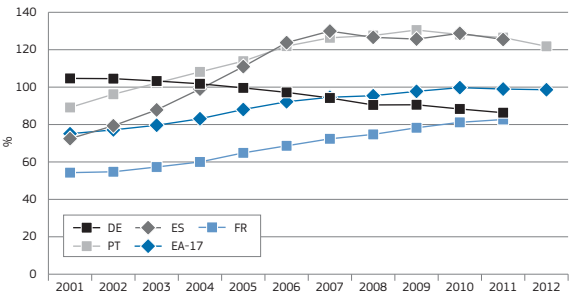
Source: Eurostat, National Accounts.

Coverage rates of unemployment benefit



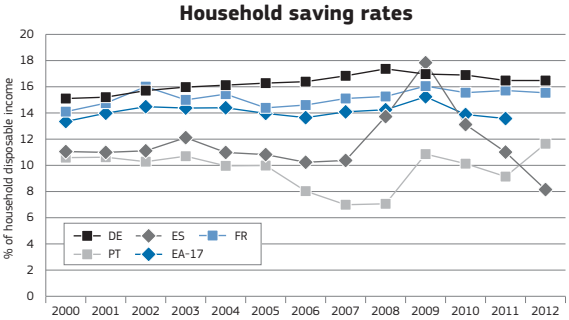
Source: Eurostat, EU-SILC.

Debt to income ratio of households



Source: Eurostat, National Accounts.

Household saving rates



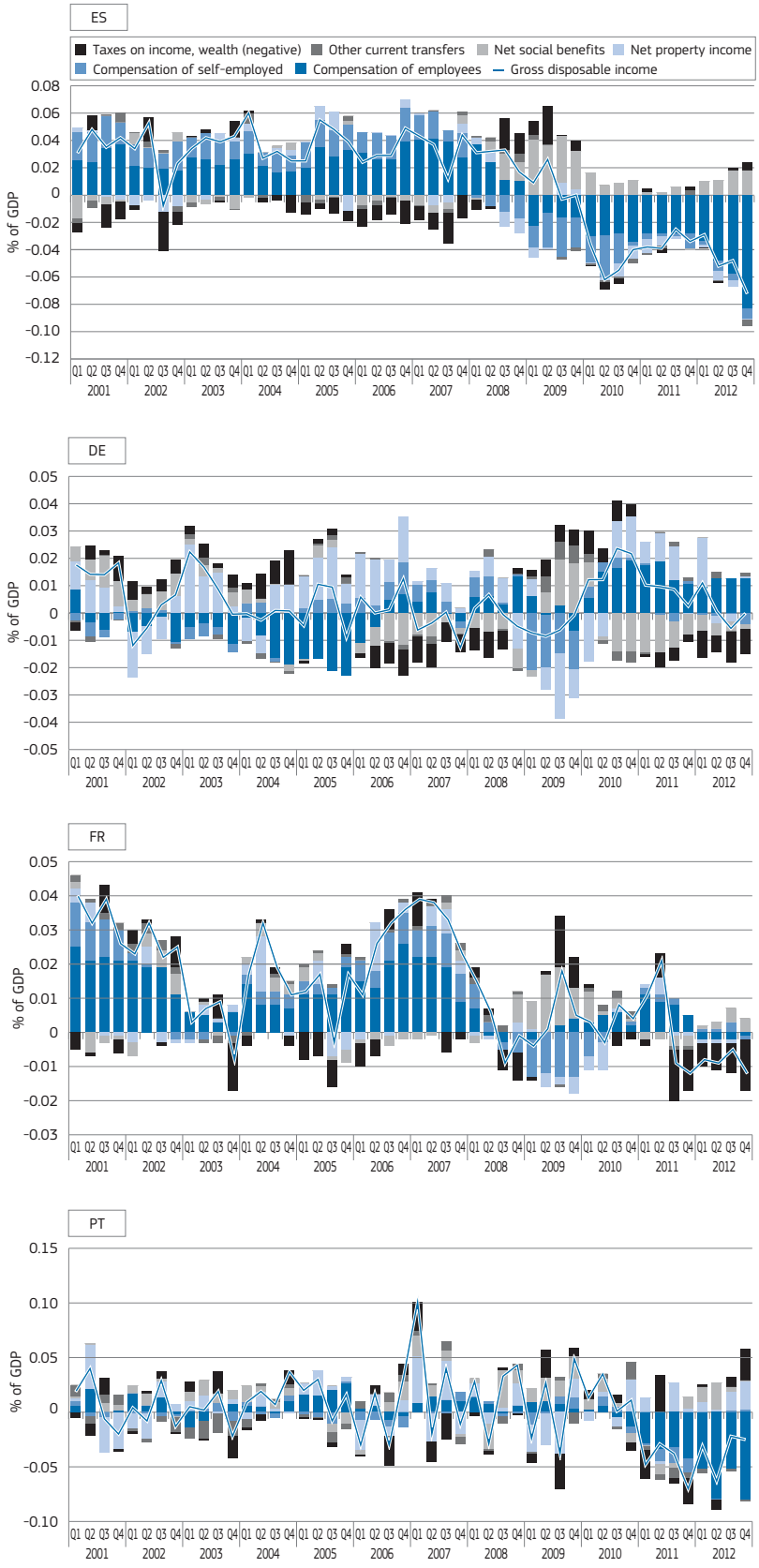
Source: Eurostat, National Accounts.

In Portugal, the decline in market incomes started at the end 2010, but the effects were not offset by the automatic stabilisers, leading to a drop in gross household disposable income as of 2011. This partly reflects the weakness of safety nets in Portugal which, despite recent improvements, are still characterised by low level of coverage. As in Spain, the debt to income ratio of households increased sharply between 2000 and 2007, also reaching 125% in 2007. In France, the working of strong automatic stabilisers and a mild recovery in market incomes sustained gross household incomes until the end of 2011. However, tax increases in 2012 and the very weak growth of market income led to a slight decline of household incomes.

In Germany, the growth of household incomes was much more moderate during the pre-crisis years but it remained positive until 2011 thanks to the working of automatic stabilisers and to the recovery of market incomes. In 2012, market incomes did decline slightly and this time the decline was not compensated by automatic stabilisers, leading to a decline of real incomes, which may undermine private demand in the medium term. During the period the debt to income ratio of households continued to decrease slowly while saving rates increased steadily.

Panel Chart 3

Change in real Gross Household Disposable Income and underlying components



Source: Eurostat, National Accounts.

Poverty

Increases in the at-risk-of-poverty rate anchored at a point in time (2008) reflect a deterioration in the real incomes of the poor. When accompanied by a stagnation or decline in median incomes it inevitably means more people living on low incomes with highly constrained budgets.

Poverty among those of working age tends to suggest poorly functioning labour markets characterised on the one hand by segmentation, and on the other by a polarisation between job rich and job poor households. This, in turn, reflects an underutilisation of human capital (people that are jobless or underemployed) as well as an under-investment in human capital (poor access to life-long learning and skills training. Working-age poverty and low work intensity household is also strongly correlated with child poverty, which has shown quite strong divergent trends in the crisis.

In Spain, the downward trend in the anchored poverty statistic was interrupted in the first year of the crisis, and it started increasing in 2008 (SILC ref 2009) while the poverty gap indicator had already increased in 2007 (SILC ref 2008). Before the crisis, working-age poverty stagnated (despite the apparently favourable labour market conditions), and began to increase significantly in 2009 (SILC ref 2010).

In 2006–07, in-work poverty started increasing, and child poverty remained at a high level despite significant improvements in the overall income situation of households, indicating that the poorest households were not benefitting from growth at the same pace as the rest of the population. The financial distress indicator has been on the rise since the early 2000, and accelerated from 2007 onwards, possibly reflecting households' difficulties in facing high debt levels in a deteriorating economic context. In Spain, the gap in access to healthcare between the poor and the rich had been significantly reduced, but this has also been reversed during the crisis.

In Portugal, the downward trend in the anchored poverty was interrupted in 2009 (SILC ref 2010), and started increasing in 2010 (SILC ref 2011), reflecting the deterioration of overall living standards as of 2010–11 (see GHDI). Before and into the crisis, both working-age poverty and child poverty remained at a high level, and are likely to increase further, as signalled by the significant increase of the financial distress indicator after 2011, reflecting the impact of worsening labour market conditions since 2010.

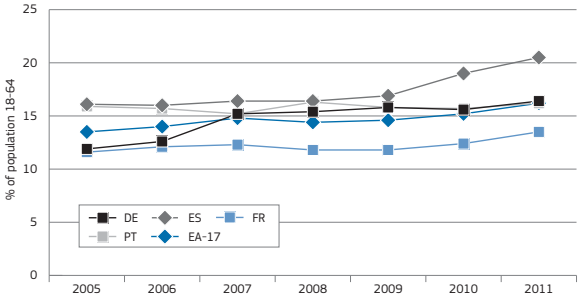
In France, working-age poverty was below average before the crisis and has not increased significantly since. However, child poverty has risen from 14% to 18% over the last 5 years, which could signal a weakening of the support to families with potential long-term consequences on the quality of human capital.

In Germany, anchored poverty remained at the level of 2008 over the period, reflecting a stable standard of living of households in this country before and after the crisis. However, child poverty increased significantly in this country, which may lead to a deterioration of human capital in the long run ([29]). In-work poverty has also increased, which may reflect rising inequalities on the labour market.

(29) In their paper on social imbalances, Vandenbroucke *et al.* argue that *'huge disparities in child poverty should be alarming since they signal problems that are relevant to the sustainability of the monetary union'* because comparatively high levels of child poverty reveal an '*investment deficit that may be the cause and effect of underperforming labour markets and education systems'*. In 'Excessive social imbalances and performance of Welfare States in the EU' by F. Vandenbroucke, R. Diris and G. Verbist (2013).

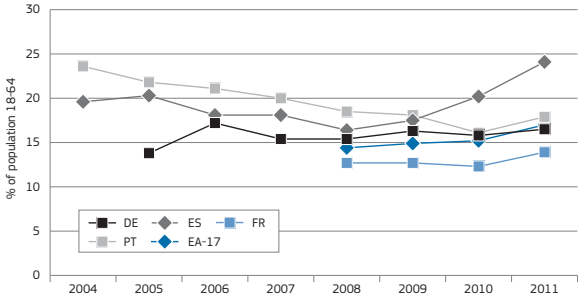
Panel Chart 4

At risk of poverty (18-64)



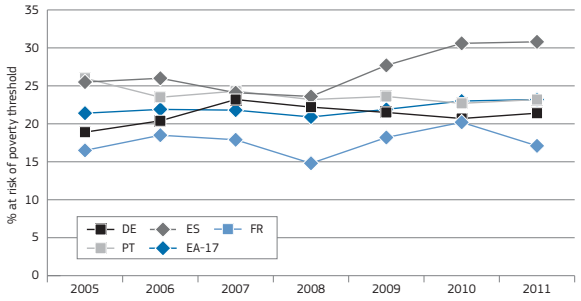
Source: Eurostat, EU-SILC.

Anchored AROP (18-64)



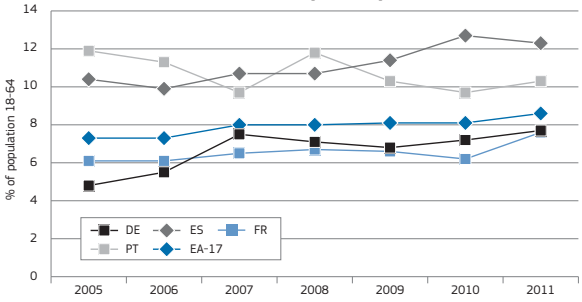
Source: Eurostat, EU-SILC.

At-risk-poverty gap



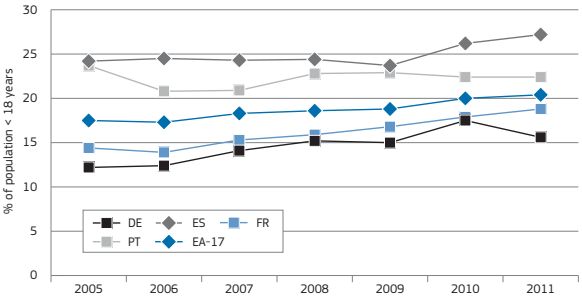
Source: Eurostat, EU-SILC.

In-work poverty



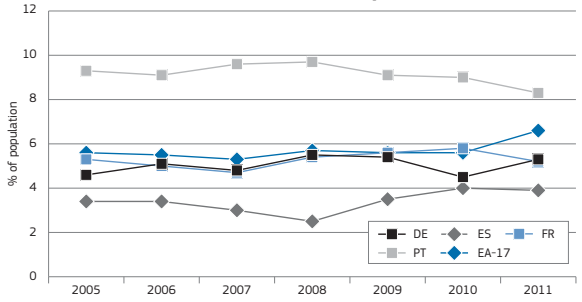
Source: Eurostat, EU-SILC.

Child poverty



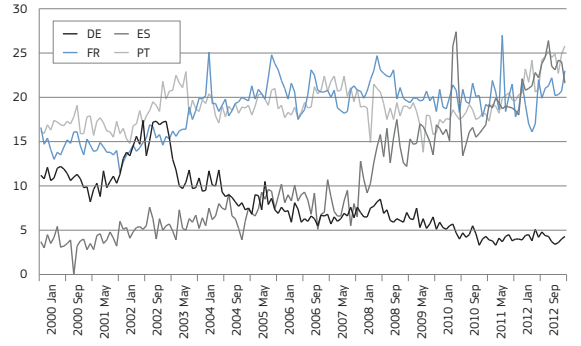
Source: Eurostat, EU-SILC.

Severe material deprivation



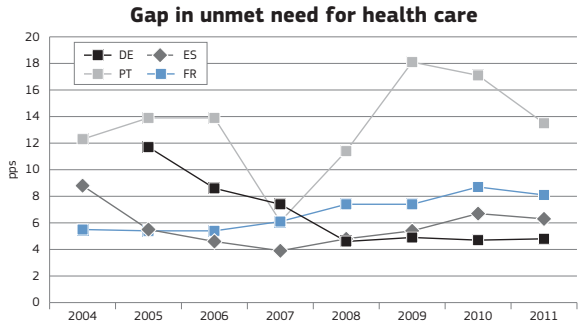
Source: Eurostat, EU-SILC.

Financial distress



Source: Commission Services, Joint harmonised EU consumer surveys, DG EMPL calculations.

Gap in unmet need for health care



Source: Eurostat, EU-SILC.

Income inequalities

High and rising levels of income inequalities indicate that the economic situation of a larger part of the population is deteriorating, affecting low and middle-income sections of the population, with a correspondingly higher concentration of income and wealth in the most affluent segments of society ([30]). High levels of income inequalities can undermine sustainable growth by depressing aggregate demand and by leading to unsustainable borrowing at the lower end of the income distribution where the propensity to consume is the greatest. Such inequalities impact on economic performance as a whole: they can limit opportunities for many people to fulfil their potential to contribute to the economy and society, and they can breed social resentment and weaken the legitimacy of political processes and institutions ([31]). Moreover excessive increases in earnings inequality (see below) can put a strain on public budgets by increasing the need for redistribution.

The analysis of income inequalities needs to be complemented by a focus on unsustainable increases in labour market inequalities (e.g. earnings inequality), resulting from both wage polarisation and unequal distribution of the quantity of work (i.e. due to segmentation and job precariousness) ([32]). This involves looking at indicators of such factors as in-work poverty, the gender pay gap, involuntary temporary employment, involuntary part-time work, as well as data on labour market transitions towards better quality jobs (by type of contract or pay level).

Information on jobless households illustrates the polarisation of jobs between job-rich and job-poor households, which has detrimental impacts on social cohesion and human capital both in the short and the long term (notably the impact on children brought up in jobless households). Inequality of opportunity to develop one's socio-economic potential, with its adverse impact on employability, productivity and competitiveness, can be compounded also by low performance of the education system, the extent of which can be gauged from data on the gaps in literacy scores (PISA).

Before the crisis, the labour market in Spain was strongly segmented, with high shares of involuntary temporary contracts, and low and declining transitions rates from temporary to permanent contracts, illustrating the limited opportunity for working people to progress towards better jobs, with stable earnings. In-work poverty started increasing in 2007 and income inequalities started to increase in 2008.

In Portugal, a downward trend in income inequality was interrupted in 2010 (SILC ref. 2011) and has remained higher than the EMU average. The increase in the gender pay gap, the increase in the share of involuntary part-time work, together with the decline of female employment rates, calls for specific attention to be paid to the situation of women on the labour market.

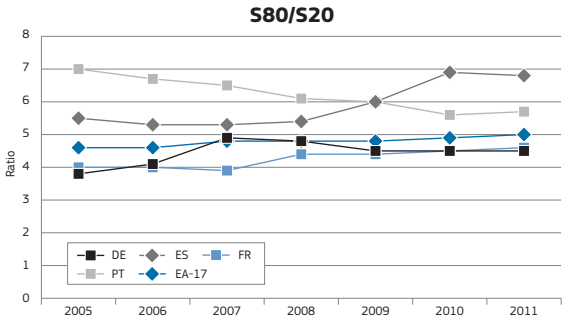
In France, the level of inequalities is below average, but has been rising slightly during the crisis while, in Germany, income inequalities increased prior to the crisis from a low level, to reach the EMU average, and stabilised afterwards. Germany is still characterised by labour market inequalities, with a higher than average gender pay gap.

(30) European Commission, Employment and social developments in Europe 2011, *Ch 2*.

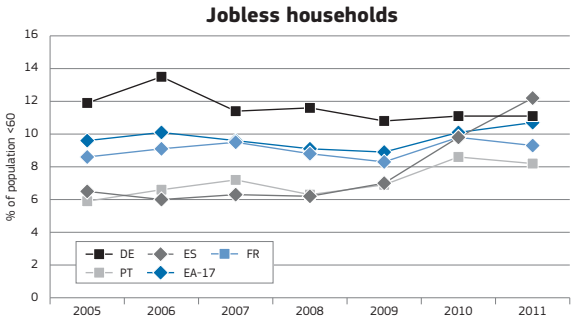
(31) OECD, Why Inequalities keep rising, 2011.

(32) According to the OECD, the single most important driver of rising income inequalities aver the last decades has been greater inequality in wages and salaries, which reflects the fact that earnings account for about three-quarters of total household incomes among the working-age population in most OECD countries. The earnings of the richest 10% of employees have taken off rapidly in most cases, with those top earners moving away from the middle earners faster than the lowest earners, hence extending the gap between the top and the increasingly squeezed middle-class. Greater earnings gains for workers with higher skills, driven by technological progress, increased prevalence of atypical labour contracts (especially part-time work), more low-paid people in work and declining coverage of collective-bargaining arrangements in many countries all contributed to a widening distribution of wages.

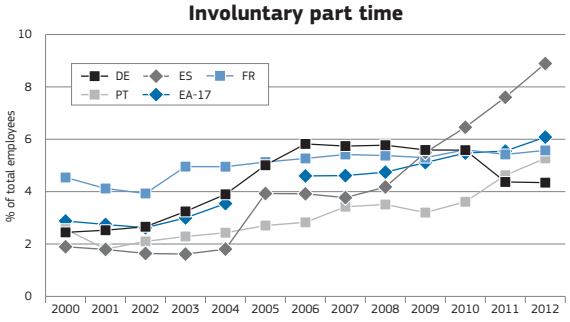
Panel Chart 5



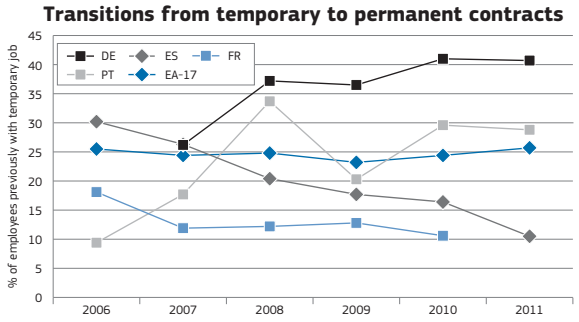
Source: Eurostat, EU-SILC.



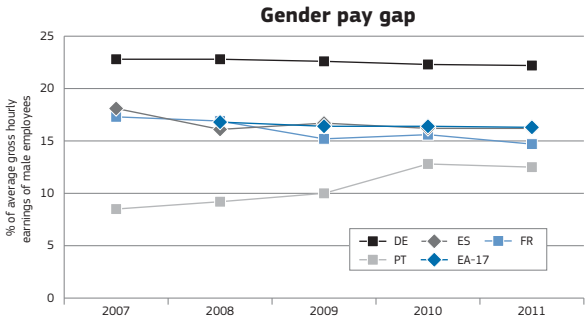
Source: Eurostat, EU-SILC.



Source: Eurostat, LFS.



Source: Eurostat, EU-SILC.



Source: Eurostat, SES.

As illustrated above, when viewed together, these five indicators provide a broad but focused picture of the types of ongoing key employment and social problems that exist in different Member States. Such indicators can provide early warnings of potentially serious employment and social problems when combined with other relevant information on underlying institutional and economic factors. Such an analysis can, in particular, help improve policy making within the EMU by taking better account of the expected employment and social consequences of macro-economic adjustments.

4. Challenging EU employment and social context

4.1. Protracted stagnation coming to an end?

GDP rose by 0.4% in the EU and by 0.3% in the euro area during the second quarter of 2013 compared with the previous quarter. The highest GDP growth among Member States was in Portugal, Germany and Lithuania while Cyprus, Slovenia, Italy and the Netherlands registered the largest decreases. Exports rose 1.7% in the EU and 1.6% in the euro area, while imports increased by 1.2% and 1.4% respectively. External trade thus made a small positive contribution in both the EU and euro area ([33]).

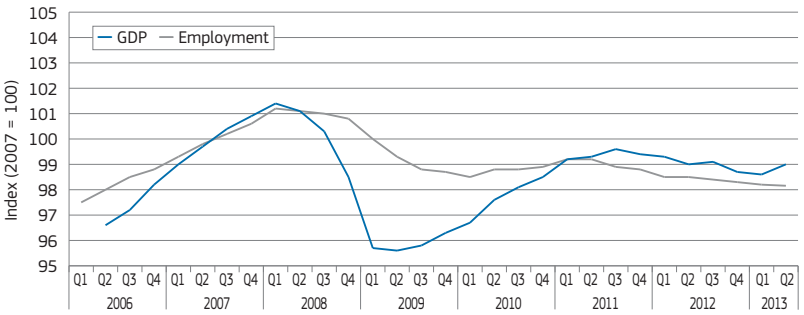
Current account adjustments in those Member States with large external imbalances prior to 2008 have pushed the euro area's current account into surplus. The euro area saw a surplus of 1.6% of GDP in early 2013. Ireland and Slovenia recorded substantial surpluses while Greece, Spain, Portugal and Italy have all seen substantial reductions of their deficits. In these countries most of the adjustment has been due to imports falling substantially. Although competitiveness, as measured by Unit Labour Costs, has increased, there is as yet relatively little increase in exports. This is the case for Greece, Spain and Cyprus, although Portugal and Ireland do show significant increases in exports.

4.1.1. A double dip recession over last five years

Seen over a five year period, the EU economy has experienced a double dip recession (see Chart 13) with negative growth interrupted by a timid recovery between the end of 2009 and the beginning of 2011. Chart 14 depicts changes in real GDP across the Member States since early 2008, which range from more than +10% in Poland to –10% or more in Greece and Slovenia (as well as Croatia which joined the EU on 1st July 2013).

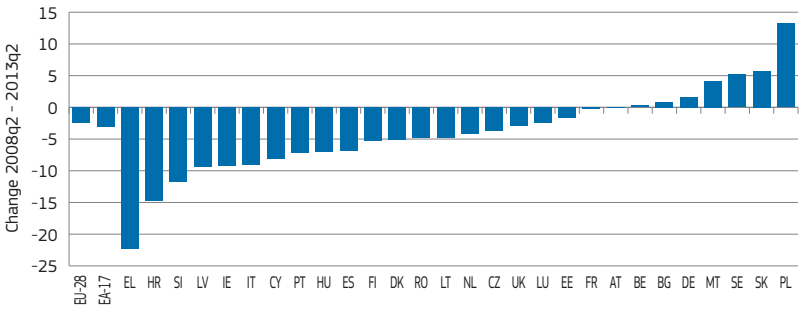
The depressed macro-economic situation translated into even more unfavourable employment trends, due to positive productivity developments which were partly offset by reductions in hours worked during the first downturn in a few countries (see Box 2). This can also be derived from Chart 6, comparing the respective falls of GDP and employment between the peak in early 2008 and the apparent bottoming out in mid-2013.

Chart 13: GDP and employment growth in the EU



Source: Eurostat, National Accounts [namq_gdp_k and namq_aux_pem], data seasonally adjusted.

Chart 14: Change in GDP on 2008 for the EU Member States



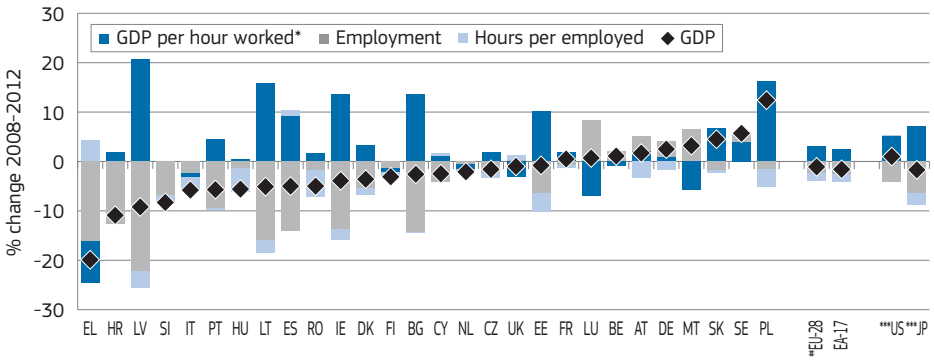
Source: Eurostat, National Accounts [namq_gdp_k and namq_aux_pem], data seasonally adjusted.

(33) Eurostat News Release 130/2013 — 4 September 2013.

Box 1: Decomposition of growth into employment, hours worked and hourly productivity

Between 2008 and 2012, while GDP at EU-28 level receded by 1.1 % (–1.6 % at EA level), employment was hit harder (–2.4 % in EU and –2.6 % in EA, see Chart 15). On the other hand, hourly productivity made headway (+3.1 % and +2.6 % resp.) while the number of hours worked decreased more moderately (–1.6 % in both areas). The latter phenomenon mainly stems from working-time reduction policies put in place in countries such as Germany, Austria and Belgium in the first years of the crisis.

Chart 15: Change in GDP between 2008 and 2012 and underlying components



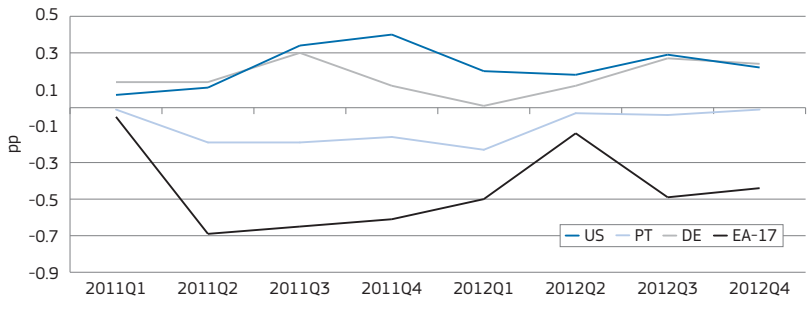
Source: Eurostat, National Accounts and OECD, DG EMPL calculations.

Note: Productivity per hour worked and number of hours: no data avail. for BE, HR, LU: GDP = GDP / employed x number of persons employed; no number of hours worked data available for MT; * for BE, HR, LU: productivity expressed in GDP per person employed; ** for GDP per hour worked and hours per employed: EU-27; *** US, JP: OECD data for 2008–11.

Over the four years to 2012, GDP growth was mainly driven by employment growth in Germany, Austria, Belgium, Luxembourg and Malta and by productivity gains in Poland, Sweden, Slovakia and France without major losses of employment. In countries which experienced severe falls in GDP (by more than 3 %), these translated mostly into employment declines, as in Greece, Croatia, Latvia, Slovenia, Portugal, Lithuania, Spain, Ireland and Denmark. Strong reductions of employment were avoided by a decline in the number of hours worked per employed and/or in hourly productivity in Italy, Hungary and Romania. In comparison, in the US, GDP growth between 2008 and 2011 was supported only by a growth in hourly productivity, while employment fell significantly and the number of hours worked per employed remained unchanged ([1]).

Similarly, estimations of Okun residuals indicate that, during the past two years, unemployment seems to have increased less than expected in the US and Germany (see Chart 16). On the other hand, unemployment increased more than expected in the euro area, particularly in Portugal.

Chart 16: Residuals of Okun estimations since 2011 (US, the euro area, Germany and Portugal)



Source: Commission services' estimations and OECD.

Note: Estimates calculated over 1998Q1 – 2007Q4.

The decline in the US unemployment rate was 'helped' by a fall in the participation rate to a historically low level, possibly due to worker discouragement. In the case of Germany, structural unemployment has probably declined as a result of the reforms of the last decade. On the other hand, in Portugal, the shedding of low-productivity labour resulted in a disproportionately large increase in unemployment compared to the evolution of GDP.

(1) For US, JP, OECD data was used. As productivity and hours worked data is missing for 2012, this piece of analysis is limited to the 2008–11 period.

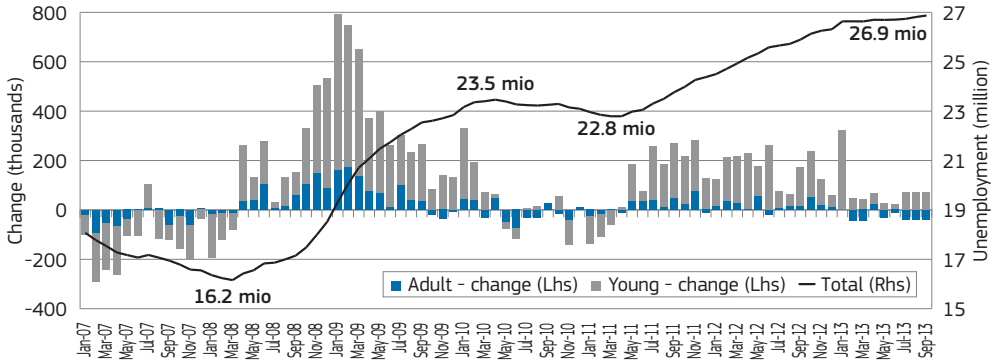
4.1.2. Labour markets have been weak in most Member States: long-term unemployment climbing to all-time highs

In the four years to 2012, Greece, Spain, Ireland, Portugal, Croatia and Cyprus all experienced massive reductions in employment and increases in unemployment (see Chart 17) while employment rates increased in Germany, Austria, Poland, Romania, Hungary, Luxembourg and Malta.

Chart 17: Changes in unemployment rates and employment rates from 2008 to 2012 in the Member States

Source: Eurostat, LFS [une_rt_a and lfsa_ergan], DG EMPL calculations.

Chart 18: Monthly change in youth, adult and total unemployment in the EU, 2007-2013



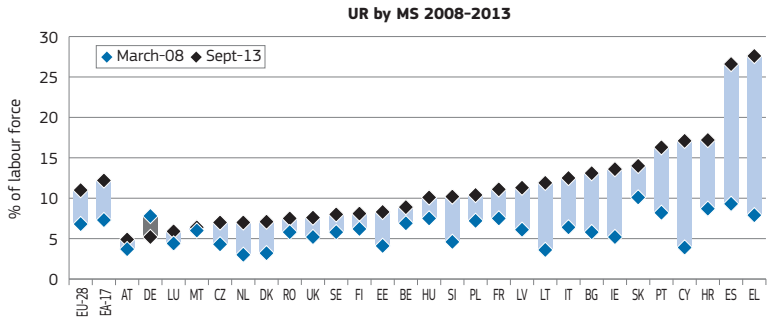
Source: Eurostat, series on unemployment [une_nb_m], data seasonally adjusted.

Unemployment rates have risen

The overall picture for unemployment is one of severe deterioration since 2008, with a short-lived reduction in the year to mid-2011 and a further worsening since then. The number of unemployed in the EU has again risen in recent months, hitting a new historic high of 26.9 million in September 2013 (see Chart 18).

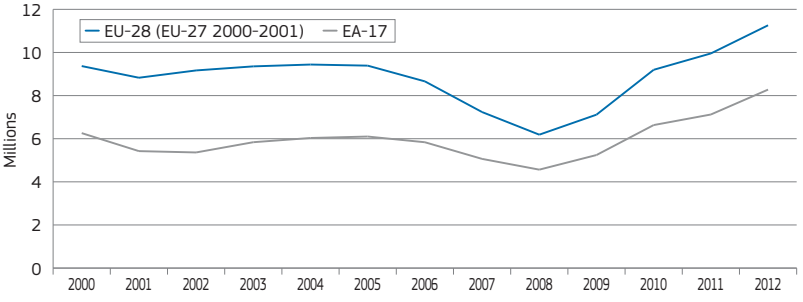
The second dip in output saw a steady increase in unemployment in the EU over the past two years, with 4 million more people out of work. The crisis has, since the spring of 2008, created some 10.5 million additional unemployed in the EU to reach a total of 19.4 million in September 2013. Between May and September the unemployment rate remained stable at 11 % of the active population, (12.2 % in the euro area), compared to less than 7 % before the crisis. The increase over the last year has been slightly more pronounced in the euro area (+0.6 pps) than in the EU as a whole (+0.4 pps).

Chart 19: Unemployment rate development by Member State since the low of March 2008 and September 2013



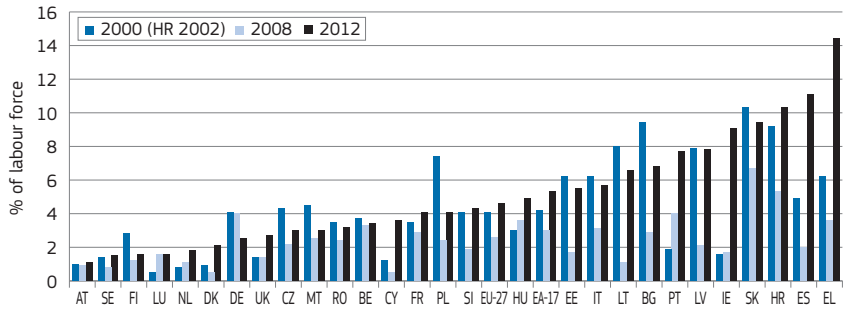
Source: Eurostat, series on unemployment [une_rt_m], data seasonally adjusted.

Chart 20: Long-term unemployment in the EU and euro area, 2000–2012



Source: Eurostat, LFS [lfsa_ugad].

Chart 21: Long-term unemployment rates for the Member States, 2000, 2008 and 2012



Source: Eurostat, LFS [une_ltu_a].

Since the historic low level of unemployment recorded in March 2008, the largest increases have been in Greece (+19.7 pps to 27.6%), Spain (+17.3 pps to 26.6%), Cyprus (+13.2 pps to 17.1%), Croatia (+8.5 pps to 17.2%) and Portugal (+8.1 pps to 16.3%), see Chart 19. Only one country has seen the overall unemployment rate fall over the last five years, namely Germany (–2.6 pps, to 5.2% in September 2013).

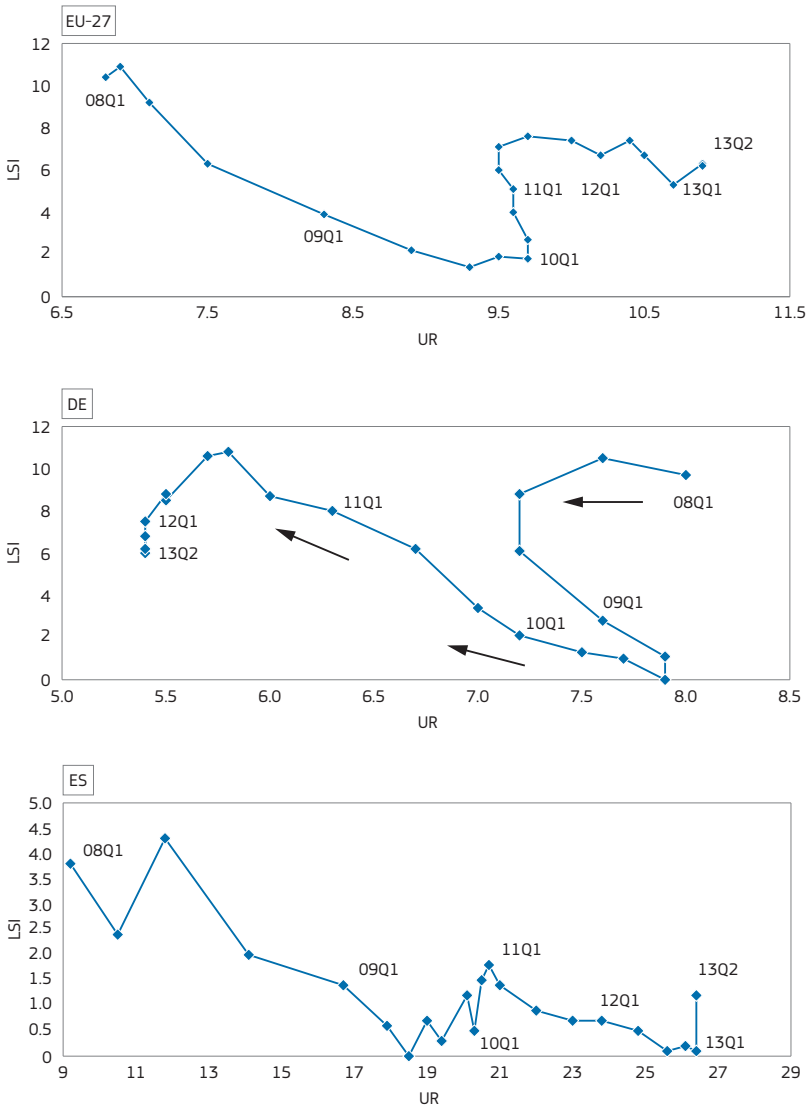
Uninterrupted rise in long-term unemployment

Long-term unemployment (unemployed for 12 months or more, not living in collective households) has risen throughout the crisis, apart from a brief period following the short-lived recovery of 2010, reaching an all-time high of 11.3 million in the EU at the end of 2012, accounting for nearly 5% of the active population. Since 2008 the number of long-term unemployed has almost doubled in the EU-27 and in the EA-17 (+ 5.1 million and +3.7 million respectively, see Chart 20), which contrasts with the steep decline between 2005 and 2007 and the minor increase following the 2001–03 recession. Developments by Member State broadly reflect movements in overall unemployment (see Chart 21).

Signs of rising labour market mismatches: rising structural unemployment after the first downturn

Some understanding of the changing structural nature of unemployment can be seen on the basis of the Beveridge curve, which reveals the extent of labour

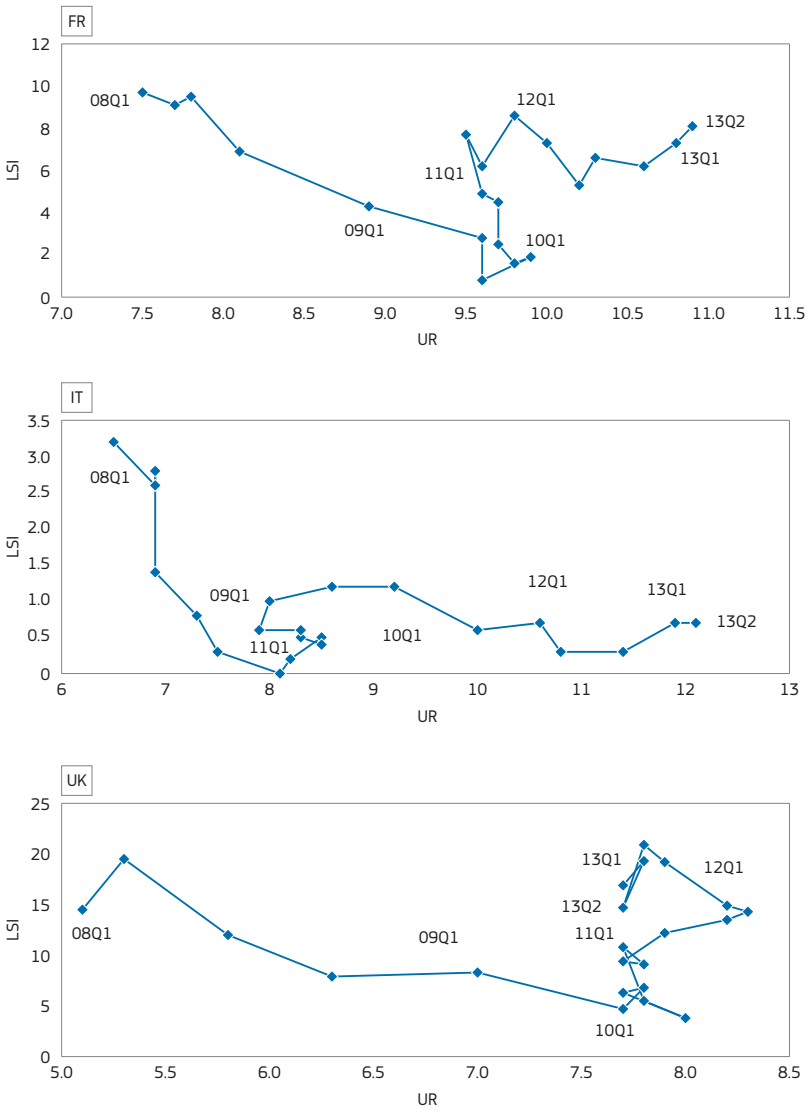
Chart 22: Beveridge curves in the EU and the five largest Member States



Source: Eurostat, LFS [une_rt_q] and ECFIN Business and Consumer Survey [bsin_q_r2]. Seasonally adjusted.

Note: UR = unemployment rate (%); LSI = labour shortage indicator, derived from EU business survey results (% of manufacturing firms pointing to labour shortage as a factor limiting production).

Chart 22: Beveridge curves in the EU and the five largest Member States



Source: Eurostat, LFS [une_rt_q] and ECFIN Business and Consumer Survey [bsin_q_r2]. Seasonally adjusted.

Note: UR = unemployment rate (%); LSI = labour shortage indicator, derived from EU business survey results (% of manufacturing firms pointing to labour shortage as a factor limiting production).

market mismatches by juxtaposing unemployment rates and unfilled job vacancy rates ([34]). Shifts along the curve represent cyclical changes in the demand for labour, typically implying higher vacancies and lower unemployment in upturns and lower vacancies and higher unemployment in downturns. On the other hand, an increase or decrease in the number of vacancies for a given rate of unemployment is indicative of structural changes, with an increase typically implying a higher level of mismatch (described as a move of the curve outwards, or to the right), and vice versa.

In the EU as a whole, movements in the unemployment-vacancy relationship since early 2008 can be split into three different periods. In the first period — up to the first quarter of 2010 — there was a continuous increase in the unemployment rate and a steady decrease in the labour shortage indicator, reflecting a typical movement along the Beveridge curve in a recession.

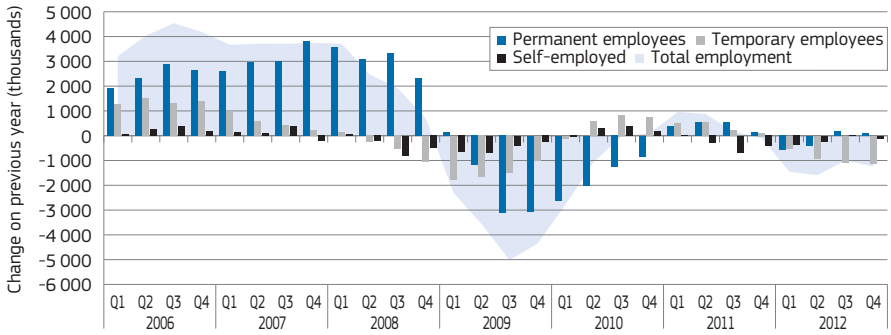
In the second period — from the first quarter of 2010 to mid-2011 — the unemployment rate remained fairly stable, while the labour shortage indicator increased significantly (see Chart 22). Such movement is indicative of labour market mismatches in a recovery, due to very diverse developments by sector (for example, construction boom and bust), insufficient labour mobility, and a possibly inadequate skill supply (see also 'The skill mismatch challenge in Europe', Chapter 6 in European Commission (2013) ([35])).

In the third period — since mid-2011 — the Beveridge curve has again followed a more normal pattern. The unemployment rate rose further while the labour shortage indicator remained stable. This suggests that the Beveridge curve has shifted outwards, pointing to a persistence of the mismatches during a period of renewed labour market weakness.

(34) An alternative indicator for the job vacancy rate is the labour shortage indicator. The indicator is derived from EU business surveys results. The indicator is seasonally adjusted and fully harmonised across Member States, but covers only manufacturing. See also http://ec.europa.eu/economy_finance/db_indicators/surveys/documents/userguide_en.pdf. See March 2013 issue of the EU Employment and Social Situation Quarterly Review (European Commission, 2013b) for more details.

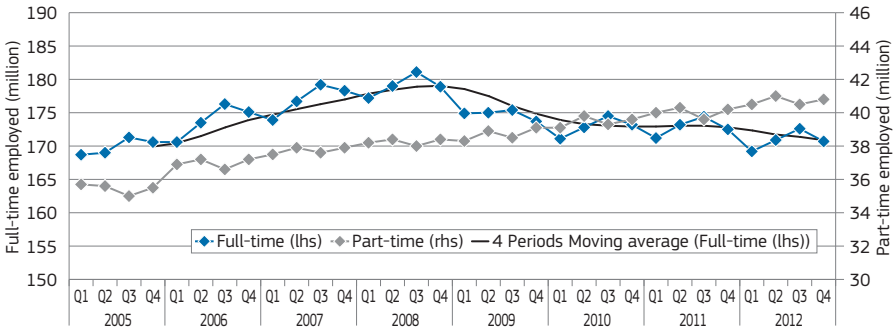
(35) European Commission (2013c), 'Employment and Social Developments in Europe 2012' (ESDE 2012).

Chart 23: Employees in permanent and temporary work, self-employment and total employment in the EU, 2006-2012



Source: Eurostat, LFS, DG EMPL calculations. Data non-seasonally adjusted.

Chart 24: Part-time and full-time employment in the EU, 2005–2012



Source: Eurostat, LFS [lfsq_epgaed], data non-seasonally adjusted.

Box 2: European Restructuring Monitor reveals continued net job destruction

In the twelve months between 1 September 2012 and 31 August 2013, the European Restructuring Monitor (ERM) recorded a total of 1436 large-scale restructuring cases (those generally involving at least 100 job losses or job gains) at national, regional or local level, and 102 cross-national cases (1).

These restructurings involved approximately 391000 announced job losses and 190000 announced job gains. In every quarter since 2008q1, announced job losses in ERM cases have outnumbered job gains. The Member State with the largest announced job losses was Germany (56084) but large job losses were also recorded in France (54384), the United Kingdom (43770) and Spain (34949). The country reporting the largest job gains was France (32554).

The majority of announced job losses (67%) were attributable to internal restructuring and a quarter (25%) to bankruptcy or closure. The share of bankruptcy / closure-motivated job losses has been higher in 2012/13 than at any time in the last decade, including the trough years of the crisis, 2008–09. On the other hand, levels of offshoring/outsourcing/relocation remain very subdued (4% of total job losses compared to 10% in 2006 and 2007).

The main broad sector affected by restructuring job loss was manufacturing though this reflects, in part, the large firm bias of ERM due to its size thresholds. There were over 144000 job losses reported in 471 manufacturing cases in the twelve month period, representing 37% of total ERM-announced job losses. Other sectors accounting for a large share of job losses included financial services/insurance (17%) and information/communication services (11%).

Manufacturing also accounted for 30% of announced job gains in the twelve month period with the retail sector accounting for 13%. Within manufacturing, the car/transport equipment subsector was the source of most restructuring activity (8% of all announced job loss and 13% of all job creation).

Among the small number of sectors (intermediate classification) in which overall restructuring job balance (announced job loss minus announced job gain) was positive, accommodation and food service activities (NACE I, +13381), IT and information services (NACE JC, + 7322) and professional activities including legal, accounting, consulting, architectural and engineering services (NACE MA, +6919) came out on top.

(1) Data is based on an extraction from the ERM restructuring events database on September 6th 2013 www.eurofound.europa.eu/emcc/erm/index.htm

In conclusion, the outwards movement of the Beveridge curve seems to have predominantly occurred in the period 2010–11, suggesting that mismatches and structural unemployment mainly rose during the first downturn. An analysis of national Beveridge curves ([36]) shows that this was the case in Bulgaria, France, the Netherlands and Poland, but not in Member States with the highest increases in unemployment. In contrast, a better matching associated with a leftward shift in the Beveridge curve was seen notably in Germany.

Continuing net job destruction and a growing share of precarious work...

Over the five years to the first quarter of 2013, 2.8% of jobs disappeared in the EU across all sectors, although the intensity of net job losses was less in the second downturn (after Spring 2011) than it has been during 2008–09. Furthermore, while the manufacturing and construction sectors were most hit during the first downturn, services and the public sector saw heavier job losses during the second downturn. According to the European Restructuring Monitor (see box), announced job losses still outnumber job gains in the large majority of sectors.

While the severity of the first downturn resulted in massive destruction of permanent jobs, the greatest burden of adjustment has fallen on temporary jobs. During the timid recovery in 2010 and the first part of 2011, continuing business uncertainty tempered the hiring on permanent contracts in favour of temporary ones (accompanied by an increase in self-employment), which were subsequently discontinued during the second downturn. In the year to the last quarter of 2012, temporary employment accounted for much of the drop in employment, declining by 4.7%, or 1.1 million fewer employees (see Chart 16). The number of workers in permanent employment in the EU as a whole increased at an annual growth rate of only +0.1% in 2012q4, representing a modest rise of 100 000 full-timers.

While the share of temporary employees has developed cyclically, tracking the overall ups and downs of the labour market, Chart 25 shows the extent of the divergence between Member States in terms of the percentage of employees holding a temporary contract in 2008–12. In 2012, the countries with the highest share of employees on temporary contracts were Poland, Spain, Portugal, the Netherlands and Slovenia, with rates of 17% or more. The shares were lowest in Romania, Lithuania, Estonia, Bulgaria and Latvia — all below 5%.

At EU-28 level the percentage fell by 0.4 pps to 13.7% over the four years to 2012 (but included a rise of +0.4 pps from 2011). It actually increased moderately in the majority of the Member States, although this was offset by the sharp falls recorded in the other seven, most notably in Spain, Portugal and Greece — all countries badly affected by the crisis and seeking to make appropriate labour market adjustments.

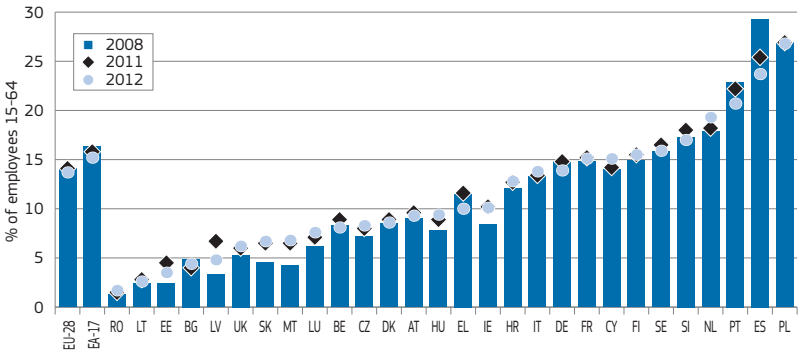
Attention should be focused on employees who hold temporary contracts involuntarily: some 60% of temporary employees in the EU want, but cannot find, a permanent job. This is a particular challenge in Spain and Portugal (the countries with the highest shares of temporary employment) where around 90% of temporary contracts are involuntary, but more than 80% of employees are in this position in Member States with medium rates of temporary employment (i.e. Cyprus, the Czech Republic and Greece) and low rates (i.e. Romania and Slovakia) as can be seen in Chart 26.

Self-employment decreased by 0.4% (or 115 000 self-employed) in the course of 2012, with the crisis and credit tightening making it more difficult to start up one's own business.

Full-time employment falling but part-time rising...

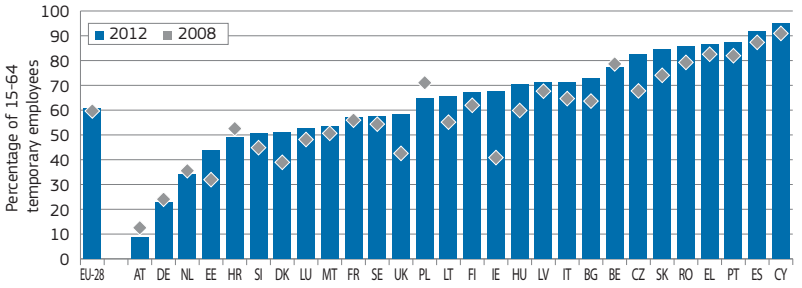
Full-time employment is in its fourth consecutive year of contraction, down by 8.3 million (–4.6%) since the last quarter of 2008, after having stabilised briefly during the first semester of 2011 (see Chart 24). Conversely, there has been steady growth in part-time jobs with 2.5 million more since the last quarter of 2008, a rise of 6.4%.

Chart 25: Temporary contracts in the Member States in 2008, 2011 and 2012



Source: Eurostat, LFS [lfsa_etpga].

Chart 26: Involuntary ('Could not find a permanent job') temporary work in the Member States

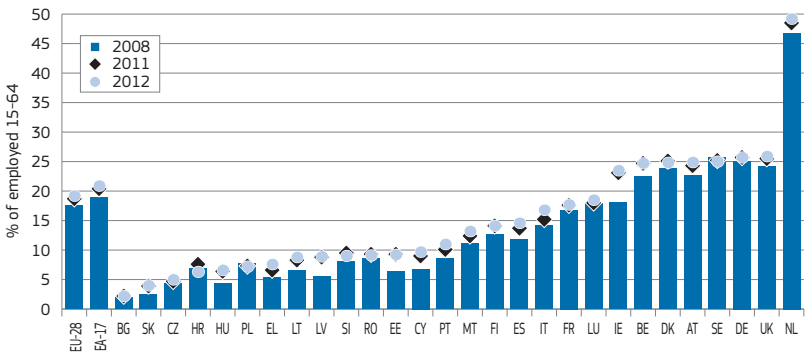


Source: Eurostat, LFS [lfsa_etgar].

Note: Some countries present unreliable data: EU-28, BE, BG, DE, EE, EL, IE, NL, SE, UK.

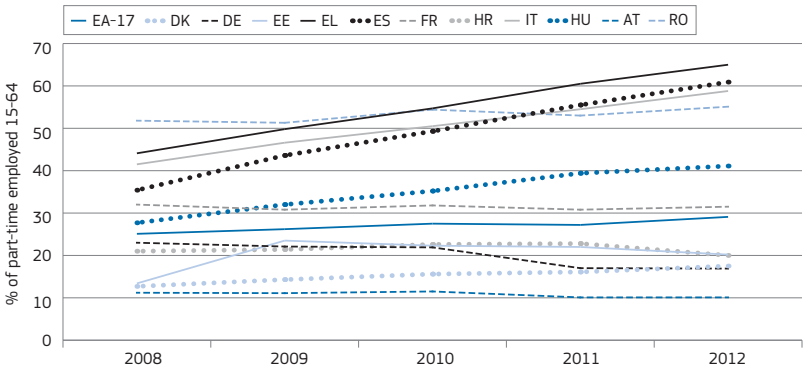
(36) See more details in March 2013 edition of ESSQR (European Commission, 2013b).

Chart 27: Part-time contracts in the Member States in 2008, 2011 and 2012



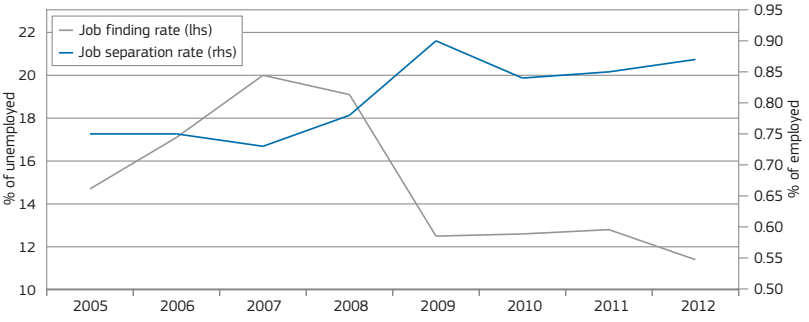
Source: Eurostat, LFS [lfsa_eppga].

Chart 28: Involuntary part-time work in selected Member States



Source: Eurostat, LFS [lfsa_eppgai].

Chart 29: Job-finding rate and job separation rate in the EU-27, 2005–2012



Source: Eurostat. LFS. DG EMPL calculations (annual average).

Chart 27 depicts the relative developments of part-time work in the Member States since 2008. In 2012, its share within total employment was the highest in the Netherlands (49.2%), followed by the UK, Germany, Sweden, Austria, Denmark and Belgium, all at 25% or above. Shares were lowest in Bulgaria, Slovakia, the Czech Republic and Croatia, at 5% or below. At EU-28 level, the percentage went up by 1.7 pps to 19.2% over the four years to 2012 (+0.5 pps since 2011). It increased in all Member States except in Croatia, Poland and Sweden, with major increases noted between 2008 and 2012 in Ireland (+5.4 pps), Latvia (+3.4 pps) and Cyprus (+2.9 pps) — all countries that have experienced serious labour market and social difficulties in recent years.

Reducing working time was considered an appropriate option by both employers and workers in the first phase of the crisis, helping to significantly reduce the risk of redundancies in many cases. However the long-term acceptance of this should not be taken for granted, with many part-time workers wishing to work more hours, as can be seen in Chart 28 for a selection of Member States for which reliable data is available.

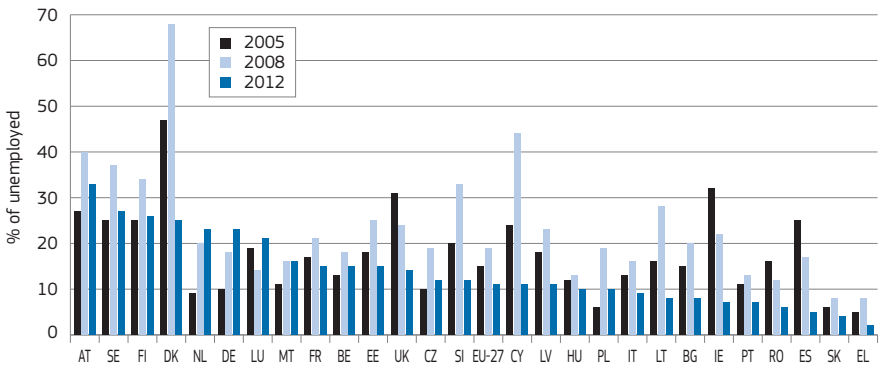
... and declining prospects of finding permanent work

The ratio between the number of people starting new jobs and those who are unemployed (the job-finding rate)([37]) in the EU-27 increased from 14.7% to 20% between 2005 and 2007 but fell back after 2008, falling to 11.4% in 2012 (see Chart 29). The ratio of the number of people who left their job to the number of people in employment, known as the job separation rate([38]), rose sharply after 2008 across EU-27 (by 0.12 pps) to reach 0.90% in 2009 and 0.87% in 2012.

(37) Annual average of the monthly ratio of the number of people starting new jobs to those who are unemployed. People starting a job include those previously in work and those changing jobs (employment to employment flows), those previously unemployed (unemployment to employment flows) and those that had previously not been in the workforce (inactivity to employment flows).

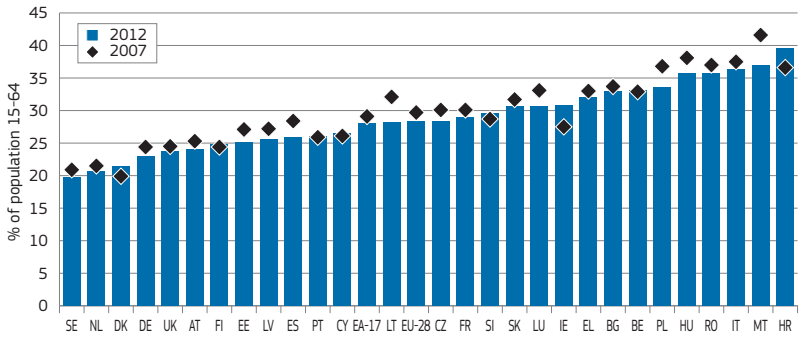
(38) Annual average of the monthly ratio of the number of people who leave their jobs to the number of people in employment.

Chart 30: Job-finding rate in the Member States, annual average in 2005, 2008 and 2012



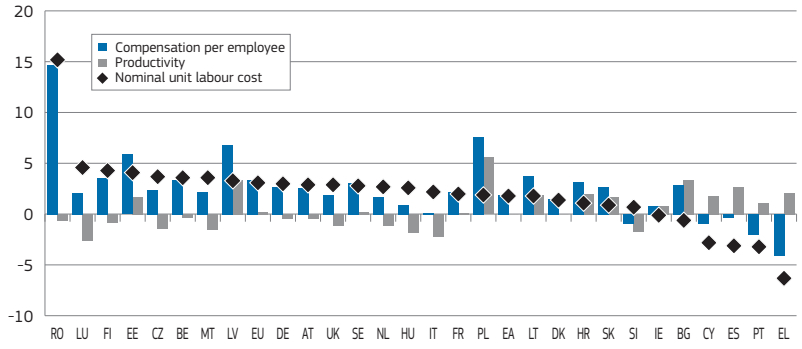
Source: Eurostat, LFS. DG EMPL calculations.

Chart 31: Inactivity rates for EU Member States, 2007 and 2012



Source: Eurostat, LFS [lfsa_argan].

Chart 32: Nominal compensation per employee, productivity and ULC in 2012



Source: Eurostat, National Accounts [nama_aux_lp and nama_aux_ulc], DG EMPL calculations.

Note: Nominal unit labour cost (ULC) is defined as compensation per employee adjusted for productivity per person employed.

Between 2005 and 2008, the job finding rate rose in 22 Member States and fell in five with the highest rises recorded in Poland, Cyprus and Denmark, and the sharpest falls in Spain, the UK and Ireland. From 2008 to 2012, this job finding rate fell in 24 Member States and increased only in three. As shown on Chart 30, the highest increases were recorded in Luxembourg, Germany and the Netherlands, while Denmark, Cyprus and Slovenia saw the steepest falls.

Labour market difficulties hardly affected labour market participation

Despite the overall negative labour market impact of the crisis, the inactivity rate in the EU actually fell from nearly 30% before the crisis to just over 28% in 2012, essentially because of increasing activity among older workers (nearly +5 pps from 2007 to 2012) and women (+2 pps). However, since the onset of the crisis, a rise in the inactivity rate has been noted in Ireland, Croatia and Denmark, as well as in Slovenia, Finland, Cyprus, Belgium and Portugal, but of less than 1 pps in each case. In the former three countries the increase was accompanied by a decline in female participation.

The latest data available for the first quarter(s) of 2013 indicate that activity rates have held up well in Greece, Spain and Italy, where they even exceeded the level before the crisis, while there has been a slight decline of around 0.5 pps in Portugal.

As unemployment rises and job prospects deteriorate, people naturally become increasingly discouraged. Among the inactive who are available to work, an increasing share – 3.7 % of the active population, compared to 3.2 % before the crisis — are not seeking work because they believe there is no job available. While this share has increased by 0.5 pps on average in the EU, representing an additional 1.5 million people, the increase has exceed more than 1% in 10 Member States since 2008, with a peak of 2.9% in Portugal. The phenomenon is widespread among women and young people, and, for the latter, visible in the NEET rate (see below).

All in all, and unlike the trend seen in the USA, there is only limited evidence of the generally unfavourable labour market conditions in the EU having any sizeable negative effects on activity rates.

4.1.3. Labour incomes coming further under pressure

Nominal labour cost decreased notably in Member States at the periphery of the euro area ...

In 2012, Greece ([39]), Portugal, Cyprus and Slovenia recorded notable decreases in nominal compensation per employee, while the euro area Member States with a strong external position recorded strong growth (including Germany, Austria and Finland). See Chart 32.

... while productivity growth in these Member States remained robust ...

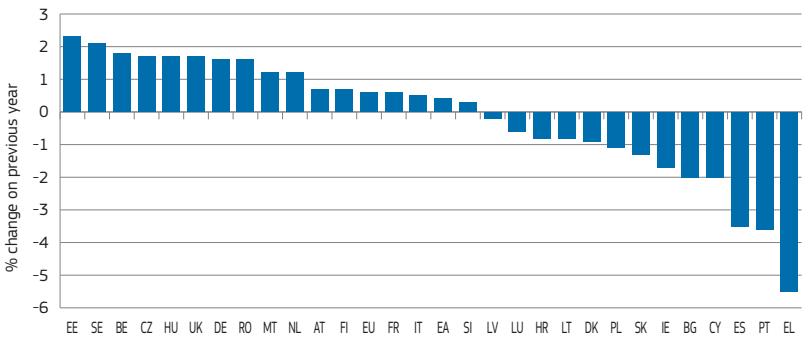
At the same time, Spain, Greece, Portugal and Ireland showed strong labour productivity growth — albeit due largely to employment falling faster than output.

Nevertheless, labour productivity contracted in most other Member States of the euro area with the strongest decreases recorded in Luxembourg, Italy, Slovenia and Malta.

Several Member States outside the euro area recorded strong labour productivity growth (i.e. Poland, Bulgaria and Latvia). However, productivity diminished in Hungary, the Czech Republic and the United Kingdom.

(39) In Greece, this was accompanied by a sizable decrease in the minimum wage (-22% between the first half-year 2012 and 2013).

Chart 33: Real unit labour cost in 2012 in the Member States



Source: Eurostat, National Accounts [nama_aux_ulc].

Note: Real unit labour cost (RULC) is nominal unit labour cost (ULC) adjusted for prices (i.e. the GDP deflator) — which is a measure of the discrepancy between real wages and productivity (on the supply side) and the labour income share (on the demand side).

... so that nominal unit costs started to converge within the euro area ...

In 2012 nominal unit labour costs (i.e. compensation per employee adjusted for labour productivity growth) decreased in Greece, Portugal and Spain, while remaining stable in Ireland.

At the same time, the nominal unit labour cost grew significantly in the core Member States of the euro area, notably in Belgium, Finland, Luxembourg, Austria, Germany and France.

Substantial increases in nominal unit labour cost can be a source of cost-push inflationary pressures and may affect a Member State's international cost competitiveness (especially in a monetary union with irreversible fixed nominal exchange rates).

As such, the decreases in the nominal unit labour cost in the periphery of the euro area, and the increases in the core Member States, may have the potential to promote adjustment in cost competitiveness and absorb the external imbalances accumulated in the past. Box 3 puts developments in 2012 in a broader context by comparing them with cumulative growth rates in the euro area over the 2001–12 period.

... but started to strengthen in several Member States outside the euro area

Several Member States that joined the EU in 2004 or later have recorded rapid (and probably unsustainable) nominal unit labour cost growth, i.e. in Romania, Estonia and Hungary. In these Member States these increases are the result of strong growth in nominal compensation per employee coupled with very weak productivity growth — which was even negative in Romania and Hungary.

The labour income share decreased sharply in Greece, Portugal and Spain

Chart 33 shows the annual growth rates of real unit labour costs (RULC) in the EU in 2012 where real unit labour cost measures the discrepancy between real wages and labour productivity ([40]). As such, the RULC is also a measure of the labour income share ([41]) in that a rise in the real unit labour cost implies a rise in the labour income share.

Real compensation per employee ([42]) grew at a stronger pace than labour productivity in most EU Member States in 2012, inducing a rise in the real unit labour cost. Estonia and Sweden showed the strongest increase, followed by Belgium, the Czech Republic, Hungary, the United Kingdom, Germany and Romania.

In contrast to these developments are the sharp falls in the Member States at the periphery of the euro area. Greece recorded the sharpest decrease in its real unit labour cost, followed by Portugal and Spain. In Cyprus and Bulgaria the decreases were also notable, both down by –2%.

(40) I.e. the real unit labour cost is equal to the nominal unit labour cost adjusted for the GDP price deflator.

(41) The capital income share is one minus the labour income share.

(42) I.e. nominal compensation per employee adjusted for GDP price deflator, which is a measure of gross earnings of workers.

Box 3: Asymmetric correction of divergent nominal unit labour cost developments in the euro area

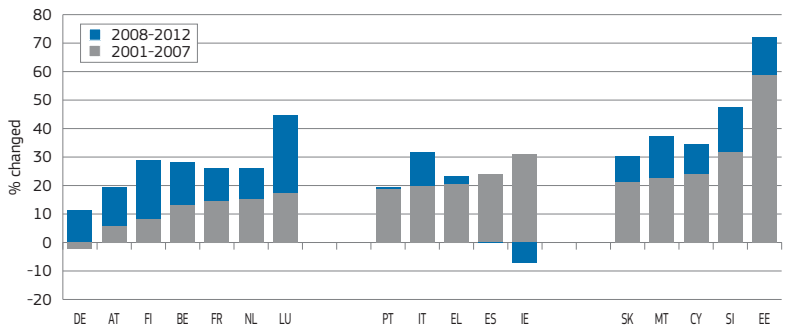
A sustained asymmetric correction of divergent developments in nominal unit labour cost during the run-up to the crisis was the driving force behind developments in the nominal unit labour cost of the Member States of the euro area in 2012. Chart 34 shows three groups of countries: the core countries; the original euro area countries in the periphery; and the countries that joined after 2007.

Among the original members of the euro area, Ireland had the largest cumulative nominal unit labour cost growth between 2001 and 2007, followed by Spain, Greece, Italy, Portugal and Luxembourg — all of whom tabled cumulative growth of just below 2 % per annum ([1]). By contrast, several other Member States tabled very low nominal unit labour cost growth; Germany (actually recording negative growth) together with Austria and Finland — all well below a cumulative growth of 2 % per annum.

Since the onset of the crisis — i.e. between 2008 and 2012 — several Member States experienced low or negative nominal unit labour cost growth. Ireland tabled a decrease of –7.2 %, and Spain a decrease of –0.25 %, while Portugal showed a small increase of 0.6 %. In Greece the increase over the entire period was higher because it experienced rather high growth in 2008 (+5.1 %) and 2009 (+6.2 %) but which has been reversed since 2012 (–6.2 %).

Some euro area Member States showed strong growth in their nominal unit labour costs over the 2008–12 period, especially Luxembourg and Finland. In others the cumulative growth was more in line with a growth rate just below 2 % per annum, except in Belgium, Malta, Estonia and Austria.

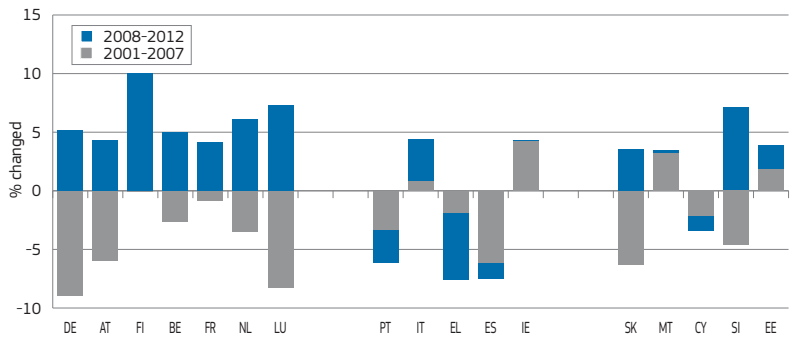
Chart 34: Nominal ULC 2001–07 and 2008–12



Source: Eurostat, National Accounts [nama_aux_ulc].

By contrast, after correcting for inflation (which yields the real unit labour cost ([2]) — see Chart 35), adjustments since the crisis appears to have affected the 'periphery' (with the exception of Italy), while real unit labour cost grew nowhere else, other than in Cyprus. Countries in the periphery tended to be those facing current account and external debt challenges, but the cumulative growth over the 2008–12 period was primarily driven by sharp increases at the peak of the downturn (in 2008 and 2009) when output contracted much more strongly than the total wage bill.

Chart 35: Real ULC 2001–07 and 2008–12



Source: Eurostat, National Accounts [nama_aux_ulc].

Note: Real unit labour cost is equal to nominal unit labour cost adjusted for GDP deflator — which is also a measure of the labour income share.

(1) Noting that the nominal unit labour cost is a measure of cost push inflationary pressures and that the ECB has set an inflation target of just below 2 % per annum.

(2) The real unit labour cost is also a measure of the labour income share (or 'wage share'): a rise in the real unit labour costs indicates a rise in the labour income share.

4.2. The threat to the future of young people

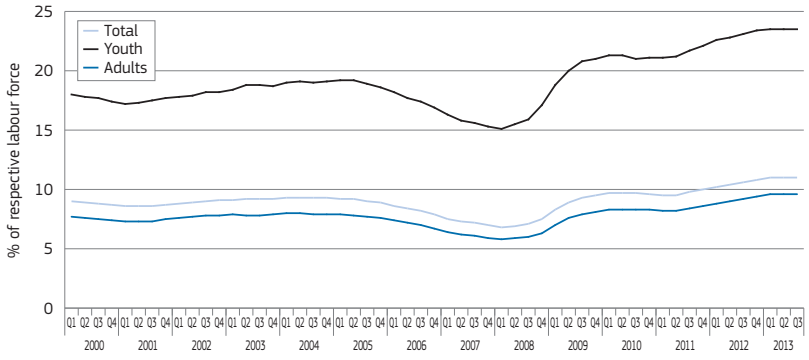
Rising unemployment and falling employment

Chart 36 clearly demonstrates just how rapidly the youth unemployment rate has developed compared to that for adults since mid-2008, rising by 9.3 pps within five years to reach 24.2 % in 2013q2, while that of adults rose by 3.8 pps, to 9.6 % ([43]). This means that, with 5.5 million young unemployed (in July 2013), close to one in four economically active young people cannot find a job in the EU.

Nevertheless the bulk of the unemployed are aged 25 and more and the absolute number of jobless young people increased markedly less than the number of jobless adults. Young people represent only a small part of the active population. Moreover, in some ways the situation of young people is not well captured by unemployment rates, in view of the limited reference population (which only includes the economically active young), and the high risk of transitions from school into inactivity. Box 4 contains a more qualified analysis of both variables on the basis of ratios.

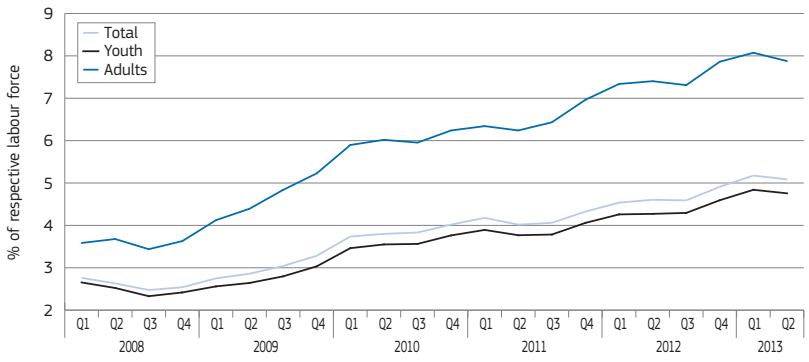
Likewise the long-term unemployment rate for youth has increased fast recently, as Chart 37 illustrates, with long-term unemployment accounting for 7.9 % of active youth in 2012q4 (against 4.6 % for adults and 4.9 % in total). In other words it has more than doubled over the last five years, while it went up by roughly 2 pps for adults. There is thus a clear risk of labour market detachment for the younger generation, as the proportion of long-term jobless has increased faster than the overall unemployment rate of the age group.

Chart 36: Developments of unemployment rates since 2000 in the EU-28, total, adults (25–74) and young people (15–24)



Source: Eurostat, LFS [une_rt_q], data seasonally adjusted.

Chart 37: Developments of long-term unemployment rates since 2008 in the EU-28, total, adults (25–74) and young people (15–24)



Source: Eurostat, LFS [lfsq_upgal], data non-seasonally adjusted.

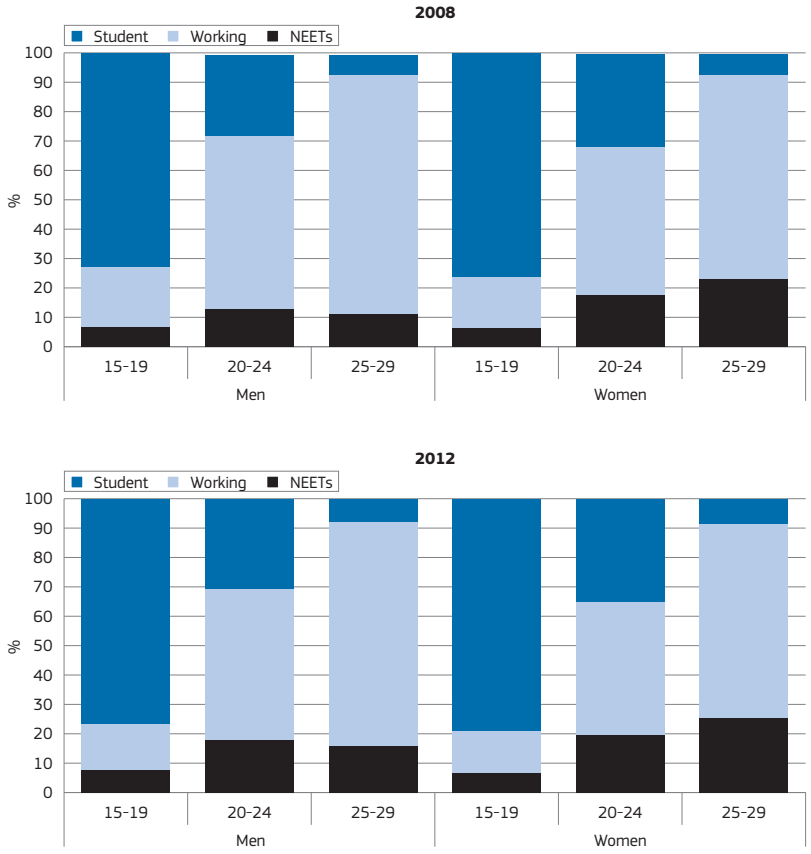
Risk of falling attachment to the labour market: the case of NEET

Given the high proportion of students among the younger generations (close to 80 % of the age group, 15–19, and one third of those aged 20–24), the low activity rate of young people should not be the major concern as such. Of much greater concern is the proportion of young people who are neither in employment, education and training (NEET). Chart 38 provides an overview of the respective shares of students, workers and NEETs by gender and sub-age group. Comparing the situation in 2008 and 2012, the proportion of students has indeed risen with the crisis across all sub-age groups, for both young women and men, as has the percentage of NEETs (see analysis below). On the other hand, the percentage of young workers fell substantially.

The share of young NEETs in the EU had been shrinking up until 2008, but has grown again. In the four years to 2012, the NEET rate for people aged 15 to 24 increased by 2.3 pps to 13.2 % at EU-27 level (see Chart 39). The highest increases were recorded in Greece, Croatia, Cyprus and Romania. Decreases were recorded in Germany, Austria and Luxembourg, and they were marginal.

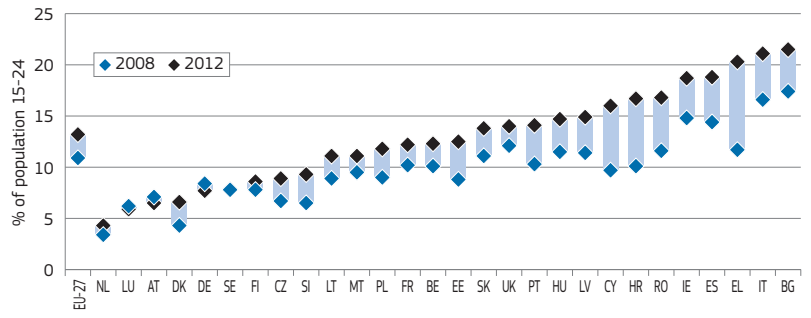
(43) See Eurostat's Statistics Explained with definitions of various concepts (unemployment rate, unemployment ratio, etc.): http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=Youth_unemployment.

Chart 38: Share of students, workers (in education or not) and NEETs at EU-28 level, by gender and in various sub-age groups (15–19, 20–24 and 25–29)



Source: Eurostat, LFS [edat_lfse].

Chart 39: Total NEET rate in the Member States for 15–24, in 2012 as compared to 2008



Source: Eurostat, LFS [edat_lfse_20].

Note: EU-28 aggregate not available.

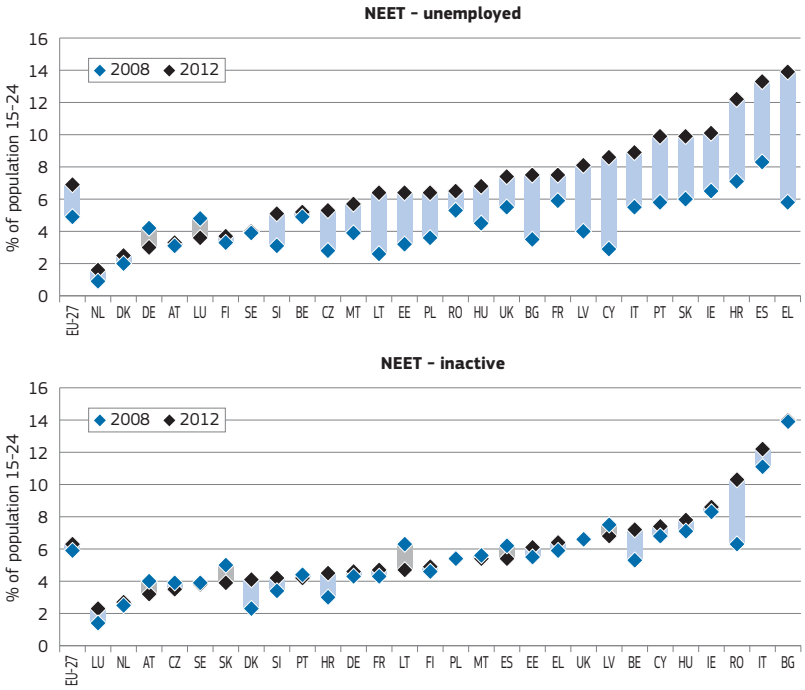
Chart 40 shows that the NEET phenomenon is mainly the result of an increase in unemployment, rather than in non-education linked inactivity, with the latter also referred to as 'bad inactivity' i.e. not in education and training and not even looking for a job. Between 2008 and 2012, the unemployment component saw a rise of 2 pps to 6.9% ([44]), while the rise for the inactivity component was up by 0.4 pps to 6.3%, meaning that the same proportion of young people are continuing to look for jobs or to invest in education ([45]).

This rather reassuring observation hides major differences across Member States, however, with significant hikes in youth inactivity seen in Romania, Belgium, Croatia, Denmark and Italy. Falls were recorded in Lithuania, Slovakia, Latvia, Austria and Spain. Major rises were seen in youth unemployment, as already mentioned, with reductions in unemployment ratios being noted only in Germany and Luxembourg.

(44) This percentage is lower than the 9.8% of the youth unemployment ratio referred to above, since these 6.9% represent those young unemployed people who are not registered in formal education, while the 9.8% may include students.

(45) See also http://epp.eurostat.ec.europa.eu/statistics_explained/index.php?title=Participation_of_young_people_in_education_and_the_labour_market.

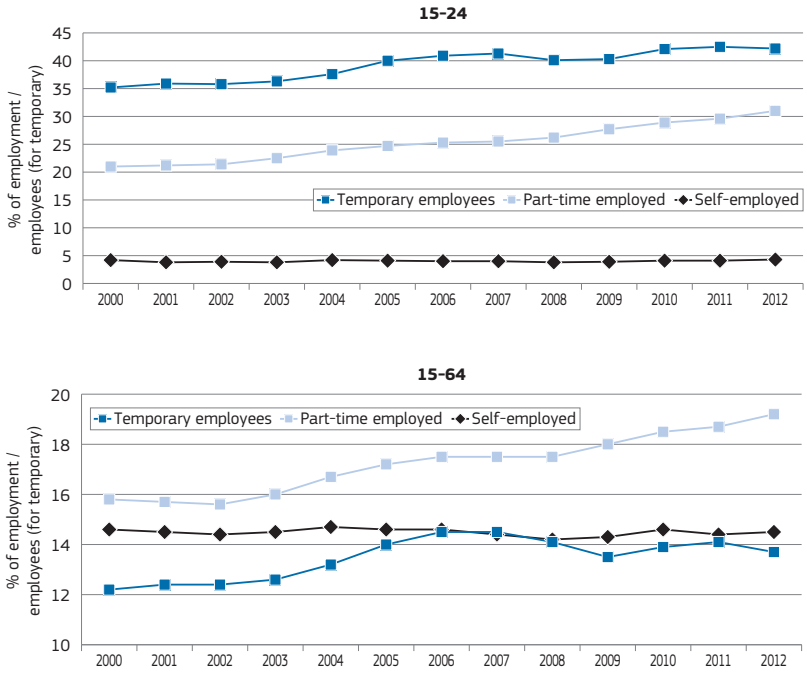
Chart 40: NEET rate for 15–24 in the Member States: unemployed vs. inactive



Source: Eurostat, LFS [edat_lfse_20].

Note: EU-28 aggregate not available.

Chart 41: Part-time, temporary contracts and self-employment in the EU-28 since 2000, for young people (15–24) vs. the whole working-age group (15–64)



Source: Eurostat, LFS [lfsa_etpga, lfsa_eppga and lfsa_esgan2]. DG EMPL calculations.

A generation increasingly confronted with labour market segmentation...

The younger generation is particularly exposed to atypical, and often precarious, working conditions as seen in the percentage of young employees holding temporary contracts and the proportion of young workers (both paid employees and self-employed) who are working part-time. In 2012, 29 % of young part-timers did not regard part-time work as their preferred option, against 23.2 % five years earlier and Chart 41 compares the situation of the 15–24 age group with that of the entire working-age population (15–64) in terms of types of contracts since 2000 in the EU-28.

In both age groups, the percentage of part-timers has been on the increase virtually since the year 2000 and it has continued since the onset of the crisis. For young people, it rose by 4.8 pps to 31 % in the four years to 2012, against an increase of 1.7 pps to 19.2 % for working-age workers in general. Back in 2000 these percentages had stood, respectively, at 21.0 % and 15.8 %.

The proportion of temporary employees has also tended to grow but with fluctuations in line with changes in economic activity. The percentage of young employees holding a temporary contract is close to three times that of those of working-age in total. In 2012 it amounted to 42.2 % against 13.7 % against 35.2 % and 12.2 % respectively in 2000. However, comparisons across and between Member States need to be made with caution. While temporary contracts have a connotation of job insecurity and precariousness in some Member States, in others they include a significant portion of apprenticeship/training contracts, which are generally seen as providing effective stepping stones into regular and secure employment ([46]).

(46) See http://ec.europa.eu/social/main.jsp?langId=en&catId=113&newsId=1923&furtherNews=yes for more details.

The crisis has not helped young entrepreneurs fulfil their entrepreneurial dreams ([47]) and the starting up of one's own business remains the exception with the percentage of self-employed among young workers being about one third that of the working-age group in total, at less than 5 %.

... especially among the less educated

Over the year to the fourth quarter of 2012, employment fell by 3.4 % among young people with the less-educated being hit the hardest (–7.2 %) while those with higher education have been spared (+6.7 %) ([48]). The overall 3.4 % fall was driven essentially by a decline in the number of temporary contracts (–5.3 %, against –2.2 % for permanent jobs) with the biggest impact again being greatest for those with a lower level of education.

More than 40 % of young employees in the EU are on temporary contracts, a figure that has increased during the downturn. In the fourth quarter of 2012, the percentage was 41.8 %, up 2.1 pps on 2008q4, against 13.6 % for the overall working-age population (–0.3 pps). In the fourth quarter of 2012, 7.2 million young people were on temporary contracts, 0.9 million (roughly 11.5 %) fewer than four years earlier. The vast majority of these contracts (86 % in 2012q4) are held by those with low to medium level education (up to ISCED level 4).

4.3. Longer-term impact on labour markets

4.3.1. The crisis is challenging the Europe 2020 employment rate targets

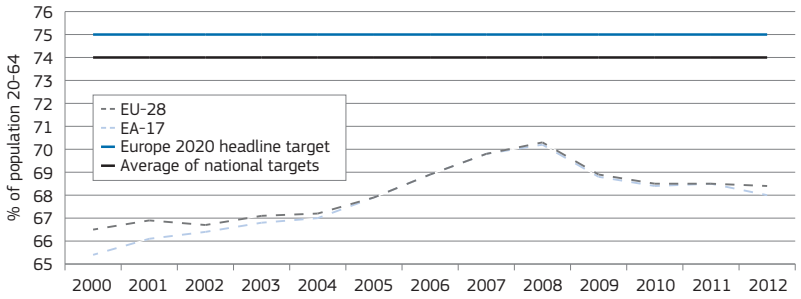
The Europe 2020 employment rate target of 75 % (for those aged 20–64) is becoming increasingly difficult to achieve in view of the recent standstill and even loss of employment, in the majority of Member States. As Chart 42 shows, while major progress was achieved in the period up to 2008 at both EU and euro area levels, a significant part of that progress has been wiped out by the crisis. In effect the gap relative to the Europe 2020 target fell from 8.5 pps in 2000 to 4.7 pps in 2008 before rising to 6.5 pps in 2000–11 and 6.6 pps in 2012.

Just as in 2009 and 2010, 2012 saw a decline in the EU's overall employment rate, edging down at both at EU-27 and EU-28 level by 0.1 % to 68.5 % and 68.4 % respectively — significantly below the pre-crisis levels of 70.3 % in 2008. In 2012, the gap with the national employment rate targets for 2020 increased in 10 Member States, decreased in 15 and remained unchanged in two. The most significant falls (more than 2 pps) were seen in Greece, Cyprus, Portugal and Spain, while increases of more than 1.5 pps were seen in the Baltic States and Malta.

The overall EU-28 employment rate for the 20–64 age group declined by 1.8 pps in 2012 compared with 2008, and plummeted in Greece, Spain, Ireland, Bulgaria, Latvia, Croatia, Portugal and Cyprus. The employment rates declined in most Member States but grew in five: Malta, Germany, Luxembourg and, to a lesser extent, Austria and Hungary.

Table 1 contains an updated projection of the employment growth needed in order to meet the national employment rate targets (see last column) and the EU headline target rate, taking account of demographic trends. According to these forecasts, an average annual growth in the number of jobs of about 0.75 % would be required to achieve the national targets (with nearly 3 % a year needed in Greece and Spain) and roughly 0.9 % to achieve the EU level headline target ([49]). The number of people of working age (20–64) currently employed in EU-27 — namely 209 million in 2012 — represents a shortfall of between 13 and 16 million jobs compared to the 2020 targets set at national and EU level respectively.

Chart 42: Developments of EU-28 and euro area employment rates with regard to Europe 2020 targets (20–64 age group)



Source: Eurostat, LFS [lfsa_ergan] and Europe 2020 objectives.

Note: ER for 2000 and 2001 are for EU-27 instead of EU-28.

(47) See OECD report on inclusive entrepreneurship.

(48) ISCED classification: Pre-primary, primary and lower secondary education (levels 0–2); upper secondary and post-secondary non-tertiary education (levels 3 and 4) and first and second stage of tertiary education (levels 5 and 6).

(49) To that end, some 16 million jobs should be created by 2020 in the EU-27 (i.e. 2 million per year) to reach the 75 % headline target. No population forecast available for Croatia.

Table 1: Employment rates in the EU Member States in 2012 and progress needed in order to meet the Europe 2020 employment target

(age group: 20 - 64)	Employment rate in 2012 (%)	Progress compared to 2011 (pps)	Employment rate in 2008 (%)	National target for 2020 (%)	Current gap to national target for 2020*	Expected annual population growth 2012 - 2020 (%)	Empl avg annual growth needed 2012 - 2020 (%)
BE	67.2	-0.1	68.0	73.2	6.0	0.2	1.2
BG	63.0	0.1	70.7	76.0	13.0	-1.0	1.3
CZ	71.5	0.6	72.4	75.0	3.5	-0.4	0.2
DK	75.4	-0.3	79.7	80.0	4.6	0.0	0.8
DE	76.7	0.4	74.0	77.0	0.3	-0.6	0.0
EE	72.1	1.7	77.0	76.0	3.9	-0.8	0.0
IE	63.7	-0.1	72.3	69.0 - 71.0	6.3	-0.2	1.0
EL	55.3	-4.6	66.5	70.0	14.7	-0.1	2.9
ES	59.3	-2.3	68.3	74.0	14.7	0.1	2.9
FR	69.3	0.1	70.4	75.0	5.7	-0.1	0.9
HR	55.4	-1.6	62.9	59.0	3.6	-	-
IT	61.0	-0.2	63.0	67.0 - 69.0	7.0	0.2	1.5
CY	70.2	-3.2	76.5	75.0 - 77.0	5.8	-0.1	0.9
LV	68.2	1.9	75.8	73.0	4.8	0.5	1.4
LT	68.7	1.7	72.0	72.8	4.1	1.0	1.7
LU	71.4	1.3	68.8	73.0	1.6	1.0	1.2
HU	62.1	1.4	61.9	75.0	12.9	-0.5	1.9
MT	63.1	1.6	59.1	62.9	-0.2	-0.7	0.0
NL	77.2	0.2	78.9	80.0	2.8	-0.1	0.3
AT	75.6	0.4	75.1	77.0 - 78.0	1.9	0.1	0.4
PL	64.7	-0.1	65.0	71.0	6.3	-0.7	0.5
PT	66.5	-2.6	73.1	75.0	8.5	0.2	1.7
RO	63.8	1.0	64.4	70.0	6.2	-0.6	0.6
SI	68.3	-0.1	73.0	75.0	6.7	-0.2	1.0
SK	65.1	0.0	68.8	72.0	6.9	0.0	1.3
FI	74.0	0.2	75.8	78.0	4.0	-0.4	0.3
SE	79.4	0.0	80.4	80.0	0.6	0.3	0.4
UK	74.2	0.6	75.2	-	0.8	0.3	0.4
EU-27 nat. target-based	68.5	-0.1	70.3	74.0	5.5	-0.1	0.75
EU-27 head-line target	68.5	-0.1	70.3	75.0	6.5	-0.1	0.90

Source: Eurostat, LFS [lfsa_ergan][demo_pjan], Europe 2020 objectives (see http://ec.europa.eu/europe2020/index_en.htm) and Europop 2010 demographic projections for 2020 [proj_10c2150p], DG EMPL calculations.

Note: IE; IT; CY; AT: taking the mean of the range into account. (**) SE has defined a national employment rate target of 'well over 80%'; for calculation purposes, 80.0% was taken into account. (***) The UK has not set a national employment rate target. However, the UK is included in the EU-27 calculation on the assumption that its ER target for 2020 would be in line with the EU-27 headline target, at 75.0%. The demographic projections data is missing for Croatia (HR).

Table 2: Employment rate trends between 2000 and 2012 in the EU-28, by sub-group

		2000* (% of pop.)	2008 (% of pop.)	2011 (% of pop.)	2012 (% of pop.)	Total change 2000-2012 (pps)	Total change 2008-2012 (pps)	Total change 2011-2012 (pps)
Total	20-64	66.5	70.3	68.5	68.4	1.9	-1.9	-0.1
	15-64	62.1	65.7	64.2	64.1	2.0	-1.6	-0.1
Gender	Men (20-64)	75.8	77.9	74.9	74.5	-1.3	-3.4	-0.4
	Women (20-64)	57.3	62.7	62.2	62.3	5.0	-0.4	0.1
	Men (15-64)	70.7	72.7	70.0	69.6	-1.1	-3.1	-0.4
	Women (15-64)	53.6	58.8	58.4	58.5	4.9	-0.3	0.1
	Men (55-64)	46.9	54.9	55.1	56.3	9.4	1.4	1.2
	Women (55-64)	27.4	36.7	40.0	41.7	14.3	5.0	1.7
Other age groups	15-24	37.0	37.3	33.5	32.8	-4.2	-4.5	-0.7
	20-24	53.6	54.8	49.5	48.4	-5.2	-6.4	-1.1
	25-54	76.0	79.4	77.6	77.2	1.2	-2.2	-0.4
	55-64	36.8	45.5	47.3	48.8	12.0	3.3	1.5
Nationality (20-64)	Nationals	69.7	70.6	69.0	68.9	-0.8	-1.7	-0.1
	Other EU nat.	n.	72.3	70.5	70.5	n.	-1.8	0.0
	Non-EU nat.	n.	62.8	58.0	56.9	n.	-5.9	-1.1
Education level (20-64)	Low	54.9	56.5	52.9	52.1	-2.8	-4.4	-0.8
	Medium	69.7	71.8	69.8	69.5	-0.2	-2.3	-0.3
	High	82.5	83.8	82.1	81.8	-0.7	-2.0	-0.3

Source: Eurostat, LFS [lfsa_ergan and lfsa_ergaed].

Note: * 2000: data for EU-27 instead of EU-28.

To achieve this, it will be necessary, in particular, to encourage labour market participation of young people (already discussed under 1.2.2), women, older workers and migrant workers, paying particular attention to skill enhancement measures (see Table 2).

The following paragraphs address the gender, age and nationality aspects of employment rate developments in more detail.

4.3.2. Continuing improvements in female employment

In 2012, the employment rate for women aged 20 to 64 stood at 62.3%, i.e. 5 pps above the level recorded in 2000, and only 0.4 pps below that of 2008. In contrast that of men was 1.3 pps below the rate seen twelve years earlier, and down by 3.4 pps compared to 2008.

This difference has to be seen against the background of the continuous long-term increase in female labour market participation, and the impact of the first downturn on male dominated sectors of the economy which, together, led to a narrowing of the unemployment gender gap (see Chart 44).

In terms of future perspectives it should be noted, however, that parenthood can have a major impact on female labour market participation and that high female employment rates are closely related to the availability of high levels of childcare provision at national level.

Narrowing gender employment gaps often due to composition effects

The employment rate of females has been traditionally lagging behind that of males but, as Chart 43 shows, the gender gap between male and female employment rates in the EU-28 narrowed markedly during the first stage of the crisis (from 13.9 to 11.9 pps between 2008 and 2010) and contracted somewhat further during the second stage between 2011 and 2012 to 11.1%. This reflects a relative larger drop in the male employment rate between 2008 and 2012 (from 72.7% to 69.6%), while female employment rate almost rebound to its 2008 level of 58.8% in 2012 (reaching 58.5%) following a distinct rise compared to 2010 (58.1%) ([50]).

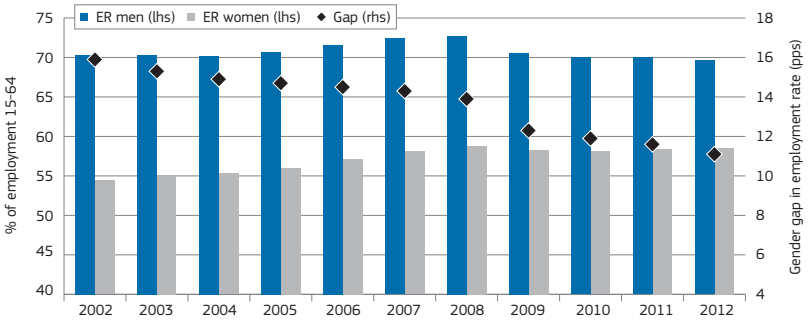
Sectoral factors have had a strong impact on the respective trends in male and female employment during both phases of the recession ([51]). While men bore the brunt of the employment fallout in both stages, largely due to their much greater presence in manufacturing and construction, the two hardest hit sectors, the more subdued female employment adjustment has been largely concentrated in manufacturing and trade.

Both genders saw a rather pronounced decrease in the public administration sector between 2011 and 2012. Nevertheless, female employment continued to increase in both the health and

(50) Nevertheless, the increase in female employment rate between 2010 and 2012 partly stems from the decrease in the working age population (age 15–64), that contracted by almost 0.5 percentage points between 2010 and 2012.

(51) Similarly, there were impacts on the gender pay gap (refer to ESSQR of December 2012, European Commission, 2013e).

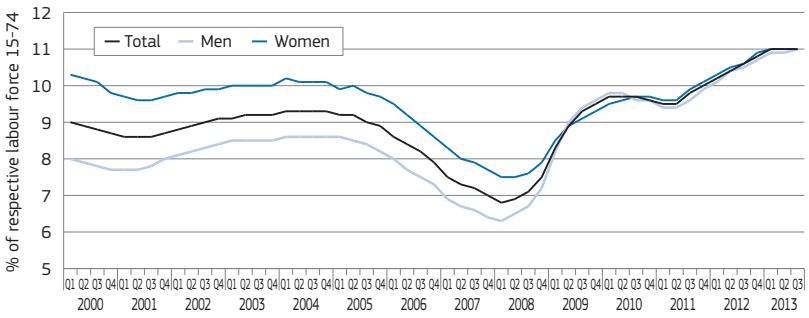
Chart 43: Employment rate of men and women aged 15–64 and employment rate gap in the EU-28



Source: Eurostat; LFS [lfsa_ergan].

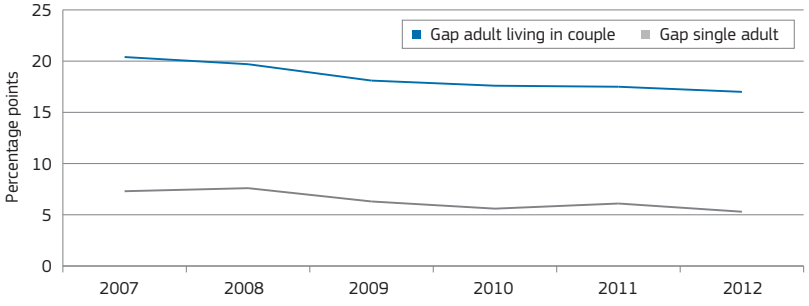
Note: M stands for males, F stands for females.

Chart 44: Developments of unemployment rates in the EU-28 by gender



Source: Eurostat LFS [une_rt_q], data seasonally adjusted.

Chart 45: Employment rate gap between male and female adults living in a couple and male and female single adults in the EU-28



Source: Eurostat, LFS [lfst_hheredty].

education sectors ([52]) during both stages of the recession, although in both sectors the employment growth has been more restrained in the second part of the crisis indicating inter-alia some effects of fiscal consolidation measures on labour turnover in the public sector.

However, the crisis has not only impacted on the gender composition of employment through sectoral effects. Several studies suggest the possibility of an 'added worker effect' as a result of the crisis, in which females in couples increased their employment and/or their working hours so as to counteract the job loss of their partners ([53]). Some indication of this can be seen in the employment rates of adult males and females living as a couple, with the employment rate gap between two such adults decreasing noticeably between 2007 and 2010 from 20.4 pps to 17.6 pps and then down to 17 pps in 2012.

This evidence would seem to give some credence to the notion of an 'added worker effect' although it should be noted that the employment rate gap for single individuals also decreased (from 7.3 pps in 2007 to 5.6 pps in 2010 and then to 5.3 pps in 2012). In both cases the decrease of the gap was the result of a decrease in the male employment rate and an increase in the female employment rate between 2007 and 2012 suggesting that women have simply fared somewhat better during the crisis (see Chart 45).

While gender employment gaps are tending to narrow, the female employment rate still lags well behind the male employment rate, and this difference is even larger if one considers full-time equivalents (the gap in employment rates has been 11.1 pps in 2012, but it rises to 21.2 pps when calculated in full-time equivalents, see Chart 47). This results mainly from the fact that females are still concentrated in jobs associated with lower total hours worked and part-time positions (in 2012, 8.4 % of male employees worked part-time as against 31.9 % of females, see Chart 46 presenting the situation in each Member State).

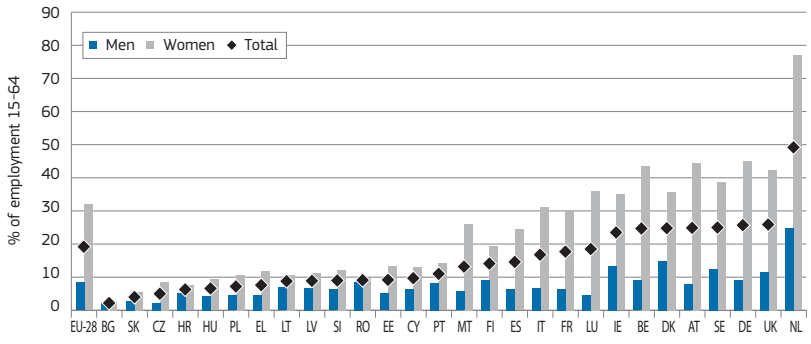
Though part-time work or lower hours can help resolve the trade-off between inactivity and participation at certain stages of a person's life, such as while studying, before retirement, or when having care duties, it can lead to difficulties in moving to full-time work over the longer term, implying negative consequences from both a personal and societal perspective, as well as reproducing pre-determined gender roles ([54]).

(52) See ESDE 2011 (European Commission, 2012l) Chapter 1 p. 47 arguing that almost all the employment growth in the top quintile in the EU-27 during the crisis has gone to women. This has resulted largely from the continued expansion of professional grade jobs in the health and education sectors.

(53) See for instance OECD: Closing the gender gap, p. 217, (OECD 2012b).

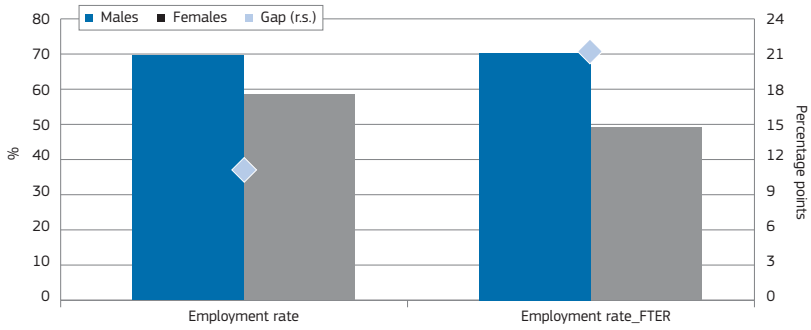
(54) For the drivers and implications of gender gaps in total hours worked, see Employment and Social Developments in Europe — 2013 (forthcoming).

Chart 46: Proportion of part-time workers by gender in 2012



Source: Eurostat, LFS [lfsa_eppga].

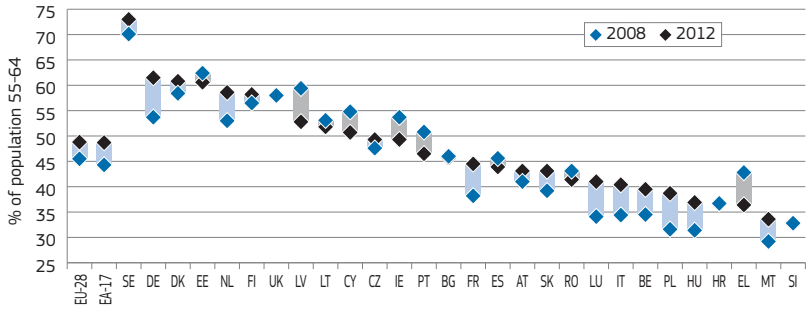
Chart 47: Employment rate gap and full-time equivalent employment rate gap in 2012 in the EU-28



Source: Eurostat, LFS [lfsa_ergan and lfsa_ewhun2], DG EMPL calculations.

Note: FTER is calculated as the employment/population ratio, multiplied by the average usual hours worked per week per person in employment, then divided by 40. OECD (Closing the gender gap) OECD (2012).

Chart 48: Employment rate development in the 55–64 age group by Member State between 2008 and 2012



Source: Eurostat, LFS [lfsa_ergan].

4.3.3. Older workers' employment has weathered the crisis well

The EU employment rate of older workers has increased by 12 pps since 2000, and by 3.3 pps since the beginning of the crisis, reaching 48.8% in 2012. The increase since 2008 was highest in Germany, but also substantial (5 pps or more, and gathering momentum) in Poland, Luxembourg, France, Italy, the Netherlands and Hungary (see Chart 48). However, some other Member States saw a decrease, notably those hit most by the crisis (such as Greece, Ireland, Portugal and Spain).

There are many reasons for this upward trend, which was already underway before the crisis. These include a continuing rise in levels of educational attainment, an increase in the female share of workers aged 55–64, the higher level of legislation-induced employment protection enjoyed by older workers, the impact of tax/benefit reforms restricting access to early retirement, and changes in age management in workplaces and labour markets. All of these factors have served to raise the effective retirement age. Among the countries mentioned above, the financial incentives to continue work at older ages improved most in Italy, the Netherlands, Germany and France ([55]).

4.3.4. New labour migration trends may soften labour market pressures in the short term...

The economic crisis and its labour market repercussions appears to have impacted on migration flows in the EU at three different ways: lower migration from third countries to the EU; increased migration from the EU to third countries; and changing patterns of migration within the EU ('intra-EU mobility').

(55) See OECD 2013 Employment Outlook (OECD, 2013b), Figure 1.10 on implicit tax rates.

Migration from third countries to the EU on a declining trend

Migration to the EU appears to be on a downward trend since the onset of the crisis (2008–09), in contrast with the previous period (2003–07) when large flows were recorded ([56]). The latest Eurostat data indicates that, for the EU as a whole, there was a slight decrease (–2.6%) in migration flows from third countries in 2011, from 1.75 million in 2010 down to 1.70 million. During 2010, flows had somewhat recovered (+6.1%) from the lowest figure recorded in 2009 (1.65 million). In 2011, the UK reported the largest number of immigrants from outside the EU (362 900), followed by Italy (257 600), Spain (230 500), Germany (211 400) and France (188 500). These five Member States together accounted for around three quarters of all immigrants from outside the EU.

Focusing only on flows of third-country nationals ([57]), the trend over 2009–11 ([58]) is one of a strong increase in immigration of third-country nationals in Luxembourg (+1 400 or +54%), Ireland (+3 800 or +43%), Austria (+7 000 or +29%), Germany (+32 200 or +23%), Cyprus (+1 400 or +22%), Poland (+7 000 or +20%) and Belgium (+9 100 or +16%). Moderate increases are noted in the inflows towards France (+5 100 or +4%), Finland (+400 or +3%), the UK (+10 400 or +3%), the Netherlands (+1 100 or +3%) and Denmark (+200 or +1%) with declines in Sweden (–6 200 or –11%), Italy (–30 100 or –11%), Hungary (-1 500 or -13%), Greece (–5 000 or –14%), Spain (–34 300 or –14%), Portugal (–5 100 or –50%), Slovenia (–16 700 or –66%) and the Czech Republic (–30 100 or –78%).

Even if those migration flows also include flows for study, family or asylum purposes, they point to a declining number of economic migrants, in line with the economic and labour market developments observed in the destination countries since the onset of the crisis ([59]). The declining number of economic migrants in many EU Member States is confirmed by the analysis of Eurostat statistics on (first) residence permits. The number of permits issued for remunerated activities shrank by 50% between 2008 (768 000) and 2012 (385 000) ([60]). In 2012, the number of residence permits issued for family reasons in the 27 EU Member States (670 000) was much higher than those issued for remunerated activities (489 000) ([61]), followed by the migrants coming as students (457 000). Overall, net migration has remained positive in most Member States and the overall population of immigrants continued to grow, though at a slower pace ([62]). Moreover, employers have not stopped recruiting migrant workers altogether, and skills shortages continue to exist in both high and low-skilled sectors ([63]).

Emerging patterns of outward migration from EU to non-EU countries

Given that the crisis has affected the EU more than other economic areas, a rise in the number of workers leaving the EU for non-EU countries has often been reported by the media ([64]). The evidence shows an increase in the number of emigrants (from EU-27) to non-EU countries of around 105 000 (or +9%) between 2010 and 2011 to reach 1.24 million.

Two factors need to be taken into account, however, in interpreting this data. First, it was concentrated in a limited number of Member States: almost 90% of the net increase in migration to non-EU countries (between 2010 and 2011) was from seven Member States (the UK, Spain, Portugal, the Czech Republic, Poland, Ireland and France) ([65]). Secondly, much of the rise in migration to non-EU countries was by non-EU citizens (i.e. returning migrants) rather than nationals, with the exception of Ireland. This is not a new phenomenon — many migrants do not stay in their destination countries and eventually go back to their countries of origin. However it has increased markedly since the onset of the crisis, especially in countries with high unemployment and where migrants have been disproportionately affected, as in Spain.

As for EU nationals leaving their country in order to settle in countries such as Canada, Australia and the USA, they mainly originate from Ireland, the UK, France and Germany. From Southern EU countries, there have been strong increase in percentage terms compared to the pre-crisis period, but the overall numbers are limited ([66]). Some media coverage has reported a rise in emigration from Southern EU countries rather to Latin America countries because of language proximity and cultural and historical links but,so far, no sizeable trend can be detected in official statistics ([67]).

(56) This is consistent with reports by the OECD (International Migration Outlook 2012 and 2013) and reports by the IOM (International Organisation for Migration), in particular the IOM-LINET network, see www.labourmigration.eu/.

(57) The figures mentioned in the previous paragraph are based on immigration data by previous country of residence (Eurostat table *migr_imm5prv*, extracted on 20 December 2013). It means that they include not only third-country nationals but also nationals or EU nationals previously established in a non-EU country.

(58) Eurostat table *migr_imm1ctz* (extracted on 20 December 2013). For Belgium, Greece and Cyprus, the comparison is made over the period 2010–11 as 2009 data is not available or not comparable over time.

(59) Moreover, if the comparison over time is made with the reference year 2008 (for which data for the pre-crisis period are available and comparable over time, though only for some countries) rather than 2009, the decline in immigration flows by third-country nationals to 2011 is even more pronounced for countries affected by the crisis such as Ireland (-2 900 or -19%), Italy (-43 200 or -15%), Spain (-192 000 or -48%) and Portugal (-10 900 or -68%).

(60) All Member States except Luxembourg (no data in 2008) and Poland (break in series); Eurostat table *migr_resfirst*, extracted on 13 November 2013.

(61) The figure of 489 000 economic migrants in 2012 includes 103 720 residence permits in Poland, among which 93.5% were issued for less than 12 months.

(62) European Commission, 2013f, Commission Staff Working Document Accompanying the document Communication from the Commission to the European Parliament and the Council 4th Annual Report on Immigration and Asylum (2012).

(63) IOM 2013, Policy Highlights, Summary of the research findings of the IOM Independent Network of Labour Migration and Integration Experts (LINET), available at: www.labourmigration.eu.

(64) In terms of intentions, the Gallup World Poll confirmed this trend with a (slight) increase, among those interested in moving permanently to another country, of the non-EU countries in terms of prefered destination (*versus* EU countries), see European Commission, 2013a (pp. 38-39).

(65) Eurostat, emigration by next country of residence (table *migr_emi3nxt*), extracted on 20 December 2013.

(66) European Commission, 2013a (pp. 47-50).

(67) For instance, the figures published by the Brazilian Ministry for employment available at: www.portal.mte.gov.br concerning the number of European citizens working in Brazil are rather low in absolute terms (a few thousand people). See also OECD, IDB and OAS, *International Migration in the Americas*, SICREMI 2012.

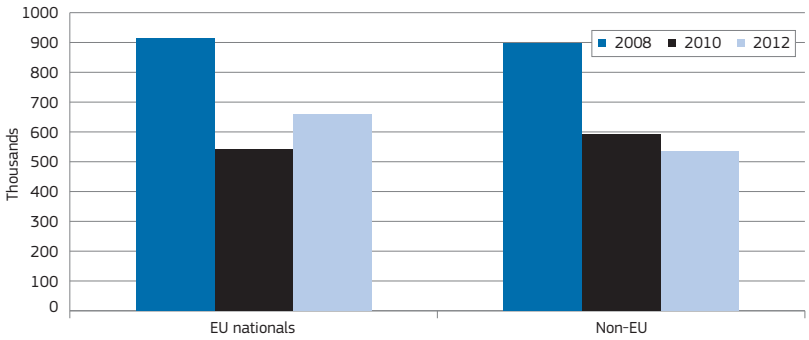
Increased intra-EU mobility reflecting labour market divergences within the EU (68) ...

Intra-EU mobility of workers seems to be increasingly driven by push factors, whereas pull factors had previously dominated. This is particularly the case in countries/regions affected by a high unemployment rate.

Chart 49 measures the number of economically active foreigners recently established, showing the further decline in the flows of third-country nationals (–9% over 2010–12) after the drop already recorded in 2008–10 (–34%). On the other hand, a rebound can be seen in intra-EU mobility (+22% over 2010–12) following the sharp decline at the onset of the crisis (–41% between 2008 and 2010) ([69]).

There are, however, some variations according to the countries of origin, see Chart 50. At the onset of the crisis (2009–10), mobility declined for all groups of EU nationals (compared to 2007–08), with the exception of the Baltic countries (+8%), possibly due to the deep recession they faced. Then in 2011–12, mobility recovered somewhat for all groups (compared to 2009–10) but rose particularly strongly among southern Member States (+73%) from where it clearly exceeded pre-crisis levels.

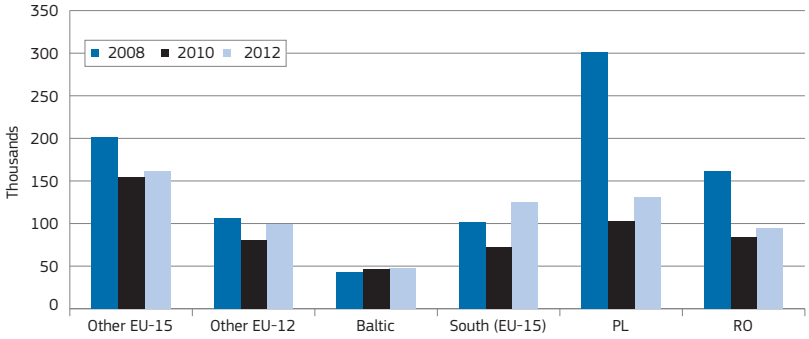
Chart 49: Economically active EU and non-EU foreigners, residing since < 2 years in an EU country (in thousands)



Source: Eurostat, LFS, DG EMPL calculations.

Note: BE not included as a destination country due to problems with the variable 'Years of residence'.

Chart 50: Economically active EU foreigners, residing since < 2 years in an EU country, by group of origin countries (in thousands)



Source: Eurostat, LFS, DG EMPL calculations.

Note: BE not included as a destination country due to problems with the variable 'Years of residence'.

At individual country level, mobility flows during 2011–12 were higher than in the pre-crisis period (2007–08) in only a small number of countries, all severely affected by the crisis: Greece (+170%), Spain (+107%), Ireland (+64%), Hungary (+58%), Latvia (+39%) with a relatively strong (positive) correlation between the changes in the outflows of economically active persons to other Member States and changes in unemployment levels in the countries of origin ([70]).

There have also been some changes in the destination countries, with a clear drop in the number of EU workers moving to Spain and Ireland, no doubt due to the large fall in labour demand and, in parallel, a rise in the numbers going to Germany and Austria, driven by the relative availability of jobs compared to other destinations but also the end of transitional arrangements for EU-8 workers in 2011.

... with possible consequences for labour market dynamism in the medium term

Overall, despite the strong increase in mobility from southern Member States to other EU countries (e.g.: the UK and Germany) in relative terms, the absolute figures remain low relative to the size of the labour force (and unemployed segment) in the southern EU countries ([71]) and also to the much larger mobility flows from the Eastern and Central EU Member States, which remain the main countries of origin of those moving within the EU ([72]).

(68) Most of the information presented in this sub-section is derived from the Special Focus on 'Geographical mobility of workers' published in the June 2013 ESSQR (European Commission, 2013a). Note that most of the figures are based (unless otherwise notified) on EU-Labour force survey and DG EMPL calculations, see details in European Commission, 2013a.

(69) This was not only due to the fall in labour demand but also to the decline of the impact of the 2004 and 2007 enlargements on mobility: most of the intra-EU movers were originating in EU-12 countries and there has been a strong decline of mobility flows from the two largest origin countries, Poland and Romania.

(70) The coefficient of correlation (for the 18 Member States for which data is available) between the changes (between 2007–08 and 2011–12) in the outflows of economically active persons to other Member States and the changes (2008–11) in the unemployment rate in the origin countries is 0.68% (R^2=0.46).

(71) See also Holland *et al.* (2013).

(72) Overall, 56% of intra-EU movers in 2011–12 came from the EU-12 countries (the countries that joined the EU in 2004 and 2007) compared to 68% in 2007–08, while almost a fifth (19%) came from Southern European countries (compared to a low 11% in 2007–08).

However, apart from the quantitative aspects, there are qualitative aspects with respect to skills in particular. On the one hand, movers are typically young and well educated, which means that large outflows tend to reduce the average education level and depress the employment opportunities for the remaining labour force (as shown in Table 2). For instance, in terms of education level, while around 30% of recent movers from EU-12 countries were (in 2012) highly educated (ISCED 5 or 6), this was the case for 59% of movers from southern Member States (and up to 78% for those from Spain, the highest rate in the EU), compared to around 41% in 2008.

Moreover, the qualifications of intra-EU movers are not always being used to their full potential: the over-qualification rate (i.e. the percentage of highly educated workers in occupations corresponding to medium (ISCO 4–8) or low (ISCO9) levels of education) is very high (around 50%) for recent movers from EU-12 countries, and, for recent movers from the South, this has risen from 26% in 2007–08 to 33% in 2011–12 (42% in the case of those from Spain).

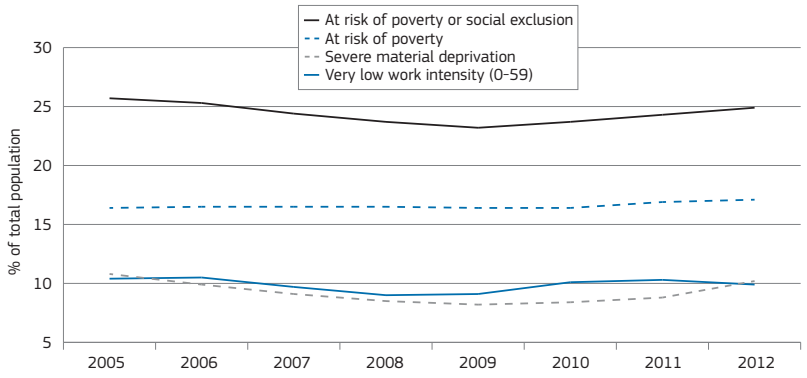
4.4. Further deterioration of poverty and inequality

The most recent data points to a severe deterioration in social trends in a number of EU countries ([73]). This is largely driven by a deterioration among the working-age population, which has been affected the most.

4.4.1. Poverty and social exclusion on the rise, affecting primarily the working-age population and children

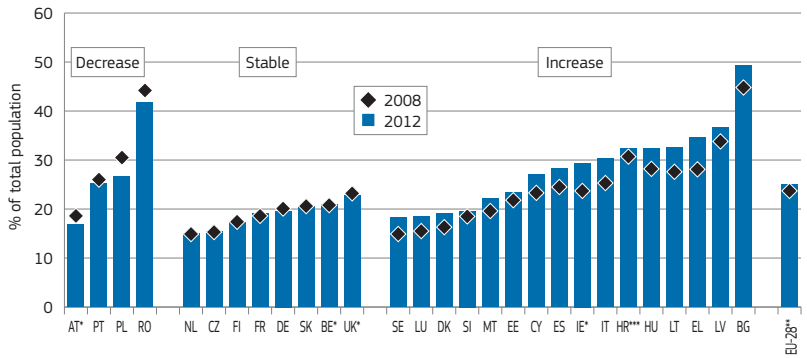
Between the onset of the crisis in 2008 and 2012, the number of Europeans at risk of poverty or social exclusion (AROPE) increased by 7.4 million (excluding HR), and now affects nearly a quarter of the population (or 125 million in the EU-28). The continuous increase in the numbers of people at risk of poverty (AROP) has been accompanied by the more recent striking rise in severe material deprivation (SMD, see Chart 51).

Chart 51: Developments in the risk of poverty or exclusion in the EU-27, 2005–2012



Source: Eurostat, EU-SILC [t2020_50, t2020_51, t2020_52 and t2020_53].

Chart 52: Population at risk of poverty and social exclusion in the EU and in the Member States, 2008 and 2012



Source: Eurostat, EU SILC [ilc_peps01].

Notes: *2011 instead of 2012; ** EU-27 in 2008.

There is a notable divergence across the EU. Most of the Member States registered AROPE rises compared to 2008 (particularly strong — up by more than five percentage points — in Greece, Ireland and Italy). As a result, AROPE rates range from around 15% in the Czech Republic and the Netherlands to nearly 50% in Bulgaria (see Chart 52).

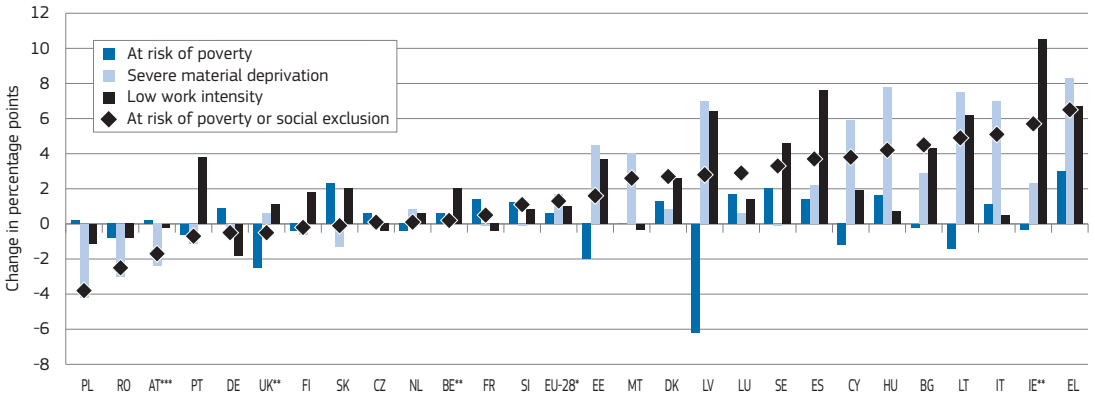
There is no common pattern in the trends in the underlying components of the AROPE indicator. Among the countries that have experienced a sharp rise in the at-risk-of-poverty-or-social-exclusion rate, the increases in Cyprus, Hungary and Italy resulted mainly from the growing severe material deprivation rate, the increases in Bulgaria, Ireland and Spain mainly reflected the growing share of the population in jobless households, while in Greece, Latvia and Lithuania they reflected a deterioration in severe material deprivation combined with a marked rise in the number of people in jobless households. Among the four countries that recorded reductions in the AROPE rate, this mainly reflected falls in SMD, most evident in Poland and Romania.

Women have always faced a higher risk of poverty or exclusion than men. The crisis has not aggravated this gap since prime age men have been most directly hit by the deterioration of labour market conditions. Still, women remain more often represented in groups facing higher risks of persistent poverty, notably linked to inactivity and care responsibilities, which have long-term impacts on future pension entitlements. While inactivity rates have not increased so far during the crisis, retrenchments or freezes on social spending, such as on family and child benefits or childcare services, may hamper female participation and aggravate the situation of the most vulnerable women.

The older age group (65+) has been relatively less affected by the rising levels of AROPE. For the elderly, AROPE rates

(73) See Minty and Maquet-Engsted (2013).

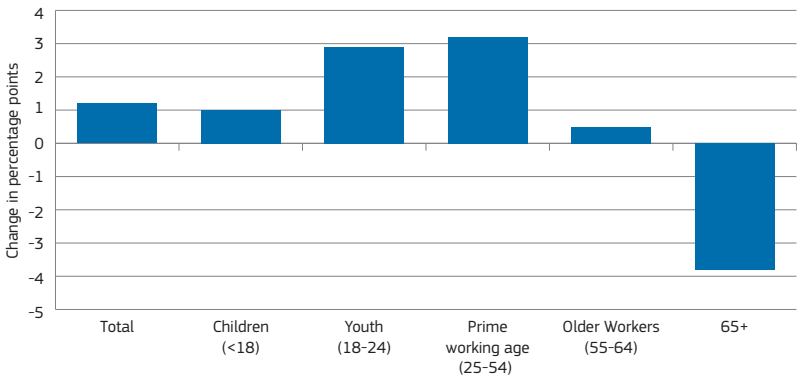
Chart 53: Developments in the at-risk-of-poverty-or-social-exclusion rate and its components in the EU and Member States, 2008–2012



Source: Eurostat, EU SILC [t2020_50, t2020_51, t2020_52 and t2020_53].

Notes: * EU-27 in 2008, ** 2011 instead of 2012, *** 2011 instead of 2012 in AROPE and AROP.

Chart 54: Developments in the at-risk-of-poverty-or-social-exclusion rate in the EU-27 by age groups, 2008–2012



Source: Eurostat, EU SILC [ilc_peps01].

The crisis has not impacted uniformly across population groups.

actually declined in most Member States between 2008 and 2012 (down 3.8 pps for the EU-27). Given the changes in the total income distribution, this relative improvement does not necessarily reflect a positive change in real terms but rather the fact that while the incomes of others have declined, pensions have largely remained unchanged during the crisis ([74]). Women, however, continue to be more affected by old-age poverty than men.

Conversely, the risk of poverty or social exclusion for children has increased (up 1 pp in the EU-27 between 2008–11), but not uniformly across EU countries. Child poverty has risen in 21 Member States since 2008, sometimes to a significant extent: in Hungary and Latvia it now affects 40% of children, while Bulgaria joined Romania where half of children live at risk of poverty and social exclusion.

This situation of children is mostly driven by the situation of their parents, as working-age adults were the ones most directly hit by the crisis. Between 2008 and 2012, working-age adults (25–54) in the EU experienced an increase in the at-risk-of-poverty-or-social-exclusion rate of 3.2 pps (see Chart 54).

4.4.2. Poverty in working age: joblessness and in-work poverty

Poverty and social exclusion among the working-age population (18–64) increased significantly (up by 6 pps or more) in recent years in two thirds of EU Member States. More than 50 million people aged 18–64 live below the poverty line in the EU, more than 30 million cannot afford the necessities for a decent life, and more than 30 million adults aged 18–59 live in a jobless household. All together, and taking account of overlaps, this represents a quarter of the working-age population. The two main drivers of poverty in working age are exclusion from the labour market and insufficient earnings for those who work (in-work poverty). They both increased in the crisis, in most countries, as a result of rising unemployment, deterioration in the quality of jobs in terms of pay, and reductions in the quantity of work (a rise in the share of part-time and temporary jobs).

The problem of poverty in working age has certainly been exacerbated by the crisis, but it was already present in the period of growth before the crisis, when employment rates were rising across Europe. At the time, the increased labour market participation of women as second earners and of older workers (notably through the availability of part-time work) had helped raise the income of many households. However, overall poverty rates were not significantly reduced.

The main reasons were that the jobs created did not always reach the most excluded and did not always provide for decent living standards for those employed, as illustrated by persistently high levels of labour market exclusion and rising in-work poverty. In other words, the increases in employment rates observed in all EU countries before the crisis already co-existed with significant numbers of working poor and jobless households.

These trends resulted primarily from labour market developments that had increased the gap between job rich and job poor individuals and households, as well as earnings and working condition disparities among workers. Therefore, before the crisis, under-employment and precarious

(74) And the consequent change in the poverty threshold has in some cases moved below the pensioners' income.

forms of contracts only mitigated the positive impact of having about one third of the working-age population in the EU out of work (unemployed or inactive).

After 2008 the share of jobless households increased in many countries, and increased sharply in countries that had been hit hardest by the crisis (Greece, Ireland, Latvia, Lithuania and Spain). This indicator reflects one the most severe forms of labour market exclusion in which joblessness affects all household members (see Chart 55).

In-work poverty also increased in most countries, including in Germany with its otherwise resilient labour market. Structurally high in-work-poverty rates have persisted in Greece and Romania throughout the crisis. The strong increase in Italy and Spain brought the in-work-poverty rates above 12% in both countries.

4.5. Increased pressure on social spending

4.5.1. The stabilising effect of social spending on household incomes lessened after 2010

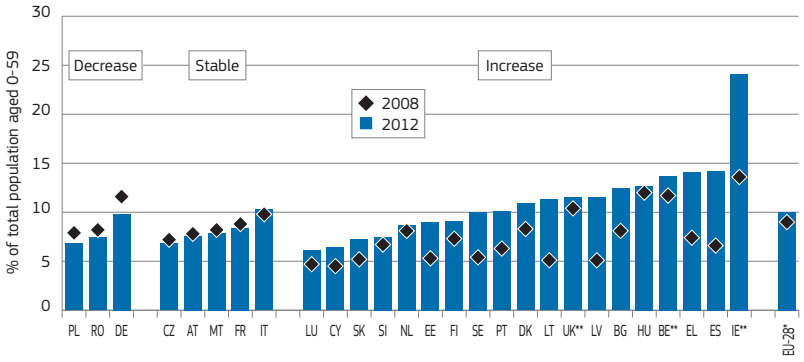
Social spending played a significant role in sustaining gross household disposable income during the 2008–09 phase of the crisis in most EU countries ([75]). In the euro area, net social benefits and reduced taxes contributed positively to the change in gross household disposable income (GHDI) during 2009 and in the first two quarters of 2010 (Chart 55).

However, at the end of 2010, the contribution of social benefits to the change in gross household income lessened and started to turn negative, up until the first quarter of 2013, despite the further deterioration of market incomes. This may have occurred because of the phasing-out of social entitlements, along with some improvement in the economic outlook in some Member States, but it may also have been due to fiscal consolidation measures that reduced the level or duration of benefits, or changes in eligibility rules that excluded some beneficiaries from some schemes ([76]).

(75) See European Commission (2012) Employment and social developments in Europe 2012.

(76) See European Commission (2012) Employment and social developments in Europe 2012 key features.

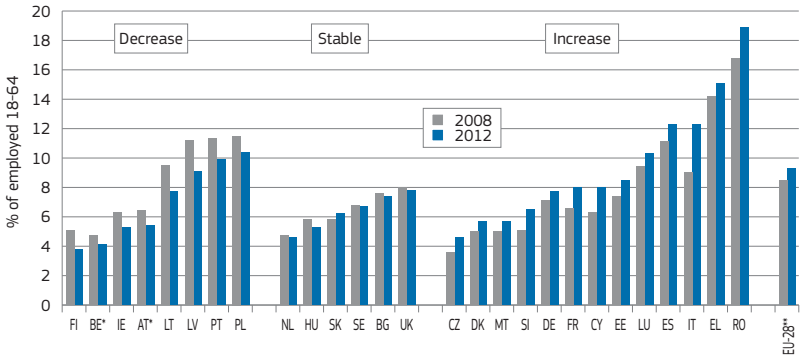
Chart 55: Developments in the share of people living in jobless/very low work intensity households across EU Member States, 2008–2012



Source: Eurostat, EU SILC [t2020_52].

Notes: * EU-27 in 2008, ** 2011 instead of 2012.

Chart 56: In-work poverty: at-risk-of-poverty rate of persons employed, change since 2008 ([1])



Source: Eurostat, EU-SILC [ilc_iw01].

Notes: * EU-27 in 2008, ** 2011 instead of 2012.

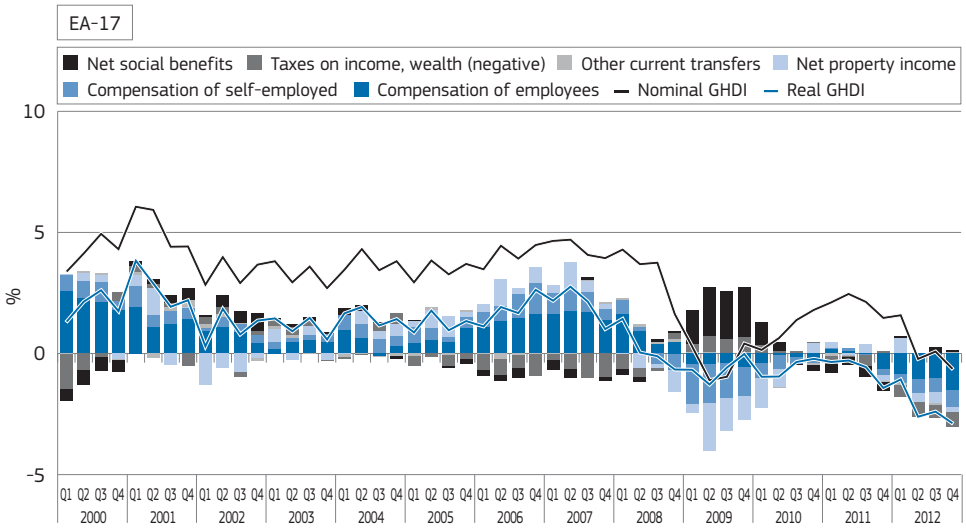
(1) The income reference period is a fixed 12-month period (such as the previous calendar or tax year) for all countries except the United Kingdom for which the income reference period is the current year of the survey and Ireland for which the survey is continuous and income is collected for the 12 months prior to the survey. 2010 values instead of 2011 for IE; EU-27 is based on Eurostat estimate for 2011.

4.5.2. The structure and evolution of social spending in the crisis, and their impact on effectiveness

As a comparative analysis presented in this and last year's ESDE shows, the size, structure, and design of social expenditure is key for its effectiveness. In particular, the evidence shows that Member States with similar levels of spending achieve not only markedly different economic outcomes in terms of automatic stabilisation, but also very different social outcomes in terms of income smoothing (typically for pensions or unemployment), poverty and inequality reduction, or health outcomes. These findings suggest a substantial scope for improving the effectiveness of social spending through greater efficiency.

In selecting a policy mix to improve the effectiveness and efficiency of social spending, various social outcomes should be taken into account, in parallel with a careful review of expenditure levels and benefit design. The efficiency of social spending is often gauged in terms of poverty reduction for any given level of spending. However this omits other important objectives of social protection, such as income smoothing, labour market friendliness, health outcomes or housing outcomes. For instance, a country might appear efficient in terms of social spending when only poverty reduction is taken into account, but it may perform well or badly in terms

Chart 57: **Contributions of components to the growth of gross disposable income of households (GHDI) (euro area)**



Source: Eurostat, National Accounts.

of, say, encouraging and assisting the labour market integration of women or older workers.

In 2010, only a few countries actually showed an overall pattern of social expenditure spread across different functions that was very close to the EU average:

In some Member States the orientation of social expenditure appears skewed towards pensions (with a high emphasis in Poland, but a low emphasis in Germany, Denmark, Finland, Ireland and Sweden).

In only a few Member States is there a strong emphasis on health and disability (as in Ireland and Croatia) against a low emphasis in Cyprus and Italy.

In a number of Member States the orientation of social expenditures appears skewed towards family expenditure (with a high emphasis in Austria, Bulgaria, Denmark, Estonia, Hungary, Latvia and Lithuania and a low emphasis in the Netherlands and Italy).

There are differences between Member States in terms of unemployment expenditure (with a high emphasis in Austria, Belgium and Luxembourg and a conversely low one in Italy, Sweden and the United Kingdom).

In terms of social exclusion and housing expenditure there is a relatively high emphasis in Cyprus, Lithuania, the Netherlands and the United Kingdom against a low one in Italy and Austria.

Furthermore, in some cases, the evolution of social expenditure in the first phase of the crisis (between 2007 and 2010) was unbalanced across social protection functions ([77]). In some countries, expenditure grew faster in areas where levels of expenditure were already high and associated with medium or low performance. Conversely, in other countries expenditure stagnated or increased very little in areas of low expenditure levels associated with low performance.

4.5.3. Old age poverty and the sustainability and adequacy of pensions

In half of the Member States, the oldest generations (those aged over 65) face a lower risk of poverty than the population as a whole. But the risk of poverty is relatively high for the elderly in Cyprus, Bulgaria, Greece, the United Kingdom, Slovenia, Spain, Belgium and Portugal. However, this at-risk-of-poverty rate does not take into account housing costs ([78]), and might, in some cases, overestimate the extent of poverty among the elderly in so far as they own their own housing.

The gap between men and women facing poverty varies with age, and it is clearly worse for women over 65. Differences in life expectancy has meant a rise in the number of widows and hence single women who, because they have worked fewer years than men, often receive lower pensions though, in many Member States, survivor pensions do give widows some protection from poverty.

Pensions represent a large share of the total public expenditure in Europe. They currently exceed 10% of GDP and are projected to rise to around 12.5% in 2060 ([79]). While substantial differences in the share of public spending are found across the Union, most EU pension systems have experienced similar challenges due to ageing populations. Furthermore, the financial and economic crisis has put renewed pressure on public budgets.

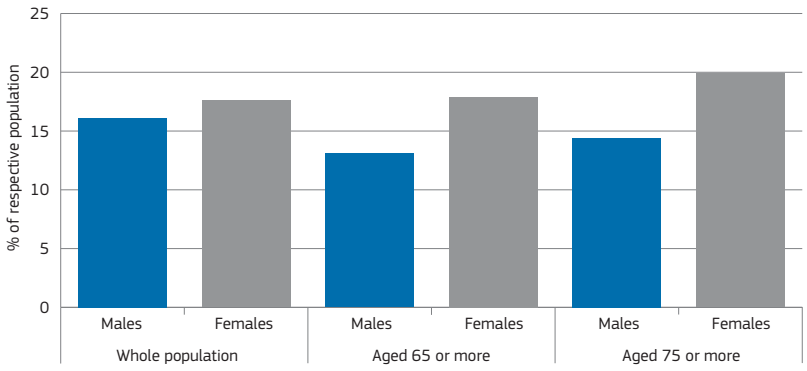
Hence, while considerable progress has been made in the past decade in reforming pension arrangements, further adjustments in pension expenditures might be necessary in a number of Member States. At the same time it has to be recognised that pensions are a main source of income for about a quarter of the EU population (about

(77) See forthcoming European Commission 'Employment and Social Developments in Europe' 2013.

(78) Whether or not to include housing costs in the definition of income underpinning the at-risk-of-poverty rate has sparked much debate in past years and will probably continue to do so in the future. The conclusion of the SPC indicator subgroup was that such costs should not be included. Indeed, imputing rents is a difficult exercise, especially at the European level. Real estate prices are so heterogeneous across geographical zones that they could induce more bias than correcting it.

(79) European Commission (2012n) '2012 Ageing Report'.

Chart 58: At-risk-of-poverty rate for elderly people by gender, EU-27, 2011



Source: Eurostat, EU-SILC.

124 million people) ([80]) and they also play an important role as an automatic stabiliser of demand in periods of economic downturn. Hence, reforms not only have to ensure the long-term sustainability of the pensions systems, they also have to ensure that they remain adequacy in terms of maintaining household incomes.

Recent reforms have usually strengthened access to minimum and guaranteed pensions, but fully-earnings-related pensions have been, to a large extent, shifted onto a defined contribution basis. This places the groups with more limited labour market links at a disadvantage because replacement rate are more tightly linked to earnings during professional life and their adequacy is usually calculated on the basis of the typical retiree.

In addition, to assuring adequacy, there may need to be a greater emphasis on complementary retirement savings in pension provision to match longer working lives. Tax and other financial incentives, as well as coordinated bargaining, would play important roles in such measures. In addition, funded pension schemes are sensitive to economic downturns, as the recent crisis demonstrated. Many mandatory funded schemes were suspended, opened for a limited period, or reduced considerably in size.

Overall, the regulatory framework and the design of private retirement schemes may need to be improved. The EU has already put two legislative instruments in place for this purpose: the Directive on the protection of employees in the event of insolvency of their employer, and the Directive on the activities and supervision of Institutions for Occupational Retirement Provision (IORP).

4.5.4. Access to healthcare and long-term care

On average, healthcare coverage in Europe is good with only 3.2% of Europeans reporting unmet medical needs in 2010 ([81]). However, there is a substantial variation in the effective access to healthcare across Member States, as well as gaps in access across different socio-economic groups. For example, the percentage of the population reporting unmet needs for care ([82]) reaches 16.1% in Latvia, while in Denmark, Spain, Slovenia, etc. this proportion is below 1%. Moreover, since 2008, some countries have reported increases in the proportion of unmet health needs, possibly because fiscal consolidation measures and budgetary cuts have affected healthcare budgets in those countries ([83]).

Due to increasing life-expectancy, the number of Europeans aged 80+, and at risk of needing long-term care (LTC), is expected to triple over the next five decades ([84]). While the exact effects of such changes are not yet clear, public spending on LTC in the EU-27 is expected to double between 2010 and 2060 (from 1.8% to 3.6%). At the same time, changes in labour market and family structures mean that the pool of potential carers (formal and informal) is expected to shrink significantly. Furthermore, a general shortage of facilities, outdated infrastructure, a lack of financial resources, and low standards of service delivery have been found to be reducing the current effectiveness of LTC in some countries ([85]).

5. Conclusions

There are signs that economic recovery in the European Union is beginning to take hold, underpinned by ECB action, adjusted fiscal consolidation prioritising growth-friendly measures, and increasing exports. Furthermore, the rise in unemployment has recently flattened out, including for young people, and even in some of the worst-hit countries.

However, economic growth is unlikely to be sustainable unless it is socially-inclusive at a time when labour market and social conditions remain extremely challenging. Divergences between countries have been growing, especially within the euro area. The south and periphery of the EU have been particularly hard hit but the EU as a whole is struggling with high unemployment, low employment, rising poverty and social exclusion, and declining household incomes.

These problems affect the Member States directly concerned by reducing aggregate demand, eroding human capital and competitiveness and undermining confidence, and they also impact on other countries through trade. Persistent divergences within the euro area may weaken the economic fundamentals of the EU as a whole, and they are a sign that the core objectives of the EU, to benefit all its members and to improve the life of citizens, are not being reached.

After initial resilience to the crisis, labour market performance in the EU has been worsening since 2011 on account of lower economic growth and delayed adjustment. Unemployment has risen rather than fallen, and employment rates have declined. The crisis has also

(80) European Commission (2012q), White Paper on Pensions, Estimates based on Eurostat EU-SILC data for 2009, and ESDE 2012 Key Features (European Commission, 2013c).

(81) European Commission (2013d): 'Social Europe: Current Challenges and the Way Forward', p. 69. Estimates based on Eurostat EU-SILC 2010.

(82) Self reported unmet need for healthcare is defined by Eurostat as the share of people declaring that they did not have access to a GP over the last twelve months either because it was too expensive, the waiting list was too long or it was too far to travel.

(83) ibid.

(84) Social Investment Package, p. 3.

(85) European Commission (2013d), p. 123.

seen poverty increasing when it has been reduced somewhat in several non-EU OECD countries, although inequality (the GINI coefficient) fell a little in the EU while it increased slightly in the US.

Social protection expenditure rose, on average, by 12% in the OECD between 2007 and 2011 and by as much as 20% in the USA and Korea. The increase was much more modest in the EU-27, at 6%, with a significant decline after 2010. While far from uniform across Member States, public expenditure levels have developed differently not only from other advanced countries but also from previous recessions.

Competiveness remains an issue, even though 11 Member States are in the top 30 of the World Economic Forum's Global Competitiveness Index 2013–14, with Finland, Germany, Sweden and the Netherlands occupying places three, four, six and eight respectively. In this context, it is worth noting that they are among the countries with the highest share of social expenditure as a percentage of GDP.

Weakening labour markets have led to increases in long-term unemployment in most Member States, reaching an all-time high in the EU as a whole. Structural unemployment has been growing with mismatches between supply and demand of both the quality and quantity of labour. Net job destruction has coincided with an increase in precarious jobs; though the share of temporary contracts has fallen in the EU, part-time, especially involuntary part-time, jobs have been increasing.

Activity rates have held up quite well as more women and older citizens seek employment. Recovery is an opportunity to reverse the growing number of long-term unemployed and prevent them from becoming discouraged and stopping to seek work. Young people have seen a decline in activity although this is largely linked to their staying in education, with the increase in those not in employment, education or training (NEET) being essentially due to rising unemployment. The threat to the future of many young people, with an EU average youth unemployment rate of 23% (reaching 59.5% in Greece in the first quarter of 2013), remains acute. The upturn will not remove the need to significantly improve the prospects for young people in many Member States.

Since 2010, household incomes have been declining in real terms in the EU and the euro area, reflecting the prolonged deterioration of economic and labour market conditions. In addition, the stabilising effect of social transfers lessened significantly after 2010. Increasing hardships have led to a quarter (25.1%) of the EU population being at risk of poverty or exclusion, with the biggest increase being among those of working age as levels of unemployment and the number of jobless households have increased. There has also been a rise in in-work poverty, partly reflecting the fact that those in work are working fewer hours and/or for lower wages. Children in such households are also affected by increased poverty. A growing divergence is also evident across the EU with two thirds of Member States seeing increased poverty, but one third not.

The uneven impact of the crisis within, as well as between, countries has recently seen rising inequality, with the effects being most felt by the lower income groups who were the hardest hit by job losses. Social expenditure, which had served to offset the effects of the recession in the first phase, was then reduced in the second phase becoming pro-cyclical with likely adverse effects continuing into the future. Sustainable and inclusive growth will henceforth be all the more challenging to re-establish.

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Chapter 1

EU employment in a global context: where will new jobs come from and what will they look like?[1]

1. Introduction

New jobs in 2020 ...

This chapter explores future employment prospects in the European Union (EU). More specifically, it will investigate where new jobs will come from and what new jobs can be expected to look like by 2020.

The EU faces continuing and significant structural challenges at the same time as it works to recover from a severe economic downturn. Uncertainty about current and future job opportunities is a major concern with European policy makers focused on actions to address these challenges in pursuit of a competitive social market economy with full employment in the EU.

In the past, structural reforms such as the creation of the Single Market, EU enlargement to countries of Central and Eastern Europe, as well as monetary stability, bolstered the European economy's resilience to challenges posed by globalisation and technological progress. In the meantime, however, the pressures arising from technological progress and globalisation have strengthened, while the challenges resulting from an ageing population and the pressures on climate, natural resources and biodiversity have intensified.

These long-term trend developments will continue to have a profound impact on which, where and how goods and services will be produced and consumed, and hence on the associated jobs and their quality. However, the current and persistent economic downturn has put increased pressure on Europe's labour markets, as well as other markets, to address these long-term trends. Indeed, as unemployment spells persist, the employability of unemployed people deteriorates with the risk of further labour market polarisation, all of which could have an adverse impact on our capacity to achieve our economic, social and employment goals.

... driven by trend developments, convergence and cyclical pick-up, ...

In this context, three sources of job growth are considered for the period from 2013 to 2020, namely: trend developments for the EU as a whole; convergence between Member States; and cyclical adjustments as the Union recovers from the current crisis [2].

In this context, we note that in the period to 2020:

- new jobs will be created while old jobs will be destroyed, transformed or maintained in order to address new challenges and opportunities arising from continued globalisation, technological progress, demographic changes, and other factors such as the greening of the economy;
- Member States that are still catching up are likely to see their future employment prospects change more dramatically than others;
- the economic downturn has resulted in significant short-term variations in output and employment from underlying trends, some of which are likely to be at least partially corrected over the period.

In terms of the types of job changes, some will be created in growth areas such as environmental consultancy, some will be substitutes within similar types of activity, for example due to a shift from fossil fuel use to renewable energy use, others will be transformed by the acquisition of greener skills, while some may disappear altogether, as has largely happened in coal mining in most EU countries.

At the same time, changes in the organisation of work can be foreseen (for example, a continued growth of distance work) along with changes in the structure of production (for example, the expansion of global value chains) as well as changes in the gender, age and skill composition of the labour force.

However, this potential will only be fully realised to the extent that the framework conditions are right and the current economic and financial conditions are normalised. This chapter focuses in

[1] By Eric Meyermans and Jörg Peschner

[2] It would be beyond the scope of this chapter to cover other drivers of future job creation and destruction such as overhang of consumer and government debt (see, for instance, Gordon (2012)), reforms to the European financial architecture (see, for instance, Liikanen Report (2012)), reforms of tax systems, etc.

particular on the labour market framework conditions and on the negative feedback within the labour market arising from the current economic downturn ([3]).

... provided the right framework conditions are put in place on time...

On the supply side of the labour market, developing the full job potential will require that workers receive adequate education, training and skills, have incentives to take up jobs, and can move in flexible, but secure, ways between jobs.

On the demand side of the labour market, this requires a strengthening of framework conditions for companies to respond to new structural challenges, targeting specific groups (notably the young), targeting regions or professions, and maintaining or strengthening the EU's comparative advantages in international markets.

... and the economic downturn ends without further delay

The current economic downturn will also affect the potential for labour to relocate in the short as well as the medium term, given: the adverse feedback from persistent unemployment (inducing hysteresis effects due to the erosion of skills and employability); the polarisation in labour markets (hindering occupational mobility and social sustainability); the shortage of credit, especially for small and medium sized enterprises, which is limiting both human resource investment and innovation generally.

Structure of the chapter

This chapter aims to identify the most important trends and transmission mechanisms that will affect future job opportunities in the period to 2020. It does not attempt to produce precise quantitative projections and those that are used are only intended to be indicative, based essentially on existing forecasts rather than new calculations ([4]).

The chapter is structured as follows:

The analysis in **Section 2** begins with a description of past employment trends in those dimensions that are likely to condition future employment developments such as their sectoral composition and knowledge intensity, and taking account of developments in global value chains, and enterprise demographics.

This review underlines the continuing shift in employment share away from industry (and agriculture in the case of Member States joining the EU in 2004 or later) towards the service sector, as well as the shift of employment opportunities towards higher knowledge-intensive activities in expanding global value chains ([5]). It also highlights the importance of small and medium sized enterprises in the creation of new jobs.

Section 3 identifies the inter-related trend drivers of new job creation (as well as transformation and destruction), including technological progress, globalisation, demographic change, and the greening of the economy, and also reviews the transmission mechanisms that then determine the composition of employment and related working conditions.

These drivers are not new but they are expected to have an accelerated impact. Moreover, there remain major differences between Member States in terms of their adjustment to such drivers to date which provide differing needs and opportunities in terms of convergence in their relative performance in the future.

Section 4 discusses the challenges presented by the persistence of the economic downturn and inadequate structural reforms to date in terms of realising the EU's full employment potential by 2020. These factors include the risk of labour

([3]) In the subsequent text, the structural framework conditions as outlined, for example, in the Europe 2020 Strategy, the Employment Package, the Social Investment Pact, the Single Market ACT II, etc. will be tackled to the extent that they have notable labour market effects.

([4]) The only exceptions are some regional projections. More generally it is important to recognise that, although several studies have made careful analyses of the employment effects of particular exogenous shocks or policies, no study known by the authors has studied the impact of all these exogenous shocks or policies simultaneously. In other words, no assessment of the mutually reinforcing or crowding out effects generated by the simultaneous implementation of these measures is available. Moreover, several studies use a partial equilibrium analysis that does not take account of general equilibrium feedback loops.

([5]) Within a global value chain (GVC) different stages of the production process are carried out in different regions of the world.

market hysteresis effects resulting from persistent unemployment spells, labour market polarisation, skill mismatches, and slowness in ensuring the further deepening of the single market and the Economic and Monetary Union (EMU).

Section 5 describes what new jobs can be expected to look like by 2020. Important dimensions that are considered include changes in the personal characteristics of workers (e.g. skills, age), in working conditions (e.g. virtual workplaces), and in the nature of tasks (e.g. social jobs).

Section 6 pays particular attention to skills by investigating the potential impact of policy instruments aimed at improving the skills composition in the face of an ageing and shrinking workforce.

Section 7 draws general conclusions about the way that the forces of globalisation, technological progress, demographic change and the greening of the economy are expected to transform, not only the way goods and services are produced and consumed, but also where, bringing profound changes to the EU job panorama in 2020, creating continuing challenges to the policy aim of ensuring that the benefits of these changes are distributed in an equitable way.

2. Labour market dynamics

In looking to future employment prospects in the EU it is necessary to first review recent experiences and current trends. Five aspects are highlighted and addressed:

- first, the widely recognised fact that sector-level employment developments in the EU have involved declining shares for employment in industry and agriculture, and increasing shares in business services, and information and communication services;
- second, the evidence that international production has increasingly become fragmented with different parts subcontracted to specialised firms across the globe with consequent impacts on employment levels and job content;
- third, employment growth in technology and knowledge-intensive activities appears to provide a preliminary indication of job potential to strengthen a Member State's knowledge base;
- fourth, the evidence concerning the way changes in the patterns of birth and death of enterprises have an impact on job creation;
- and finally, we consider the impact of cyclical downturns and the indications they may contain regarding possible lingering persistence and hysteresis effects on the labour market over the medium and longer term.

2.1. Sectoral employment dynamics

In the past, significant sectoral employment reallocation has taken place ...

Over time there has been a notable reallocation of labour across broad sectors of the economy in all EU Member States as indicated in Chart 1 showing the employment share for 9 sectors ([6]) in the EU Member States in 1995 and 2012 ([7]), adjusted for cyclical fluctuations with a view to narrow the focus on trend developments ([8]).

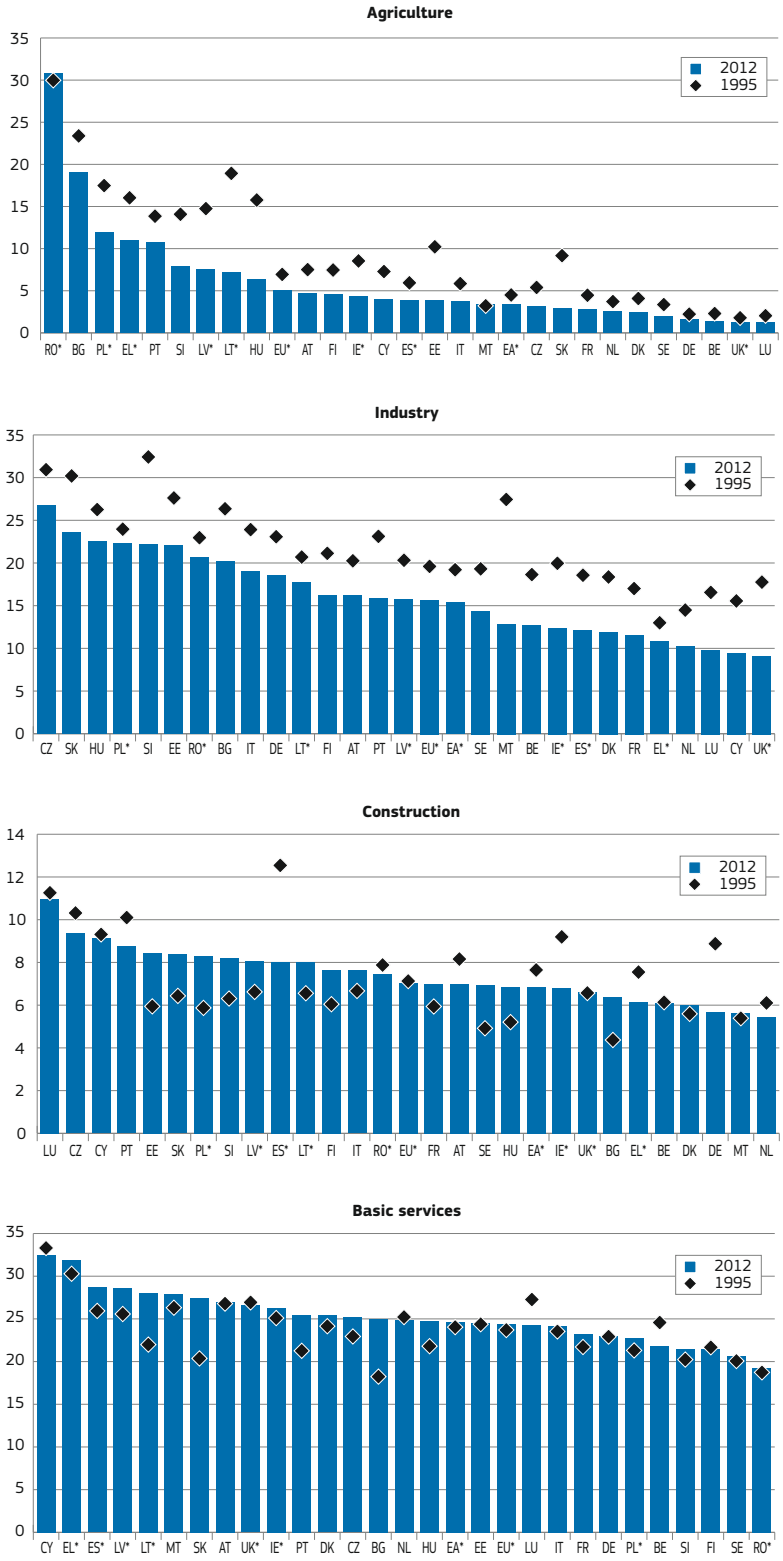
The employment share for industry was, in all Member States, lower in 2012 than in 1995 with Malta recording the sharpest decrease. Nevertheless, there are still important differences across Member States in the relative importance of industry, with the employment share ranging from over 26% in

([6]) Sectors: Agriculture, industry, construction, basic services, information and communication, financial services, business services, public services and other services. Basic services cover wholesale and retail trade; repair of motor vehicles and motorcycles, transportation and storage, accommodation and food service activities. Business services cover professional, scientific and technical activities and administrative and support service activities. Financial services cover financial and insurance activities and real estate activities. For a more in-depth description of past sectoral employment trends at a lower level of aggregation see, for instance, WiiW and Applica (2012).

([7]) The period starts in 1995 for the Member States for which the data are available. For the other Member States the first year may be different, i.e. IE 1998; EU and EA aggregates, as well as EL, ES, LV, LT 2000; PL 2004; RO 2008. Last observation for UK is 2011.

([8]) Values obtained fitting a stochastic trend using a Hodrick-Prescott filter.

Chart 1: Sectoral employment shares: 1995-2012 – net of cyclical component (scales vary)



Notes: Basic services cover wholesale and retail trade, transport, accommodation and food service activities. De-trended series using Hodrick-Prescott filter. Observations 1995 & 2012, except IE 1998; EU, EA, EL, ES, LV, LT 2000; PL 2004; RO 2008; UK 2012.

the Czech Republic to about 9% in the United Kingdom in 2012. The employment share for the agricultural sector has, likewise, been on a downward trend in all Member States (except Romania and Malta) and especially in Lithuania.

The employment share for the sector providing business services, as well as the sector providing information and communication services, was higher in all Member States (except Greece) in 2012 than in 1995, but notable difference across Member States remain, with the highest share in business services (at 18%) recorded in Belgium and the lowest (at 4%) in Romania.

The employment share in other sectors remains fairly stable, although notable differences between Member States remain. The most significant is that between the Scandinavian Member States, Belgium and France whose employment shares for public services are at approximately double the shares in Romania and Bulgaria.

... in response to interlocked structural changes

The above developments are the result of several factors: the stronger increases in labour productivity in industry and agriculture compared to other sectors ([9]); the continuing liberalisation of international trade that has induced a shift from the tradable sectors (industry and agriculture) to the non-tradable sectors (construction and services) ([10]); and the low income elasticity of demand for the goods and services provided by the agriculture sector ([11]).

([9]) See, for instance, Rowthorn and Ramaswamy (1997 and 1999) and Rowthorn and Coutts (2004). Nevertheless, to the extent that productivity gains are translated in price cuts and the demand for the goods and services is very responsive to price changes, total output may increase thereby offsetting or even overshooting the loss in employment. See, for instance, Edwards and Lawrence (2013).

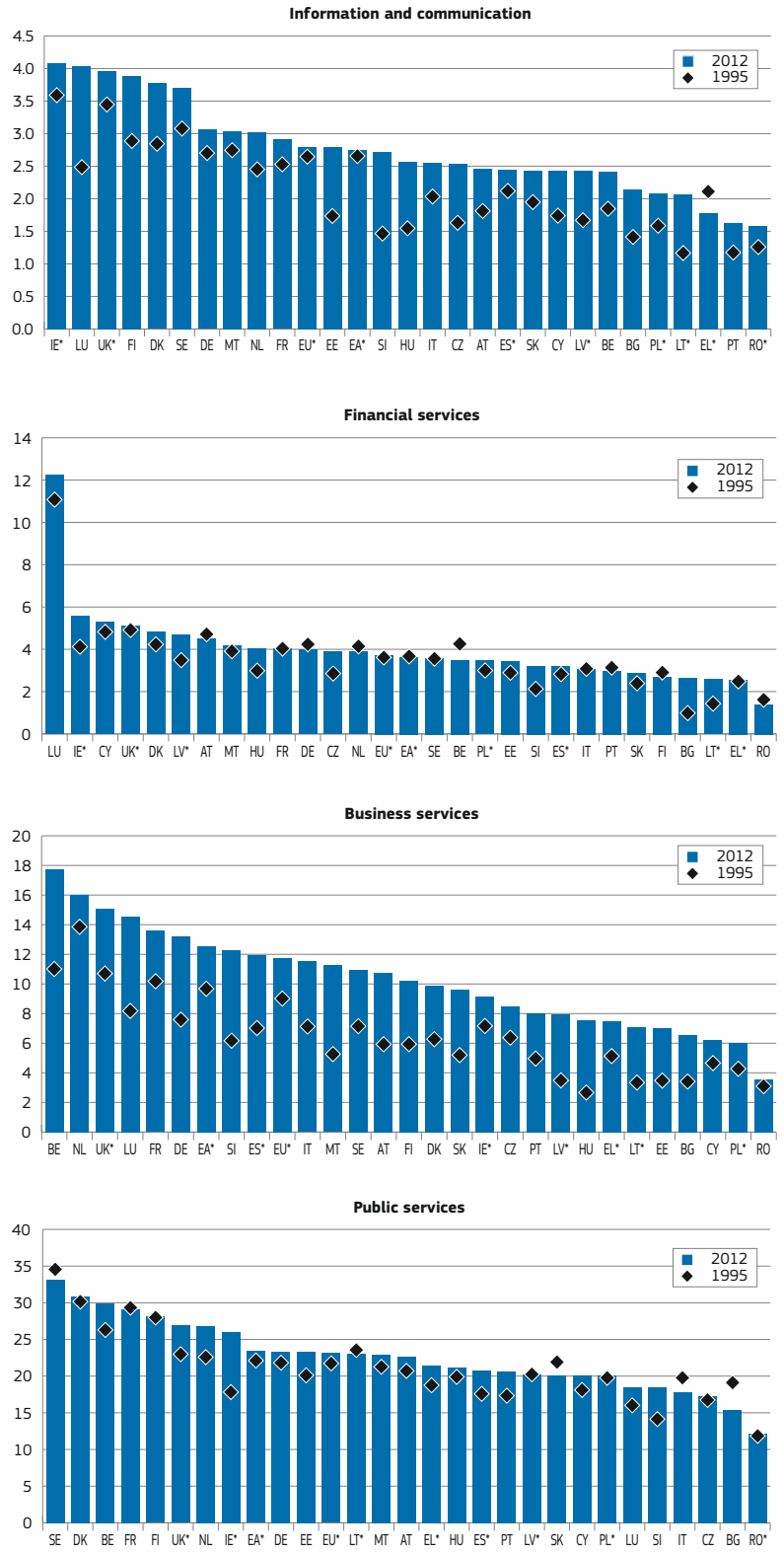
([10]) See, for instance, Sieber and Silva-Porto (2009).

([11]) An increase in income will lead to a proportionally smaller increase in demand for agricultural goods and services. Nevertheless, in the future a shift in the observed income elasticity of goods and services provided by the agricultural sector is to be expected. For instance, in 1980, it was primarily foodstuff that was provided by the agricultural sector (for which there was low income elasticity), however as income increases there will be a shift to rural services, such as, for example, a clean environment, which increase at a higher proportion than income (i.e. high income elasticity).

Moreover, changing business models, whereby manufacturers outsource services such as logistics, marketing or legal advice to enterprises in the service sector, have caused a decline in the employment share for industry and a rise in the service sector for 'statistical reasons' ([12]).

Furthermore, in some Member States, fiscal consolidation since the onset of the crisis has reduced employment in public services, resulting in a decline in its employment share ([13]). Also, the cyclical fluctuations in the construction sector over the period 1995 to 2012 may have somewhat masked underlying trends ([14]). In addition, many of the Member States who joined the EU in 2004 or since then (the exceptions being Cyprus and Malta) also underwent a significant transition from being largely centrally planned economies to market economies, which may have accelerated the decline in employment shares for industry and agriculture.

Finally, while much of the growth of international trade in recent decades had been identified in terms of final products, and driven by falling global transport costs, a profound change is emerging in which the focus is on changes in the distribution of activities *within* enterprises under the impetus of ICT developments that make it technically possible to coordinate complexity from a distance – see, for instance, Baldwin and Evenett (2012).

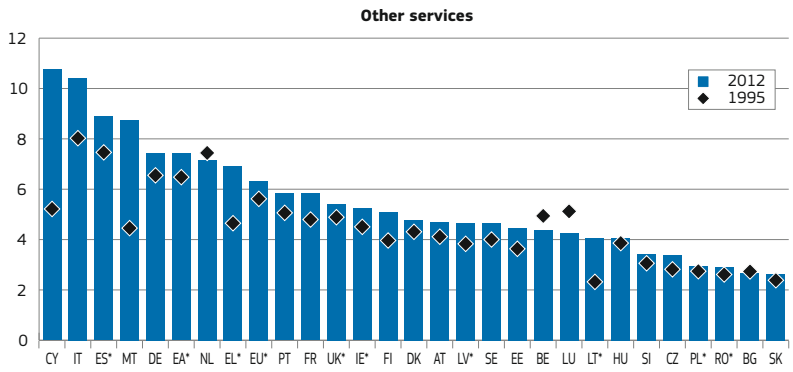


Notes: Business services cover professional, scientific and technical activities; administrative and support service activities; public services cover public administration, defence, education, human health and social work activities. De-trended series using Hodrick-Prescott filter. Observations 1995 & 2012, except IE 1998; EU, EA, EL, ES, LV, LT 2000; PL 2004; RO 2008; UK 2012.

([12]) See, for instance, Ciriaci and Palma (2012).

([13]) See, for instance, Efthyvoulou (2012).

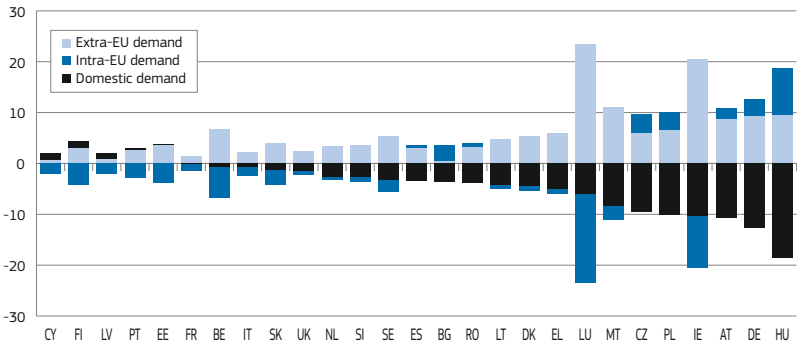
([14]) The limited data time-span prevented a rigorous elimination of the cyclical component in the data series.



Source: DG EMPL calculations based on Eurostat National accounts [nama_nace10_e].

Notes: De-trended series using Hodrick-Prescott filter. Observations 1995 & 2012, except IE 1998; EU, EA, EL, ES, LV, LT 2000; PL 2004; RO 2008; UK 2012.

Chart 2: Drivers of change in value added: 1995–2011 (pp change)



Source: DG EMPL calculations based on Foster *et al.* (2013, Table 2.3.1).

2.2. Expanding global value chains

Increasing trade openness to the rest of the world ...

In terms of the employment effects of emerging global value chains, Chart 2 shows that most EU Member States experienced a strong shift away from production for domestic demand towards production for other countries, whether to fulfil intra-EU demand or extra-EU demand – see also Foster *et al.* (2013).

The strongest relative decrease (in excess of 10%) in the share for domestic demand is found in Hungary, Germany, Austria, Ireland and Poland, although a few Member States saw a modest rise in the domestic demand share, including Cyprus, Finland and Latvia.

In several Member States the shift towards meeting extra-EU demand has been much stronger than the shift towards meeting intra-EU demand. This was particularly the case for Luxembourg**,** Ireland, Malta and Belgium.

.... and fragmentation of production processes ...

At the same time, the production of goods and services has been subject to more intense outsourcing and offshoring ([15]) as enterprises seek to both lower their production costs and access new, especially emerging, markets in order to establish global value chains (GVC). See, for instance, OECD (2007a).

A notable expansion of the global value chain has been observed in the electronics industry, where lead firms conceive, coordinate, and market new products (e.g. iPods) while other firms (often located in other continents) provide electronics components and services. See, for instance, Dedrick *et al.* (2008).

... have affected European labour markets

Assessing the labour market implications of global value chains in quantitative terms is not straightforward given the way production and employment data is recorded ([16]), with only the results of ad hoc surveys and studies of international sourcing available ([17]). Nevertheless some statistics are directly relevant.

For example, Chart 3 presents estimates of the number of workers directly and indirectly involved in the production of final manufacturing goods (i.e. manufacturing GVC workers) as the percentage of all workers employed in the whole economy in 1995 and 2008 – see Timmer *et al.* (2013) ([18]).

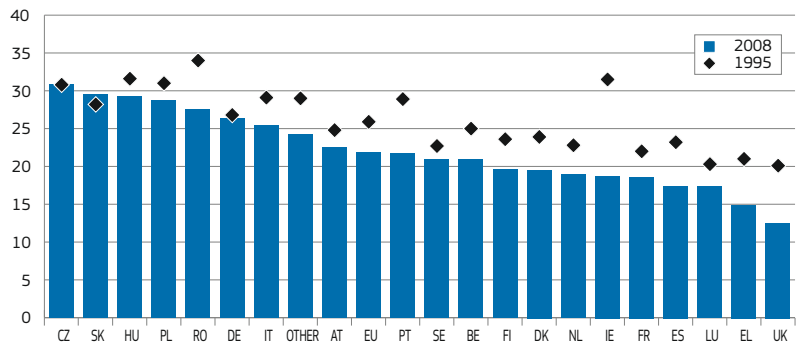
([15]) Note that outsourcing (whereby an external contractor performs a services that could have been performed in-house) should be distinguished from offshoring (whereby jobs are moved abroad).

([16]) Traditional trade statistics may suffer from double counting, e.g. gross exports may also include value added created in countries supplying intermediary inputs. See, for example, Koopman and Wang (2012).

([17]) See for instance, Sturgeon (2013) and Eurostat 'International sourcing statistics' at http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/International_sourcing_statistics

([18]) Timmer *et al.* (2013) used the World Input-Output Database which is available at www.wiod.org. These tables provide a time-series of world input-output tables (WIOTs) from 1995 until 2008. It covers forty countries, including all EU- 27 countries and 13 other major advanced and emerging economies.

Chart 3: Manufacturing GVC workers as % of all workers



Source: Timmer *et al.* (2013).

This shows how the share decreased in all Member States (except Cyprus and Slovakia) over the period, and by 4 % for the EU as a whole, while Ireland showed the strongest decrease, followed by the United Kingdom and Portugal. Overall, the number of manufacturing GVC workers in the EU fell by 1.8 million over this period.

This change was not evenly distributed across the sectors providing the intermediary inputs. While jobs in manufacturing decreased by 3 million and agriculture by 2.3 million, jobs in the service sector increased by 3.5 million. At the same time, there was also a shift from low-skilled towards highly-skilled workers, which was stronger among manufacturing GVC workers than in the EU economy as a whole. See Timmer *et al.* (2013) and Foster *et al.* (2013) for more details.

Such developments show how a resource-scarce, skill-rich, European Union has been actively exploiting its comparative advantages in the global value chain through a focus on activities performed by highly-skilled workers since the 1990s ([19]). However it also shows the declining importance of global production of manufacturing for employment in Europe.

2.3. Knowledge-intensive employment growth

Apart from a shift in the sectoral composition of employment, there has also been a shift in the employment share for the types of knowledge and technology intensive activities ([20]) which are at the heart of Europe's potential for future innovation and productivity growth ([21]) – the necessary conditions for the creation of high-quality jobs.

However, high-technology manufacturing represented only 6.9 % of total employment in the manufacturing sector of the EU in 2011, compared to 28.6 % for medium-high, 27.9 % for medium-low and 36.6 % for low knowledge-intensive jobs ([22]). Meanwhile the employment share for knowledge-intensive service sectors accounted for 56 % of employment in the service sector as a whole.

The employment share for the high- and medium-high technology intensive manufacturing sector was very modest in 2011 on average ...

Chart 4 shows the employment shares for manufacturing industries across Member States ([23]) in terms of the high-, medium-high, medium-low and low technology intensity dimension ([24]) in 2000 and 2011, and demonstrates the strong differences between the EU Member States in 2011. Here Ireland records the highest employment share in high knowledge-intensive industries at 26.2 %, but with Member States such as Portugal, Cyprus, Romania, Bulgaria, Latvia, Greece, Poland and Spain recording shares of less than 5 %.

When high and medium-high knowledge-intensive industries are combined, the highest shares in 2011 were found in Germany (48.8 %) and Ireland (44.2 %).

... while the employment share for the knowledge-intensive service sector was somewhat stronger on average ...

Chart 5 shows the employment share for services in the knowledge-intensive ([25]) and less knowledge-intensive dimension indicating the highest employment share in Luxembourg, at 67.2 %, followed by the Netherlands, Denmark and Belgium. The lowest employment shares below 50 % were found in Bulgaria, Cyprus and Spain.

... but several Member States underperformed

In the past, several Member States lagged in the creation of employment in knowledge-intensive industries, attributed to varying degrees to shortcomings in their R&D systems, lack of competition in certain sectors, tight credit conditions, slow bureaucracy, and a low level of internationalisation of enterprises. See, for instance, European Commission (2012y).

([19]) See also Galar (2012).

([20]) An activity is classified as knowledge-intensive if tertiary educated persons employed (according to ISCED97, levels 5+6) represent more than 33 % of the total employment in that activity. See http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/htec_esms_an8.pdf

([21]) See, for instance, OECD (2013.b).

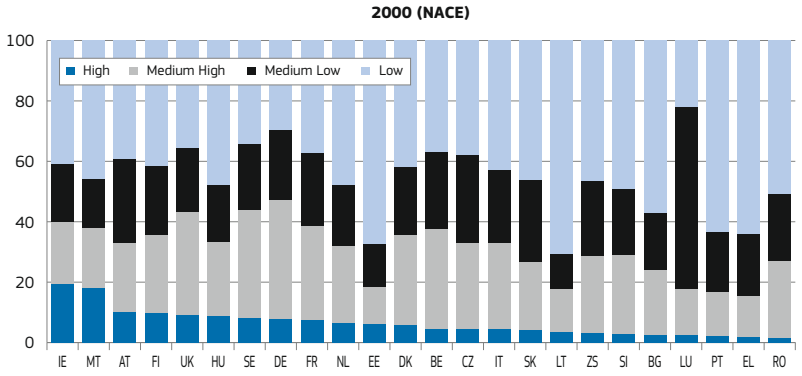
([22]) Based on NACE_R2. For the year 2000 NACE_R1 classification shows 6.3 % for high, 30 % for medium-high, 23.0 % for medium low and 40.6 % for low knowledge-intensive jobs.

([23]) For a detailed description of knowledge-intensive services and knowledge-intensive business services at the level of European regions. See, for instance, Schricke *et al.* (2012).

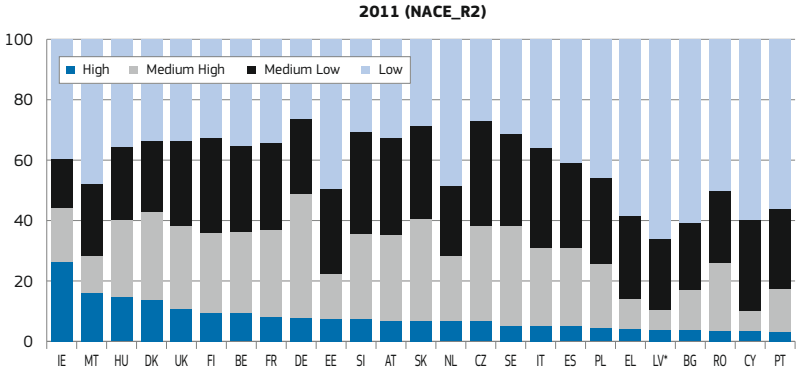
([24]) See http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/htec_esms_an3.pdf or Annex A for a definition of 'high-technology' and 'knowledge' based services' aggregations based on NACE Rev. 2.

([25]) See Annex A for grouping.

Chart 4: Employment shares for knowledge/technology-intensity of job – Manufacturing

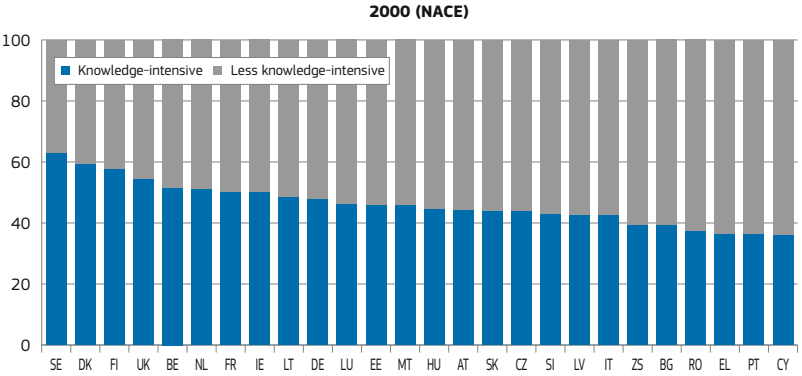


Source: DG EMPL calculations based on Eurostat (htec_emp_nat); see also Annex A.

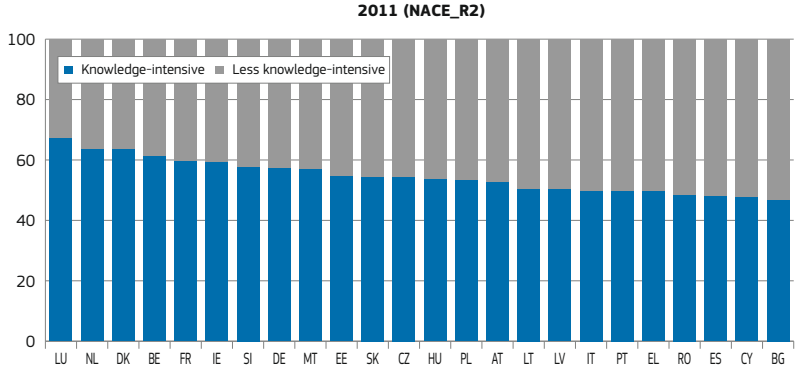


Source: DG EMPL calculations based on Eurostat, Science and technology [htec_emp_nat2]; see also Annex A.

Chart 5: Employment shares for knowledge/technology-intensity of job – Services



Source: DG EMPL calculations based on Eurostat, Science and technology [htec_emp_nat]; see also Annex A.



Source: DG EMPL calculations based on Eurostat, Science and technology [htec_emp_nat2]; see also Annex A.

2.4. Enterprise dynamics

Enterprise demographics affect employment dynamics ...

Developments in employment are closely related to the dynamics of enterprises, with job losses when enterprises close or decline, and job creation when new ones are born or expand. In general, newly born enterprises with fewer than 5 employed persons ([26]) were, in most Member States, the biggest source of gross employment creation among all newly created enterprises. Enterprises with fewer than 5 employed persons (including declining 'old' enterprises) were also the most important source of gross job losses.

... with strong differences across Member States ...

Charts 6 and 7 show the creation and destruction of jobs due to the birth and death of enterprises in the European Union in 2005 and 2010 ([27]), in terms of the percentage of all those employed in all enterprises.

In 2005, most Member States recorded positive net job growth related to the birth and death of enterprises as the creation of jobs by new enterprises was greater than the destruction of jobs through enterprise closures. Notable exceptions were Hungary, France and Portugal who all recorded net job losses.

In 2010, the outlook was sufficiently gloomy that, in a large number of EU Member States, the job gains resulting from the creation of new enterprises were more than offset by the job losses from closures. Strong net job losses were found in Lithuania, Portugal, Hungary, and Latvia although, in these Member States, the net losses were accompanied by high gross in and out flows compared with other Member States. Malta was the only Member State that recorded significant job gains (+1.9%).

([26]) Employed persons are either employees (working by agreement for another resident unit and receiving remuneration) or self-employed (owners of unincorporated enterprises).

([27]) Note that data are not fully comparable as 2005 refers to NACE–R1 and 2010 to NACE–R2.

... and sectors with a booming construction sector in 2006 ...

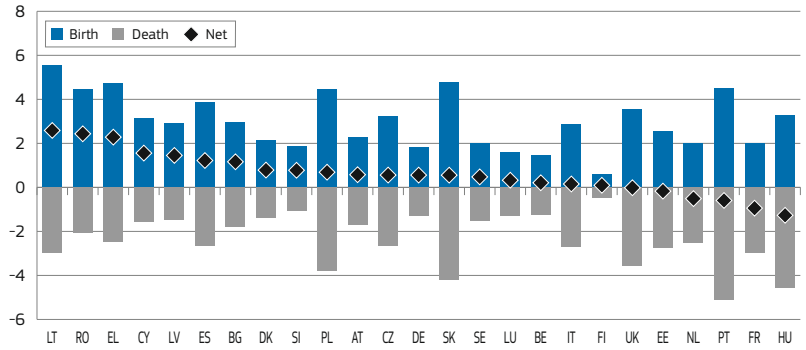
Charts 8 and 9 show the extent of job creation and destruction due to the birth and death of enterprises in the three main economic sectors, namely industry, construction, and services, in 2006 and 2010 ([28]).

In 2006, the construction sector showed the strongest increase in employment as a result of the birth and death of enterprises. These increases were rather strong in Luxembourg, Spain, and Romania, while Malta, Portugal and the Czech Republic were the only Member States showing a decrease. Similar increases were seen in the services sector in a number of Member States including Romania, Spain and Luxembourg, while Bulgaria, Malta and the Czech Republic recorded notable decreases. The net contribution in the industry sector was modest, with the strongest net increase in Romania, and the strongest net decrease in Bulgaria.

... and a busting construction sector in 2010 ...

In 2010, the EU construction sector showed the strongest decrease in employment as a result of the birth and death of enterprises, with the largest falls in Hungary, Portugal, Lithuania and Spain, based on strong flows in and out. Only Latvia, the Czech Republic and Austria recorded a slight net increase. In industry the strongest losses in employment as a result of the birth and death of enterprises were found in Lithuania, Portugal, and Hungary, while notable increases were found in Romania and Latvia. In services, Lithuania and Portugal showed the strongest net decline, primarily reflecting a sharp loss in enterprises that was only partially compensated by an increase in the number of enterprises.

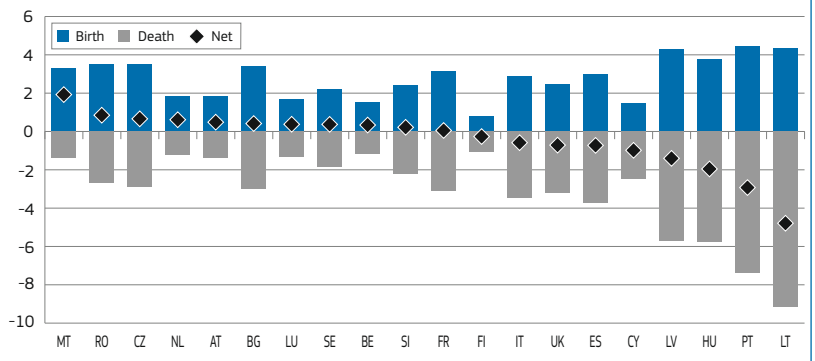
Chart 6: Gains in employment due to birth and death of enterprises – 2005



Source: DG EMPL calculations based on Eurostat, Structural business statistics [bd_9bd_sz_cl_r2].

Notes: Sectors covered are industry, construction and services except insurance activities of holding companies. Birth measures employment share for newly born enterprises; death measures employment share for enterprises that die; net is birth minus death. Share calculated vis-à-vis number of employed persons in the population of active enterprises.

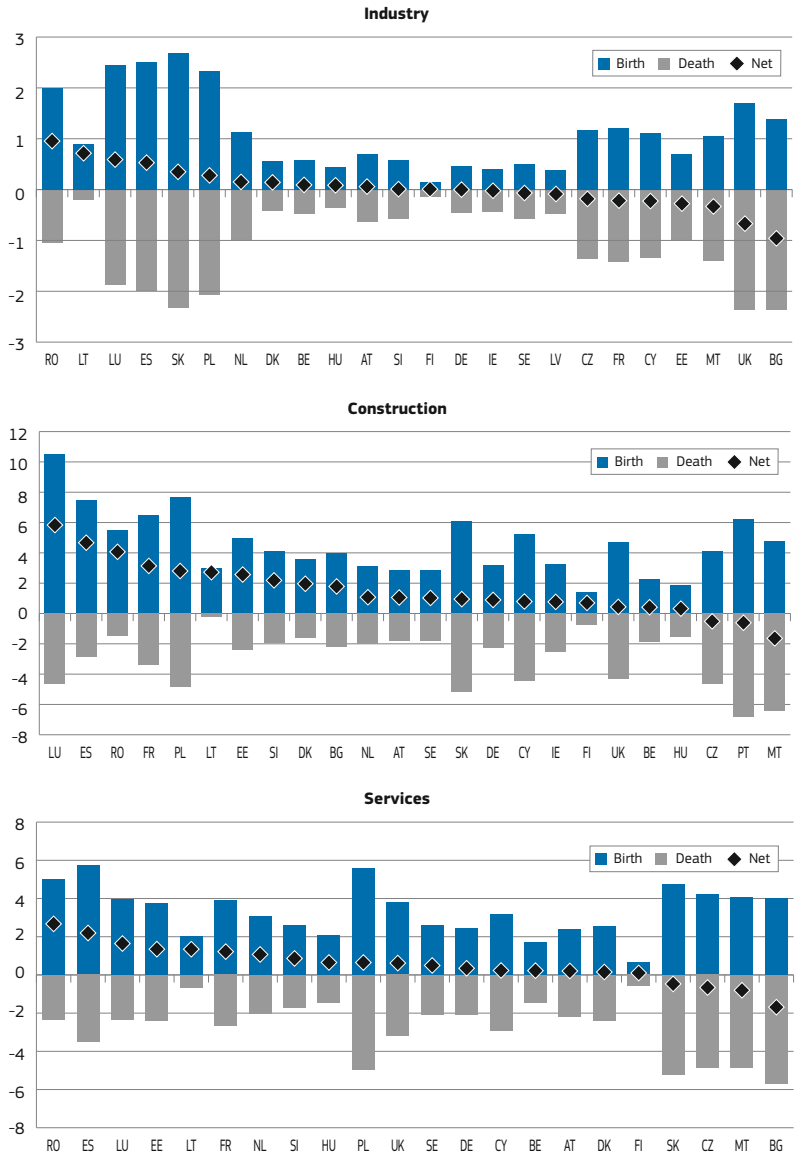
Chart 7: Gains in employment due to birth and death of enterprises – 2010



Source and *notes*: See previous chart.

([28]) Note that data are not fully comparable as 2006 refers to NACE–R1 and 2010 to NACE-R2. Plots in charts measure % change vis-à-vis total sector employment.

Chart 8: Sectoral employment gains/losses due to birth and death of enterprises – 2006 (scales vary)



Source: DG EMPL calculations based on Eurostat, Structural business statistics [bd_9b_size_c for 2006 and bd_9bd_sz_cl_r2 for 2010].

Notes: Birth measures employment share for newly born enterprises; death measures employment share for enterprises that die; net is birth minus death. Share calculated vis-à-vis number of employed persons in the population of active enterprises).
Per cent of number of employed persons in the population of active enterprises in the sector.

... with small enterprises showing, on average, the strongest impact

Chart 10 shows the contribution to total employment ([29]) creation from four size-groups ([30]) of newly born enterprises in 2010. Within these four groups, those enterprises with up to 4 employed persons created the strongest employment growth.

In terms of gains, on average ([31]), newly born enterprises with one person were responsible for the creation of nearly 43% of jobs created by all new-born enterprises; enterprises with 2–4 employed persons over 30%; enterprises from 5–9 employed persons 9%; and the enterprises with 10 or more employed persons nearly 17%.

Newly born enterprises with only one employed persons contributed between 8% of new jobs in the United Kingdom and 79% in France in 2010, while enterprises with 2 to 4 employed persons contributed between 11% in France and about 54% in Finland. Newly born enterprises with between 5 and 9 employed persons contributed between 3% in France and 17% in Luxembourg. At the same time the contribution of enterprises with 10 or more employed persons ranged from 3% in Slovenia to 56% in Malta, with Malta and Romania being the only two Member States where the bulk of employment growth came from large new enterprises.

In terms of losses, on average ([32]) in 2010, enterprises with only one employed person accounted for nearly 50% of the total number of jobs lost following the closure of enterprises, while enterprises with 1–4 employed persons were responsible for 26% of the jobs lost, followed by the enterprises with at least 10 employed persons at 21%, and nearly 8% for the enterprises with 5–9 employed persons.

The scale of job losses for enterprises with one employed persons ranged from about 8% in the United Kingdom to 82% in Latvia, and the enterprises with 1 to 4 employed persons from 8% in Latvia to 53% in Cyprus, for the enterprises with 5 to 9 employed persons from about 3% in Latvia to 16% in Luxembourg, and for the enterprises with at least 10 employed persons 45%.

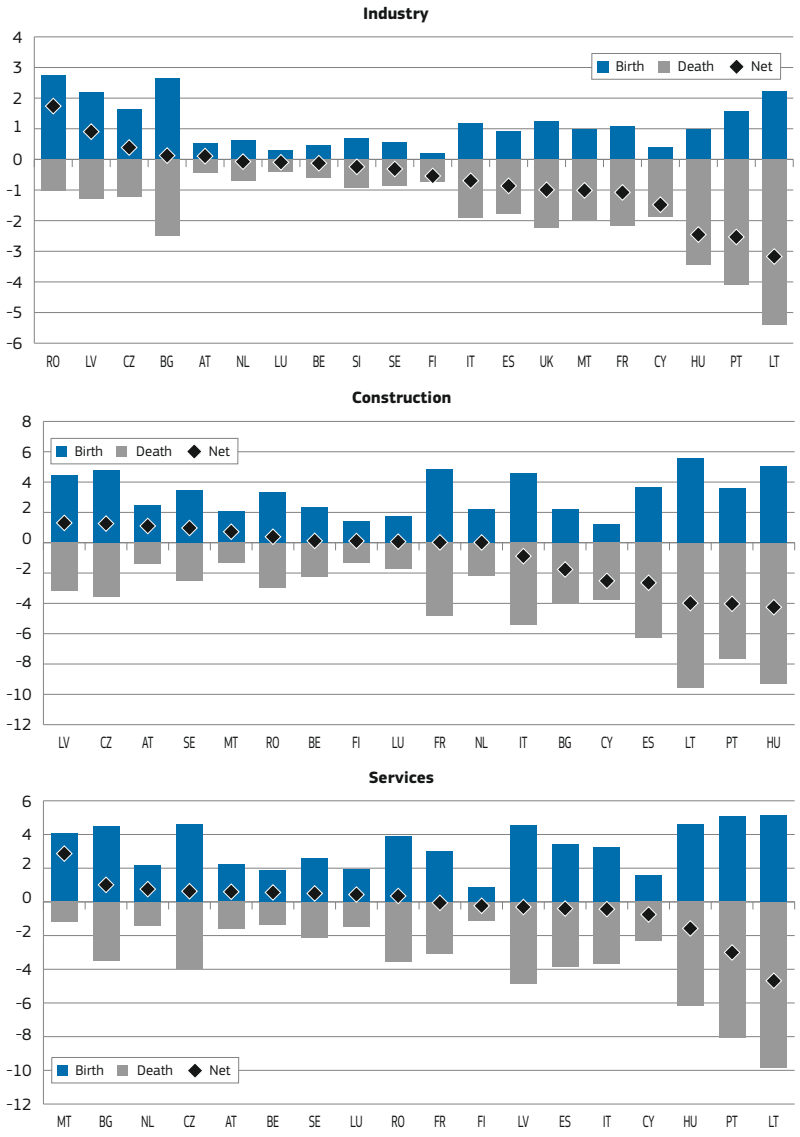
([29]) Note that total employment is the number of employees plus number of self-employed.

([30]) Namely enterprises with 1 employed person (i.e. self-employment), enterprises with 2 to 4 employed persons, enterprises with 5 to 9 employed persons, and enterprises with 10 or more employed persons.

([31]) An un-weighted average of the Member States for which the data are available.

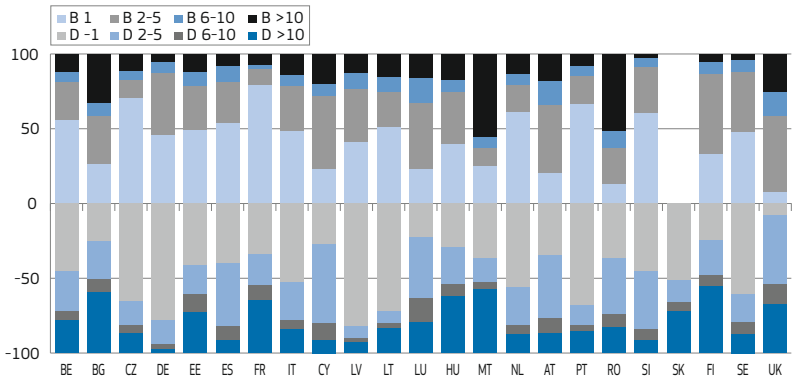
([32]) An un-weighted average of the Member States for which the data are available.

Chart 9: Sectoral employment gains/losses due to birth and death of enterprises – 2010 (scales vary)



Source and *notes:* See previous chart.

Chart 10: Share in birth and death of employment – enterprise size, 2010



Source: DG EMPL calculations based on Eurostat, Structural business statistics [bd_9bd_sz_cl_r2].

Notes: Sectors covered are industry, construction and services except insurance activities of holding companies. + sign for birth, - sign for death. SK missing birth data.

2.5. Cyclicality and persistence

In the past, cyclical downturns have often been followed by persistent sluggish labour market adjustment ...

Output in the European economy is currently well below potential ([33]) with the expected negative impact on unemployment and employment ([34]). Given that labour market developments follow output developments with a time lag, cyclical unemployment could remain present for some time even after the output gap has closed.

Chart 11 shows that, over the 1995–2012 period, the cyclical component of the unemployment rate ([35]) behaved counter-cyclically in all Member States (i.e. it was negatively correlated with the cyclical component of output ([36]) while cyclical adjustments in the unemployment rate to cyclical changes in output were very sluggish in some Member States ([37]), notably Italy and Greece. A potential lack of responsiveness in labour markets ([38]) could be an obstacle to the realisation of the medium term job potential and is therefore taken into account in the subsequent analysis.

... due to, inter alia, inadequate labour market policies

In the past, such labour market persistence reflected, inter alia, the absence or inadequate use of active labour market policies such as job-search

([33]) In 2012 the output gap stood at 2.2% for the EU as a whole with strong differences across Member States: at the upper end a positive output gap of 1.4% in Estonia and at the other end a negative gap of 12.2% in Greece.

([34]) Pro-cyclical (countercyclical) behaviour if the deviations from trend are positively (negatively) correlated with the deviations from trend in output. See, for example, Stock and Watson (1999) for empirical regularities of business cycle fluctuations in macro-economic time series.

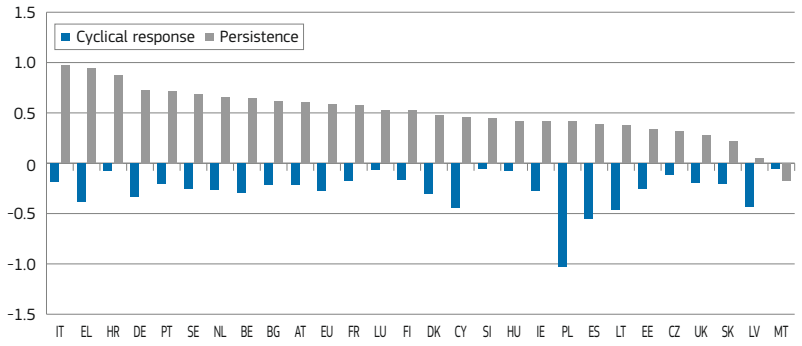
([35]) Measured as contemporaneous unemployment rate minus the natural rate of unemployment, using ECFIN- AMECO database (variables ZNAWRU and ZUTN).

([36]) Measured as contemporaneous GDP relative to potential GDP. The countercyclical nature of unemployment is a well-established macro-economic empirical regularity in the economic literature. See, for instance, Stock and Watson (1999).

([37]) As reported elsewhere. See, for instance, OECD (2012b).

([38]) Labour market hysteresis due to persistent unemployment spells (of young people) will be discussed in more detail in Section 4 below.

Chart 11: Cyclical responsiveness and persistence of unemployment



Source: DG EMPL calculations based on ECFIN-AMECO (AVGDGP, ZNAWRU, ZUTN).

Notes: Sample size 1995–2012. Coefficients of regression of cyclical unemployment on output gap (i.e. cyclical responsiveness) and lagged cyclical unemployment (i.e. persistence) (no constant term included); cyclical unemployment measures contemporaneous unemployment minus natural rate of unemployment.

assistance and training, targeted hiring subsidies, etc., so that more adequate labour market policies will be needed to realise full job potential by 2020 – see European Commission (2012a).

3. Where will the new jobs come from?

Robust creators of new jobs ...

This section reviews the ways in which labour market outcomes by 2020 are likely to be affected by four key forces at work: globalisation, technological progress, demographic change, and the greening of the economy. Although the impact of these drivers will be discussed separately, the strong interactions between them need to be recognised.

This is particularly important when considering the interaction between technological progress and globalisation. On the one hand, technological progress reduces information and transaction costs which encourage, in combination with globalisation, international trade. On the other hand, increasingly open and fair international trade will strengthen the incentives for countries to specialise in activities in which they have a comparative advantage in international markets. For a resource-scarce, skill-rich, European Union economy, exploiting its comparative advantages implies the continued development of high knowledge and technology intensive activities, backed by enhanced innovation and expanding international trade, to create a virtuous circle of developing activity.

In this context, the direction of technological progress will also be influenced by the need to address the challenges posed by the greening of the economy, such as the development of clean vehicles, and demographic concerns such as the ageing population, and the potential to promote active ageing through technological innovations linked to better working conditions.

... but conditioned by framework conditions

In addressing the labour market obstacles to the full realisation of the EU's potential by 2020, as addressed in the following sections, it must also be realised, however, that there are many other obstacles in play, including economic issues such as access to capital and credit ([39]), access to research and innovation clusters ([40]), the protection of intellectual property rights, and the fostering of entrepreneurship ([41]).

([39]) Access to credit and capital is especially difficult for small enterprises at the cutting-edge of innovation because oftheir high risk profile and the risk-averseness of banks (certainly in a severe economic and financial downturn) and because of underdeveloped venture capital markets at the European level. The future employment potential of these enterprises will then to a large be determined by the further development of integrated 'fat' venture capital markets at the European level (with access to world markets) (see, for instance, Veugelers (2012)) and seed capital (see, for instance, Bonaccorsi (2012)).

([40]) Access to research and innovation clusters is especially difficult for small enterprises at the cutting -edge of innovation in regions still developing their capacities. As such this may have an important impact on the regional distribution of job opportunities.

([41]) See, for instance, European Commission (2012s and 2012tr) and Veugelers (2013). The employment effects of migration will be discussed in more detail in Section 6.

3.1. Globalisation

Globalisation ([42]) affects the employment prospects of the European Union in several ways. Over the medium-term its impact works primarily through trade in goods and services and foreign direct investments (FDI) but also, to a lesser extent, migration flows.

3.1.1. Trade in goods and services

Trade in goods and services will continue to create new job opportunities ...

International trade in goods and services is an important source of employment in Europe with the share for total employment due to extra-EU demand having increased from 9.3% in 1995 to 11.6% in 2009. See, for example, Foster *et al.* (2013).

In the medium to long term, ongoing globalisation is expected to primarily affect the composition of employment and the quality of jobs (including wages) as it provides EU Member States (as well as their international trading partners) with the opportunity to exploit their comparative advantages in world markets and increase their (as well as their international trading partners) overall productivity level. See, for instance, Krugman (1993).

In this respect the European Commission (2007c) suggests that a 1% increase in the openness of the economy generates an increase of 0.6% in labour productivity the following year, based on an analysis of EU trade flows between 1996 and 2005.

Furthermore, in times of a cyclical downturn, this access to new markets may also create further job opportunities via an overall increase in demand (provided that export markets are not facing a cyclical downturn).

Finally, apart from the employment effects within the Member States,

([42]) No uniform definition of globalisation exists, but the following are examples: 'the removal of barriers to free trade and the closer integration of national economies', Stiglitz (2002). 'It refers to an extension beyond national borders of the same market forces that have operated for centuries at all levels of human economic activity–village markets, urban industries, or financial centers', IMF (s.a).

extra-EU exports of Member States create spillover effects in terms of job opportunities across Member States via the intra-EU value chains – which would be enhanced by any further deepening of the Single Market by 2020. For example, Sousa *et al.* (2012) report that the number of jobs generated indirectly in other EU Member States as a result of exports by other Member States amounted to almost 9 million jobs in 2007, up from 5.7 million jobs in 2002.

... but reallocation may be hindered and may have adverse effects on workers on the margins ...

In order to continue the growth in the EU's job potential into the future, labour will inevitably move between different areas and types of activity – a process that risks being hindered if existing institutional and physical infrastructure do not adequately support occupational and geographical mobility. See, for instance, Haltiwanger (2011).

Indeed, in case of an enterprise closure under pressure of international competition, it will depend, inter alia, on workers' geographical and occupational mobility whether they will get swiftly reemployed in new jobs. Labour reallocation can be hindered by several labour market conditions, including the lack of flexible working arrangements within firms, high severance pay for standard contracts, complicated individual or collective dismissal procedures, lack of flexibility in wage determination, etc.

Moreover, international trade can affect employment opportunities and wages of different groups of workers in the context of trade between developed and developing countries, such as, for example, between the EU and China – which may bring benefits overall but which may also worsen labour market polarisation, see Box 1.

... if not flanked by adequate labour market policies and other reforms

To offset the possible adverse effects of further globalisation ([43]), appropriate labour market reforms can be foreseen in order to facilitate the reallocation of labour according to flexicurity principles, see European Commission (2008g).

In particular, such reforms would be seen as focusing on the further strengthening of active labour market policies (including targeted wage subsidies, guidance, etc.); life-long learning (including appropriate training and transition between school and work); more flexible and secure contractual arrangements (from the point of view of both employer and worker); and social security (including covering the portability of social security rights).

([43]) As well as technological progress, greening and active ageing –– as discussed in the following sections.

Box 1: International trade and employment composition

Adverse effects for low-skilled workers ...

Classical economic models of international trade, such as the Heckscher–Ohlin model, imply that, as less developed countries such as China and India become integrated into the global economy, unskilled workers in the EU will experience increased competition from imports of cheap goods produced by the abundant supply of low paid unskilled workers in these countries.

This will have a negative effect on employment opportunities of the unskilled in Europe, at the same time as the increased export of high quality goods to less developed countries should increase the demand for highly-skilled workers in the EU.

As this process proceeds, wage inequality in the EU would be expected to increase but to decrease in their trading partners insofar as the wages of the low skilled rise, relative to higher skilled workers, due to increased demand from employers.

... somewhat tempered by reallocation of labour ...

Nevertheless, low-skilled workers in Europe may still be able to maintain their wage levels insofar as they reallocate away from the production of traded goods and services towards labour-intensive non-tradable goods for which there is no direct competition with low-wage countries (except through immigration), such as child care, cleaning, hairdressing, gardening etc. See, for instance, Leamer (1995).

... productivity gains...

Moreover, with increasing returns to scale, higher demand should increase labour productivity as output increases at a faster pace than the labour input. See, for instance, Krugman (1979). As a consequence, these increases in productivity could increase wage increases without generating inflationary cost push pressures.

Furthermore, to the extent that the productivity gains decrease prices, and foreign demand for goods and services show strong responsiveness to price changes, total output may increase. See, for instance, Edwards and Lawrence (2013). At the same time, prices of imports may decrease raising the effective purchasing power of wage earners.

... and public policies.

Finally, as imports of goods and services as well as offshoring run the risk of displacing workers, public funds, including the European Globalisation Adjustment Fund ([1]), can help to alleviate the adverse immediate employment impact of globalisation ([2]) by offering support in the form of job-search assistance, careers advice, tailor-made training and re-training, mentoring and promoting entrepreneurship, etc. to workers made redundant in this way.

([1]) The European Globalisation Adjustment Fund helps workers find new jobs and develop new skills when they have lost their jobs due to displacement of a factory outside the EU or shut-down of a large company. For more details on the European Globalisation Adjustment Fund see http://ec.europa.eu/social/main.jsp?catId=326&langId=en.

([2]) See also Rodrik (1999) on the relation between an economy's openness and level of public expenditure (on insurance).

Structural reforms beyond the labour markets may also be required to facilitate the reallocation of production factors, including, for example, the further development of trans-European networks for transport, energy, and ICT ([44]).

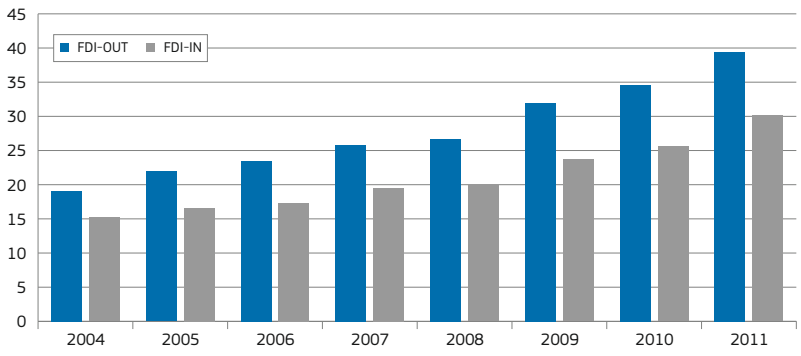
Finally, it can be noted that the need to reallocate production may be offset, in part at least, by the ability of enterprises to innovate in the face of increased international competition. This will be conditioned, however, by the extent of further deepening of the single market and by the degree of success in implementing other structural measures that promote innovation. See, for instance, European Commission (2010a).

Foreign direct investment

Globalisation affects not only the international flow of goods and services but also inward and outward flows of foreign direct investment (FDI) ([45]). Chart 12 shows data on the stock of FDI (as percentage of EU GDP in current prices) ([46]). The short time span for which data is available shows that FDI stocks constitute an important part of the European economy, with every expectation that this will increase in the coming decade. See, for instance, Subramanian and Kessler (2013).

Inward FDI has an important effect on total employment in the EU. In 2008, for example, the employment share for foreign affiliates in manufacturing in the European Union was 21%, 18% in information and communication, 15% in administrative and support service 13% in financial and insurance activities, but only 3% in construction and 4% in real estate activities. See, for instance, European Commission (2012y).

Chart 12: FDI stocks (as % of EU GDP in current prices)



Source: DG EMPL calculations based on Eurostat, Balance of payments [tec00051,tec00094].

Notes: FDI-OUT = EU-27 stock of foreign direct investment held abroad.
FDI-IN = EU-27 stock of direct investment in EU-27 by extra-EU countries.

Various transmission mechanisms are seen as likely to influence future trends, as indicated below.

Inward FDI affects job opportunities primarily ...

For example, a foreign multinational enterprise seeking to exploit its competitive advantage in the EU has to hire local employees, thereby expanding domestic employment ([47]). This employment impact may go further insofar as the foreign company uses intermediary goods and services produced locally. Such inputs from local firms may, in turn, increase the domestic firm's level of innovation and productivity. See, for instance, Gorodnichenko *et al.* (2010).

... via spillover of knowledge ...

Moreover, employees in foreign-owned companies are likely to receive training and acquire knowledge which could provide the opportunity to move to other companies or even set up their own business – also strengthening domestic productivity and employment. See, for instance, Martins (2011).

By contrast, if multi-national enterprises restructure their worldwide economic activities, job losses may occur in regions where the costs of departure are the lowest for them, without necessarily taking account of the wider socio-economic costs for the areas concerned ([48]).

... and to a lesser extent wages and working conditions, ...

As employees acquire new skills they may receive higher wages in order to retain them and avoid them transferring their acquired skills to other firms. Moreover, foreign firms may often occupy a market position yielding significant rents that employees may be able to partly share, thereby raising their remuneration.

Nevertheless, the evidence of the impact of FDI on wages does not point unambiguously in the direction of higher wages in the EU. See, for instance, OECD (2008). Moreover, while research findings suggest a limited impact on working conditions, a much stronger impact is seen in terms of management practices. See, for instance, Freeman *et al.* (2007) and Bloom *et al.* (2006).

... as does outward FDI ...

Outward FDI limits the resources available to create or maintain jobs at the same productivity level because workers have less capital to work with in the domestic labour market. However, if the aim of outward FDI is to gain market access in order to sell more products and services in international markets, the expanding export markets may trigger positive feedback for local employment.

Although the net impact on total employment may be positive, the evidence suggests that outward FDI lowers the employment share for the low skilled back home. See, for instance, Copenhagen Economics (2010). Moreover, if outward FDI is exclusively motivated by the need to exploit lower unit labour costs elsewhere, this will have a particularly

([44]) Whereby the construction and operation of such infrastructure will also have the potential to create new jobs –– as discussed, for instance, in Box 5 in Section 4 below.

([45]) On the capital account, a distinction has to be made between FDI, i.e. the long-term capital investments, and portfolio investments, i.e. short-term investments (including shares and bonds). This chapter focuses on (long-term effects of) FDI. An analysis of the impact of short-term investments on labour markets is to be found in, for example, ILO (2013) –– which provides empirical analysis of the impact of 'financial globalisation' (which puts pressure on firms to increase profits, especially in the short term) on labour markets.

([46]) Interpreting these stock variables it should be taken into account that FDI stocks include the accumulation of investments over time but also exchange rates movements and other price changes resulting from holding gains or losses. Moreover, it should also be noted that in general FDI flows show a pro-cyclical behaviour. For more details on FDI statistics for the EU see http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Foreign_direct_investment_statistics

([47]) Provided no crowding out of local producers.

([48]) More about offshoring and outsourcing in Section 3.2.3 below.

negative impact on the employment opportunities of the low-skilled.

... but labour markets also affect FDI ...

Several conditions underpin a multinational's FDI decisions, including proximity to new markets, transport costs, etc ([49]), as well as access to a single market and single currency in the case of the EU. Of particular interest in this chapter are labour market conditions, including unit labour cost and labour market institutions ([50]).

... via unit labour costs ...

Studies on the impact of unit labour costs developments on FDI have concluded that inward FDI is significantly less in countries with high unit labour costs, even when taking into account other labour market conditions that affect FDI, such as the availability of a skilled workforce, as well as other FDI drivers such as the distance between home and host countries, the corporate tax burden, etc ([51]).

For instance, Bevan and Estrin (2004) report, using data covering FDI flows towards 11 Eastern European transition economies between 1994 and 2000, a significant impact of unit labour cost, alongside country size and proximity, on inward FDI.

Carstensen and Toubal (2004), using data from seven Central and Eastern European Member States over the 1993–99 period, report that a 1% decrease in the unit labour costs in the host countries relative to the country of origin increases the flow of FDI into the host country by roughly 25 million dollars in the first year, and 37 million dollars in the long term.

Driffield *et al.* (2005) reports, using data covering 13 countries and 11 manufacturing sectors in the UK over the period 1987–1996, that technology differences were a much stronger driver of inward FDI into the UK than unit labour cost differences. Moreover the FDI flow was into sectors where the UK had a technological disadvantage, thereby increasing the demand for skilled labour and decreasing the demand for unskilled labour. By contrast, the UK's outward FDI was mainly to countries where unit labour costs were lower than the UK.

... and labour market institutional factors

Whether labour market institutional factors have an important influence in the context of globalisation is far from clear. For example, Olney (2012) provides evidence ([52]), using data covering outward FDI from the US into 26 countries, for the period 1985–2007, which suggests that reductions in employment protection legislation is associated with an increase in foreign direct investment.

By contrast, Leibrecht and Scharler (2009) found no evidence that employment protection legislation had been a determinant factor regarding bilateral FDI flows to seven Central and Eastern European countries (covering the 1995–2003 period).

Delbecque *et al.* (2007) ([53]) reported that the degree of centralisation of wage bargaining was the institutional labour market factor that most strongly affected the location decisions of French firms, while recognising that this effect was limited compared with other drivers of FDI such as market access.

3.1.2. Free trade agreements

The lifting of international trade barriers via multilateral platforms ...

Trade barriers have an adverse effect on international trade in goods, services, investments and public procurement by preventing countries from fully exploiting their comparative advantages.

Although the World Trade Organisation provides a forum for multilateral trade negotiations (i.e. Doha Development Round), resolving trade disputes, and setting the legal ground rules, a current focus of the EU is on developing bilateral trade relations ([54]).

... and Free Trade Agreements have laid foundations for growth and jobs ...

So far, the EU has negotiated more than 200 Free Trade Agreements ([55]). Agreements of this kind, such as that concluded in 2010 in the EU-South Korea Free Trade Agreement ([56]), create trade opportunities for exporters and consumers by cutting customs duties, improving access for service suppliers and government procurement, tackling non-tariff barriers, ensuring the protection of intellectual property, the enforcement of competition rules and the commitment to sustainable development ([57]).

... and additional job opportunities will follow the implementation of FTA with the United States ...

It is to be expected that, by 2020, free trade agreements with the United States and China will have an important impact on the labour markets of the EU.

For example, ECORYS (2009a and 2009b) ([58]) assess the impact of further trade opening between the EU and US under alternative scenarios. Under its most ambitious FTA scenario ([59]), jobs in

([49]) See, for example, Blonigen (2005).

([50]) Section 3.2.2 below highlights the interaction between globalisation and technological progress.

([51]) Nevertheless, caution is warranted as Bellak and Liebrecht (2009) point out the difficulty of comparing estimates of the impact of labour costs on FDI that are reported in the literature – due to the use of different definitions of 'labour cost', including relative wage cost, relative nominal unit labour cost, relative real unit labour cost, relative wage cost in combination with relative productivity (i.e. with different parameter values), etc.

([52]) Using data on FDI by US multinationals and data on employment restrictions in twenty six foreign countries which collectively account for over three quarters of US outward FDI.

([53]) Using French data covering the 1992-2001 period.

([54]) See, for instance, European Council Conclusions, 7/8 February 2012, EUCO 3/13, available at http://www.consilium.europa.eu/uedocs/cms_Data/docs/pressdata/en/ec/135324.pdf

([55]) Bilateral free trade agreements remove trade barriers between countries so that trade between the involved parties is duty free but members set their own tariffs on imports from non-members. See http://trade.ec.europa.eu/doclib/docs/2011/august/tradoc_148181.pdf

([56]) See, for instance, http://eur-lex.europa.eu/JOHtml.do?uri=OJ:L:2011:127:SOM:EN:HTML

([57]) For detailed assessments of FTA see, for instance, http://ec.europa.eu/trade/policy/policy-making/analysis/sustainability-impact-assessments/assessments/#study-15

([58]) Using a general equilibrium model.

([59]) The policy option with 100% duty elimination in tariffs, 25% reduction of barriers in non-tariff measures for goods and services and 50% reduction of barriers for public procurement (policy option C2 in ECORYS (2009a)). An updated assessment taking into account spill-over effects, economies of scale and imperfect competition by CEPR (2013) provides similar results.

the EU are created for both unskilled and skilled workers with the strongest gains for unskilled workers being in motor vehicles (up by 1.3%), insurance (0.6%) and other manufacturing (0.5%), with the sectors showing the strongest job gains for skilled workers also being motor vehicles (1.3%), insurance (0.6%) and other manufacturing (0.5). Job losses are foreseen, however, in electrical machinery, other transport equipment, metal and metal products, wood and paper products, business services, communication, as well as the personal services sectors.

Since the EU and US have a similar level and distribution of skills, any adverse wage developments that might affect the low-skilled in the case of trade opening with countries such as China are seen to be less pronounced. In fact, an ECORYS (2009a) study estimates that unskilled workers will earn higher wages and that EU wages will increase more than US wages, because of strong growth in sectors that focus on physical production activities such as the automobile sector (strong growth in the EU) or the other machinery sector (strong growth in the US). Overall ECORYS (2009a) foresees average wage increases of the order of 0.8% annually in the EU compared to 0.4% in the US. Under a scenario of only partial liberalisation, however, these estimates are halved.

... and China

The EU and China have recently committed themselves to the early start of negotiations on a trade agreement focused on investment, market access, public procurement and intellectual property rights. Copenhagen Economics (2012) ([60]) projects that, in the medium to long term, such an agreement would only affect job opportunities in certain sectors, even under an ambitious, reciprocal and high spillover liberalisation scenario.

More particularly, increases in job opportunities in the EU are projected for the sectors covering electronic equipment (+0.5 to +0.7%), motor vehicles (+0.5 to +0.6%), transport equipment (+0.3 to +0.4%), metal products (+0.1 to +0.2%), with decreases projected for sectors covering ferrous metals (-0.2%), communication services (-0.2%) and other metals (-0.4%). At the same time, the employment share for the higher skilled is projected to increase in the EU compared with the less skilled, but with wages only seen to be affected marginally, by about 0.1% for both groups.

However, all such projections of trade with emerging economies, and especially China, need to be treated with caution since they are conditioned by many factors, including underlying assumptions concerning local labour costs as well as other cost developments such as industrial real estate, together with the perception of European investors.

3.2. Technological progress and innovation

Future job opportunities will be driven by market exploitation of KETs and ICT ...

The successful application of technological progress will affect labour markets in a number of ways with economic activity continuing to be affected, even at an accelerating rate, by developments in information and communication technology (ICT) and key enabling technologies (KETs) ([61]). These will change what goods and services are produced (e.g. clean vehicles) and how this is done (e.g. 3D printing), creating an important potential for new jobs, see, for instance, European Commission (2012w and 2013d), and Brynjolfsson and McAfee (2012).

Importantly, such technological progress also requires the building, operation and maintenance of new infrastructures (e.g. cloud computing platforms) which will provide job opportunities for low and medium, as well as highly-skilled, workers. However, while technological progress, in combination with further globalisation and the deepening of the Single Market, can create important new job opportunities through outsourcing and offshoring, vertical disintegration, and local clustering, changes in production processes can also have an adverse effect on groups of workers who are not equipped to benefit from such processes.

From a more positive perspective, though, technological progress can have a positive effect on work organisation at company level, with important feedback on job quality and work-life balance, which could lead to higher labour market participation of certain groups of workers, including older and female workers, as well as disabled workers.

... but cost and benefits may be distributed in a dissimilar manner

Finally, and most fundamentally, technological progress, along with other drivers, has the potential to raise the level and growth of productivity. For example, Bartelmans (2013) projects a potential for productivity growth of 2.5% a year over the next generation, assuming that the findings underlying Moore's law ([62]) will continue to hold, and that appropriate framework conditions are in place.

Nevertheless, the impact of productivity growth on jobs, hours worked, output prices, wages as well as profits cannot be determined *a priori* given that labour markets are normally seen to be characterised by imperfect competition and imperfect information. The actual outcome will therefore depend to a large extent on such factors as prevailing preferences, technologies, bargaining power, labour (and product) market institutions, international trade opportunities, taxes, catch-up potential ([63]), etc.

Furthermore, although technological progress will create new job opportunities, these opportunities are unlikely to be distributed equally among the different groups of workers as indicated above ([64]). To the extent that the costs and benefits accrue in very unequal ways to the different groups of workers, support for technological progress is liable to be weakened.

([60]) Using a general equilibrium model.

([61]) Key enabling technologies (KETs) enable the development of new goods and services and the restructuring of industrial processes needed to modernise EU industry and make the transition to a knowledge-based and low carbon resource-efficient economy. They play an important role in the R&D, innovation and cluster strategies of many industries. More particularly, KETs cover micro-/nano-electronics, nanotechnology, photonics, advanced materials, industrial biotechnology and advanced manufacturing technologies. See European Commission (2012w) and HLGKET (2010).

([62]) On Moore's Law. See, for instance, Wikipedia at http://en.wikipedia.org/wiki/Moore's_law

([63]) There is a consensus in the literature that during a period of catch-up in total factor productivity, hours worked will be temporarily high because the incentive to accumulate capital is higher. See, for instance, Alesina *et al.* (2005).

([64]) If not accompanied by adequate labour market policies and reforms.

3.2.1. Catalyst of new job creation

Exploiting the market opportunities of technological progress and innovation aimed at promoting smart, sustainable and inclusive growth is a key goal of the EU based on the development of adequate framework conditions. See European Commission (2012s and 2012t). The following sub-sections address some of the transmission mechanisms in more detail ([65]). Nevertheless, it must also be recognised that it remains a challenge to project this future job potential accurately due to an insufficient evidence base and a lack of deep understanding of its dynamics ([66]).

Unleashing the job potential of key enabling technologies will create new jobs ...

The development of the technologies that support the creation of new goods and services, and the associated jobs, does not occur in isolation, but in a context where many processes are already in place to address the challenges posed by environment pressures, population ageing and globalisation generally.

... by addressing, inter alia, environmental challenges ...

In that respect, an important part of the future job potential could result from implementing the commitments made at EU level to green the economy, involving developments such as cleaner vehicles, more sustainable industrial and construction production processes, as well as a more sustainable use of raw materials. See, for instance, European Commission (2012s) ([67]).

... demographic change ...

Another important source of future job creation could be through the use of technologies that address issues arising from an ageing population, including allowing older people to live more independent and active lives through, for example, the development of various monitoring and detection systems, 'smart homes', electronic medical records. See, for instance, Center for Technology and Ageing (2009) ([68]).

... as well as hyperglobalisation ...

At the same time, cross-cutting advanced manufacturing technologies (AMS) ([69]) that integrate new technologies (such as ICT) and processes, and that are aimed at improving, *inter alia*, production speed, energy and materials consumption, waste and pollution management have the potential to create high-quality jobs (including in manufacturing sectors such as automotive, aerospace, engineering, electronics, etc.). See, for instance, European Commission (2012x) and HLGKET (2010).

As these activities become more and more part of an integrated global value chain ([70]), however, sustaining comparative advantages in international markets for the EU is seen to require continuous product innovation along labour market and social policy practices in line with flexicurity principles, as in the case of many automotive ICT jobs. See, for example, Juliussen and Robinson (2010).

These new jobs would primarily provide opportunities for high skilled workers in small and medium sized enterprises, but they could, in turn, generate job opportunities among intermediary suppliers, who mainly employ lower skilled workers.

... so will further progress in information and information technologies ...

A further exploitation of the market opportunities of ICT can also create additional new jobs through the construction, operation and maintenance of appropriate infrastructure. Even more important, this new infrastructure will then establish a platform for further innovations that will create new job opportunities, for example, for entrepreneurs and micro-enterprises in the 'apps-economy', and it will also affect the organisation of workplaces ([71]) and value chains ([72]), see, for instance, Box 2 ([73]).

... provided they are accompanied by investments in the workforce ...

Nevertheless, the realisation of this job potential may be hindered by a shortage of skilled labour tailored to the multi-disciplinary nature of key enabling technologies and by an insufficient supply of e-skilled workers.

As a consequence, the skills of the workforce will also have to be advanced by adequate policy measures. Such measures include improvement of the image and attractiveness of ICT careers, more aligned degrees and curricula at vocational and university level education that will respond to the needs of the students and the industry, improved recognition of qualifications across countries by stimulating take-up of a European certification scheme for digital skills of ICT professionals, stimulation of digital entrepreneurship, etc., – see the Grand Coalition for Digital Jobs (2013). At the

Box 2: The impact of broadband on jobs in Germany

The development of ICT infrastructure will have a significant impact on job creation. For example, Katz *et al.* (2009) projects that the construction of a network to ensure that 75 % of German households have broadband access of at least 50 Mbps by 2014 (the 'National Broadband Strategy') would create 304 000 jobs between 2010 and 2014. A further expansion of the network, aimed at providing 50 % of German households' access to at least 100 Mbps and another 30 % to 50 Mbps by 2020, is estimated to create well over 225 000 additionally jobs between 2015 and 2020 (i.e. the 'ultra-broadband' strategy). In this projection, once the network is deployed, network externalities (such as enhanced innovation resulting in new services and additional business growth) could create more than an additional 425 000 jobs.

([65]) Employment effects stemming from technological innovations aimed at greening the economy will be discussed in more detail in section 3.4 of this chapter.

([66]) 'The internet is one of the few things humans have built that they don't truly understand,' Schmidt and Cohen (2013).

([67]) See Subsection 3.4 below for more details on the job potential related to the greening of the economy.

([68]) See Subsection 3.3 below for more details on the job potential related to demographic change.

([69]) AMS involve manufacturing operations that create high-tech products, use innovative techniques in manufacturing and invent new processes and technologies for future manufacturing, see HLGKET (2010).

([70]) More on global value chains in section 3.2.3 below.

([71]) See Subsection 3.2.4 below.

([72]) See Subsection 3.2.3 below.

([73]) See also Sabadash (2013) for a comprehensive literature review.

same time, measures will have to be implemented to reinforce the science, technology, engineering and maths graduate base and strengthen the knowledge transfer between researchers and entrepreneurs. See, for instance, European Commission (2009d).

... with important multiplier effects ...

Furthermore, this job creation in core economic activities is also seen to have an important multiplier effect on employment in the rest of the economy because the internet provides a platform to develop new business opportunities, with the local retailer being substituted by the online supplier. For example, MGI (2011b) estimates (using survey data) that in France over the 1996–2011 period, the internet destroyed 500 000 jobs but created 1.2 million other jobs – in other words, 2.4 jobs were created for every job destroyed.

... and with an important impact on labour market dynamics...

Further ICT innovations that decrease search and start-up costs (such as cloud computing ([74])) could also affect labour market dynamics. For example, better information about job vacancies and improved systems to bring together employers and potential employees has the potential to improve labour market matching and efficiency in general, thereby contributing to higher levels of employment.

As start-up costs decrease, it can make it easier for innovative self-employed people to access markets ([75]) although it is recognised that the exploitation of this job potential can face serious bottlenecks ([76]) including both business and labour market regulations, as well as the limited availability of skilled workers, and the stigmatisation of business failure ([77]).

... but labour market conditions will also affect the capacity to innovate

While technological progress and innovation are seen as important drivers of new jobs in the period to 2020, the efficiency of labour markets and the availability of appropriately skilled workers are likely to be factors having an important impact on the capacity to innovate and commercialise new products and services.

More particularly, persistent e-skills shortages, gaps and mismatches ([78]) could affect negatively employment opportunities by 2020. Nevertheless, such outcomes can be avoided by adequate policy responses at EU as well as national level – as outlined in the European Commission (2007d and 2010e). This will then require, inter alia, that workers have an incentive and opportunity to acquire e-skills which can regularly be updated using e-learning. In order to optimise job potential, such e-skills should then be tailored to the needs of both the public and the private sector (especially small and medium sized enterprises (SME)) and should focus particularly on young people (especially girls), unemployed, elderly people, people with low education levels, and people with disabilities ([79]).

In addition to these skills concerns, general labour market weaknesses, including the hysteresis effects following long periods of high unemployment, are also likely to have an unambiguous negative impact on the pace of technological progress, innovation and reallocation of labour ([80]).

The effects of institutional arrangements, including employment protection legislation and unemployment benefits are less clear. Indeed, it can be argued, for example, that employment protection legislation may strengthen the incentives for both employer and employee to invest in firm-specific human capital, which is seen as an important condition for continuous long-term innovation in business. However it may also have an adverse impact if it prevents the reallocation of labour across enterprises, regions, and sectors in times of change. This is particularly the case for firms close to the technology frontier for which experimentation is the driving force of innovation. See, for example, OECD (2013b).

3.2.2. Skill-biased technological progress

Technological progress will not always uniformly affect ...

There is a long-standing debate about the extent to which technological progress has had an impact on the skill composition of labour demand and related remuneration ([81]), and what this implies for future developments.

... employment opportunities ...

To start with an extreme example, it is rather obvious that the use of robots in the manufacturing process reduces the demand for unskilled workers at that stage of production. However the more general issue of whether it is technological progress in production processes or the increasing globalisation of markets that is behind the recent polarisation in labour markets is far less clear-cut.

For example, Autor (2010) ([82]) and Goos *et al.* (2009) ([83]) report that job polarisation is primarily generated by the automation of routine work, rather than the international integration of labour markets through trade and offshoring. Nevertheless, some non-routine

([74]) Cloud computing will be discussed in more detail in section 5.2.1 below.

([75]) All in all, it is estimated that at present about 30% of new start-ups are web start-ups and that it is has strong potential to rise by 2020 –– see European Commission (2013c). For a more in-depth assessment of web-entrepreneurship see the Entrepreneurship 2020 Action Plan which tables short and medium term specific actions to improve the situation of web entrepreneurs.

([76]) Other barriers to web entrepreneurship include limited access to finance (because of the high-risk profile), protection of intellectual property rights, etc. See European Commission (2013c).

([77]) Indeed, enterprises operating in the 'apps economy' – which is a sector subject to borderless competition – carry a strong risk of failure. Hence, in order not to stifle entrepreneurship and give a second chance, the period of liquidation until the bankrupt are free from debt should be kept as short as possible.

([78]) Shortage refers to an insufficient number of skilled people in the labour market or in an occupational segment; gap refers to a competence shortfall between the current and needed competence levels of individual staff within organisations; mismatch refers to a mismatch between the competence of the trainee or graduating student/learner and the expected competence needs of the employers. Mismatch is assumed to arise from course/curricula misalignment. For more details, see, for instance http://ec.europa.eu/enterprise/sectors/ict/e-skills/extended/index_en.htm. The digital divide is discussed in the next sub-section.

([79]) See http://ec.europa.eu/enterprise/sectors/ict/e-skills/index_en.htm

([80]) As discussed in the following sections.

([81]) See, for instance, Acemoglu and Autor (2010).

([82]) Using data covering the 1993–2006 period for the US and 16 European Union Member States.

([83]) Using EU Labour Force Survey data for 16 EU Member States covering the 1993–2006 period.

tasks done by manual workers (such as cleaning, child care, hairdressing) may be largely unaffected by technological progress ([84]).

Furthermore, Vivarelli (2007) argues that the impact of technological progress depends largely on the form of innovation and the level of unit considered (firms, sectors, or the whole economy). Indeed, some product innovations that lead to an increase in total consumption, such as the development of mobile phones, may stimulate total employment and, on balance, reduce wage inequality.

Moreover, it is important to recognise that the transmission mechanisms described above capture only partial equilibrium adjustments and that, to the extent that globalisation and technological progress raise total incomes due to increased productivity, it will depend on the relative income elasticity of demand for goods and services as to the extent that this induces shifts in job composition, see for instance, Goos *et al.* (2010).

... and earnings ...

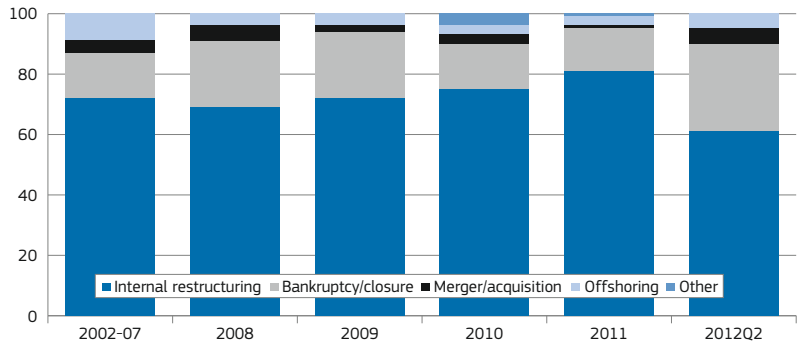
Technological progress will lead to higher productivity for workers who have the skills to operate the new technologies, who are liable to see their wages increase as new technologies are introduced.

However, the productivity of those who lack the skills to operate the new technologies is liable to remain the same, to the extent that they are not actually replaced by the new technology, which will have a negative impact on their relative wages. This is considered to be particularly the case with regard to routine non-manual work done by medium-skilled workers. See, for instance, Autor and Don (2013).

... while the resulting polarisation may affect technological progress

Finally, note needs also to be taken of the mutual interaction between the drivers of changes and labour market developments. Indeed, while skill-biased technological progress may induce labour market polarisation ([85]), such polarisation may, in turn, impede further technological progress if it hinders the upward mobility of low-skilled workers.

Chart 13: Share of announced job losses (%) by type of restructuring 2002 to 2012Q2



Source: Eurofound EMR.

Note: Select group of 85 companies across EU.

3.2.3. Offshoring

Technological progress not only affects the nature of the goods and services that will be produced by 2020, but also where they will be produced.

Expanding global value chains...

In the past, enterprises often faced underdeveloped or uncertain supply networks leading them to develop complex production processes with the full integration of the supply chain under a single ownership (vertical integration).

However, by 2020, globalisation, technological progress, and the building of international network infrastructures that facilitate communication and transactions, are expected to have strengthened the ability of large firms to relinquish much of the direct control of non-core activities to suppliers who specialise in narrow niches of the value chain ([86]), thereby enhancing innovation and productivity and reducing costs through competition. See, for instance, OECD (2007b) and OECD (2013a). On the other hand, the development of global value chains may be tempered, with some sub-contract work brought back 'in house' in order to avoid being subject to unpredictable failures in the supply chain, whether due to unpredictable natural disasters (e.g. the March 2011 Tohoku earthquake and subsequent tsunami in Japan) or labour unrest (e.g. striking air pilots). See, for instance, SCRLC (2011).

... will affect job opportunities ...

Vertical disintegration will have an impact on job opportunities although, as Chart 13 shows, the share of job losses due to offshoring over the 2002–12 period (in a study of 85 companies across Europe) ranks third among the reasons for restructuring, with internal restructuring being by far the strongest reason for job losses, followed by bankruptcy and offshoring. Moreover, during the years of economic downturn from 2008 to 2012, the share for offshoring was actually lower than during the pre-crisis period 2002–07, see Eurofound (2012c) for more details.

Nevertheless, it should also be noted that globalisation, along with technological progress, may indirectly lead to job losses through internal restructuring and bankruptcy. Furthermore, the net employment effect of international outsourcing may be lower than expected insofar as the outsourcing of non-core tasks provides inputs at lower cost and enables the company to focus more on core tasks where it has a comparative advantage, and thereby create new jobs.

... but differently according to contract type ...

An analysis of historical data suggests that the effects of international

([84]) In these studies it is also claimed that labour market institutions (including labour union penetration and real minimum wage) are of minor importance. Note that these studies cover mainly periods prior to the severe economic downturn that started in 2008. This issue will be investigated in more detail in Section 4.1.2 below.

([85]) See Section 4.1.2 below for more details.

([86]) Technological progress can also be a driver of outsourcing because it may become too costly for firms to keep up with the latest developments in some niche of the production process. Outsourcing it to a firm specialising in it may then save costs, see for example, Bartel *et al.* (2008).

outsourcing will tend to generate different outcomes for different subgroups in the labour market. For example, a study by Möhlmann and Groot (2013) ([87]) reports that job losses in the Netherlands following domestic and international outsourcing were often higher among employees on temporary contracts, often involving female employees, younger employees, and employees born in low income countries. Moreover, former employees of firms that had outsourced internationally were somewhat less likely (by about 9%) to find a new job in the Netherlands ([88]).

... age and skill type, ...

Bachmann and Braun (2011) ([89]) report that, while the effects of international outsourcing had no overall negative impact on labour market performance in Germany, the distribution was not uniform with a negative effect on medium-skilled workers in the manufacturing sector, and a positive one for highly-skilled workers in the service sector. International outsourcing had a generally unfavourable impact on older workers, which may be due to the fact that they were less likely to fulfil the new skill requirements.

... and sectors...

Timmer *et al.* (2013) ([90]) report that the deepening of global value chains had primarily led to reductions in jobs in manufacturing in the EU, but that this was off-set by increases in the number of jobs in the services sector. See also Foster *et al.* (2013).

Blinder (2009) identifies jobs with the strongest 'offshorability potential' in the US to include ([91]) computer programmers, data entry keyers, electrical and electronics drafters, actuaries, mathematicians, statisticians, etc. Jobs with average 'offshorability potential' ([92]) include materials scientists, electrical and electronic equipment assemblers, engine and other machine assemblers. Jobs with the least 'offshorability potential' include postal service mail sorters, processors, and processing machine operators, advertising sales agents, photographers, music directors, health and safety engineers, etc.

... at an accelerating pace by 2020

Finally, it is to be expected that past and current trends will be reinforced by 2020 due to further developments in communication and transaction technologies. See, for instance, Subramanian and Kessler (2013). Nevertheless, to the extent that bargaining power of domestic employers and employees vis-à-vis foreign GVC partners are not balanced, a fair distribution of gains (including remuneration) may be absent thereby hindering societal support for further expansion of GVCs. See, for instance, UNCTAD (2013).

3.2.4. Workplace innovation

Workplaces will adjust ...

Technological progress and innovation are also expected to have an impact on what happens at the workplace, although not all the channels through which innovation due to technological progress will impact future workplaces can be identified given the shortage of quantitative evidence about different types of workplace practices. Nevertheless, several channels are recognised, including teleworking, flexi-time, employee empowerment and autonomy, task rotation and multi-skilling, team work and team autonomy. See, for instance, Beblavý *et al.* (2012) ([93]).

... creating new job opportunities...

Workplace innovations, inasmuch as they improve the quality of work, may affect the choices of different groups, notably older workers and female workers, concerning retirement decisions, and labour market participation more generally. See, for instance, European Commission (2011a).

Moreover, there are expectations, based on business practices of some forward thinking companies in hi-tech and communications areas, that a high job quality business environment can produce a virtuous circle of innovation ([94]), productivity growth, and rising incomes.

Finally, the combination of globalisation, technological progress and further deepening of the Single Market will also create employment opportunities in globally networked companies, although this type of work may also have an adverse effect on the work-life balance of employees required to be almost permanently on call.

... provided the change is well-embedded in social dialogue

While workplace innovation is seen to have the potential to create a broad range of employment opportunities, it is also seen to require systems of effective employee participation and dialogue in order to ensure that the benefits of improved organisational performance are appropriately shared between employees and employers, as well as among different categories of employees ([95]).

3.2.5. Catching-up potential of some Member States

Technological progress in labour markets has not been evenly spread across Member States.

ICT user skills

In most Member States the share of persons employed with ICT user skills in total employment increased between 2001 and 2010 with the notable exceptions of Italy and the Netherlands, where the proportion actually decreased, as seen in Chart 14. However, significant differences remain between Member States, with the highest percentage found in Luxembourg (31%) and the lowest in Romania (9%).

([87]) Using Dutch micro-data covering the 2001–06 period.

([88]) Nevertheless, they report also that employees were 32 per cent less likely to lose their job if they worked in a firm that outsourced internationally, and 52 per cent more likely to lose their job if they worked in a firm that outsourced domestically.

([89]) Using German administrative micro-data covering the 1991–2000 period.

([90]) Using the World Input-Output Database which is available at www.wiod.org. These tables provide a time-series of world input-output tables (WIOTs) from 1995 until 2008. It covers forty countries, including all EU- 27 countries and 13 other major advanced and emerging economies.

([91]) See Appendix of Blinder (2009) which ranks 291 occupations by off-shorability.

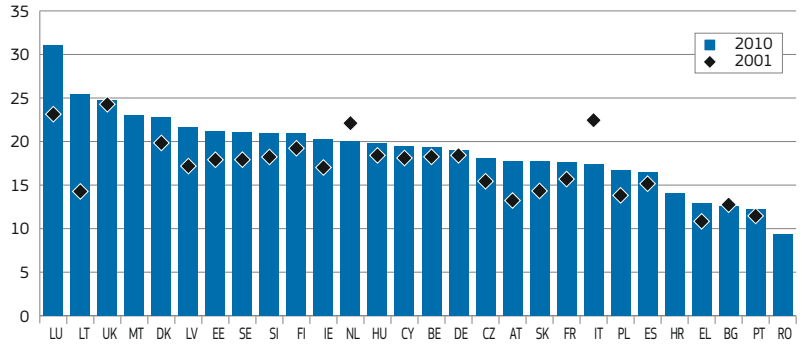
([92]) I.e. ranked at about the 150th position in Annex of Blinder (2009).

([93]) Using data from the European Working Conditions Surveys available at http://www.eurofound.europa.eu/surveys/ewcs/index.htm

([94]) Although this hypothesis clearly requires some rigorous testing.

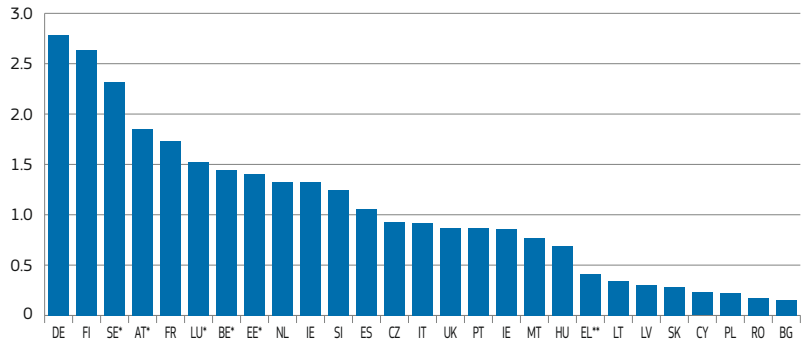
([95]) See, for instance, http://ec.europa.eu/enterprise/policies/innovation/policy/workplace-innovation and Pot (2010).

Chart 14: Percentage of employed persons with ICT user skills in total employment



Source: Eurostat, Information society statistics [isoc_ic_biski].

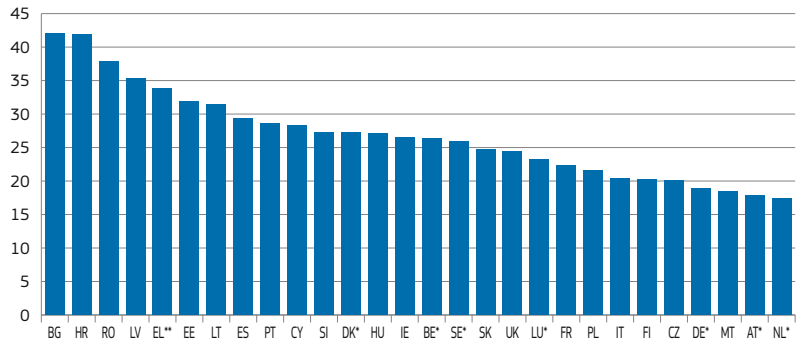
Chart 15: Share of total R&D personnel and researchers



Source: DG EMPL calculation based on Eurostat, Statistics on research and development [rd_p_bempoccr2 and nama_nace10_e].

Note: R&D personnel as a percentage of employment in business sector (i.e. sum of NACE_R2 sectors B+C+ ... M+N). 2010 observations, except Member States with * 2009 and with ** 2007.

Chart 16: Share of female R&D personnel in total R&D personnel



Source: DG EMPL calculation based on Eurostat, Statistics on research and development [rd_p_bempoccr2 and nama_nace10_e].

Note: R&D personnel as a percentage of employment in business sector (i.e. sum of NACE_R2 sectors B+C+ ... M+N). 2010 observations, except Member States with * 2009 and with ** 2007.

Research, development and innovation

Technological progress is driven to a large extent by the quantity and quality of resources devoted to education, research, and innovation. Chart 15 shows R&D personnel as percentage of employment in the business sector in 2010. Strong differences between Member States are evident, with more than 2.5% of total employment in the business sector in Germany devoted to R&D against negligible proportions in most of the Member States that joined the EU in 2004 or later.

Chart 16 shows the share of female R&D personnel in total R&D personnel. In no Member State is the share of female workers in R&D larger than the share of male workers. However, the Member States with the lowest share of total R&D personnel and researchers, namely Romania and Bulgaria, have the highest share for female R&D personnel in total R&D personnel.

3.3. Demographic change

3.3.1. Changes in labour supply

More people will become available for employment ...

An ageing population, increasing female labour market participation, changes in both family structures and the labour market for young people, together with evolving patterns of migration, will give rise to both challenges and new job opportunities by 2020.

On the supply side, demographic changes will be associated with an increasing need for job profiles that match the individual and household characteristics of older, female and young workers while, on the demand side, these same demographic changes will call for the creation of new jobs in areas of social services, including services for elderly people and child care.

... due to active ageing ...

By 2020 the share of older workers in the total labour force is foreseen to rise as the population ages and older people are encouraged to work longer and retire later. See, for instance, European Commission (2011a). At the same time, the share of the low-skilled in the total labour force is seen to decrease as current generations of older workers are replaced by older workers with higher skill and education levels.

... stronger female labour market participation, ...

By this time the gender composition of employment is also expected to become more balanced for several reasons. These include better education (which is correlated with higher labour market participation and later retirement), a rising number of single-person households (which is correlated with stronger labour market participation), the further implementation of technological innovations (including virtual workplaces which will provide workers the opportunity for a better work-family balance), more equal sharing of caring for children and the elderly, availability of quality and affordable childcare facilities, tax-benefit systems providing the right incentives, efforts to close the gender pay gap, more women in MINT jobs ([96]), as well as combating horizontal and vertical segregation. See, for instance, Dahl *et al.* (2002), European Commission (2011a) and EGGE (2009).

However, it should also be noted that prime aged women belong to the so-called 'sandwich generation' often caring for both children and frail parents and that, by 2020, the dependency of the 'baby-boom' generation is expected to have increased, which could then become a negative factor in terms of the labour market participation by women.

... and stronger youth employment

It is commonly assumed that an ageing population requires older workers to stay employed longer and to retire later if European economies are to achieve sustainable growth and a high level of social cohesion. See, for example, European Commission (2011a). Nevertheless, the economic benefits of keeping older workers in their jobs will only be ensured if their wages are not higher than their productivity. Moreover the adequacy of older workers to their hitherto jobs cannot be taken for granted. For example, in some professions like air and sea pilots or train and truck drivers the speed in capturing information (eyesight, hearing and concentration), analysing and reacting to it may make replacement necessary before the mandatory retirement age. The ideal solution would be adapting wages to productivity including, if needed and possible, by a redeployment of older workers to jobs where their salaries and productivity would be aligned. But this is not always possible within a given firm or sector.

In the current economic downturn, with very high levels of youth unemployment in many Member States, the focus of the debate has shifted somewhat towards securing employment opportunities for young people rather than the older people. In general, success in ensuring adequate job opportunities for the young in 2020 is likely to depend on the adoption of a comprehensive set of measures along the lines described in the 'Youth on the Move' strategy ([97]), which covers measures ranging from a better match between young people's skills and labour market requirements to more effective actions to remove institutional obstacles to hiring young people.

3.3.2. Changes in labour demand

At the same time new needs will have to be met, inter alia,...

An ageing population and increasing female labour participation will affect the nature of demand for goods and services – as the following examples illustrate.

... of older people who want to stay active for longer in the labour market ...

In order to retain older workers in employment, more intensive personalised services – such as guidance, counselling or outplacement – are likely to be needed. See, for instance, European Commission (2011a). The health status of older workers is particularly important in this respect since it can significantly affect decisions regarding labour market participation.

Poor health affects both employability and earnings potential because it leads to lower productivity, greater absenteeism and fewer opportunities to update skills and knowledge – all of which may change workers' preferences and provide an incentive to retire early. Moreover, in a family context, the poor health of a partner may induce people to allocate more time for care – which is especially relevant for older workers. See, for instance, European Commission (2011) and Eurofound (2012d).

One consequence of this is that, by 2020, job opportunities for providers of health service for older workers and elderly care are expected to increase.

... as well as of older people who want to continue to live an independent life...

As the share of those aged 65 or more in the total population is projected to grow from less than 17.5 % in 2010 to over 20 % in 2020, the demand for the treatment of multiple chronic conditions will likewise increase. As a consequence, future job opportunities are expected to emerge from the need to provide long-term care in an ageing society, including prevention, rehabilitation, and better ways of delivering care – all of which would be expected to lead to increased demand for nursing, psychiatric, and home health aides. See, for instance, European Innovation Partnership on Active and Healthy Ageing ([98]).

... and women

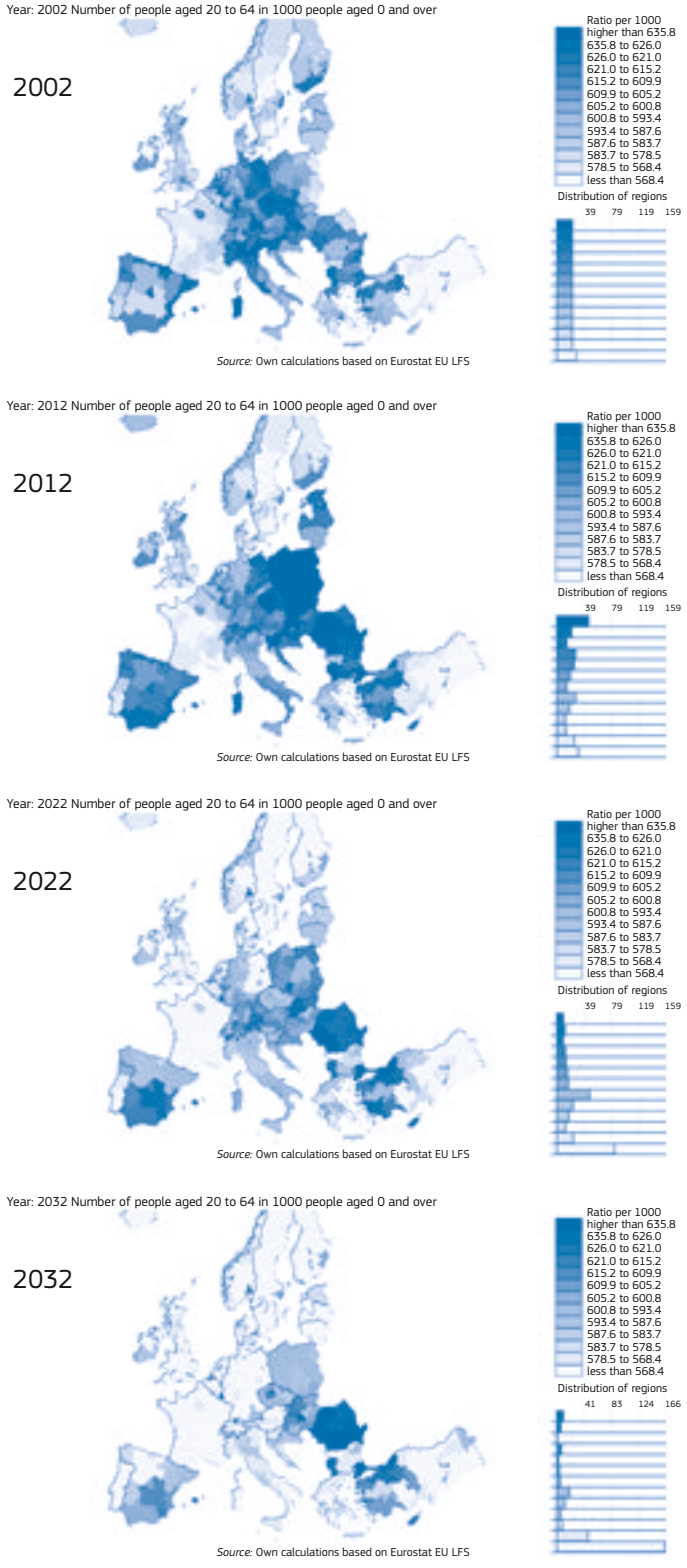
Rising labour market participation by women, and rising numbers of single-parent families, will likewise increase the demand for household services such as child care, cleaning services, gardening, etc. Such jobs are often seen as relatively low skilled. However, they often require 'people' skills which may depend on personal characteristics as much as formal training and this may provide stable long-term employment for the right people.

([96]) MINT abbreviation for Mathematics, Informatics, Natural sciences and Technology.

([97]) See also European Commission (2012e).

([98]) Available at http://ec.europa.eu/research/innovation-union/index_en.cfm?section=active-healthy-ageing

Chart 17: Share of working age population (aged 20-64) in total population 2002-32 under positive future employment scenarios



Source: EU-LFS provided by Eurostat and DG EMPL calculations based on DG EMPL's regional socio-demographic projection tool.

Nevertheless, even such low-paid jobs may still be too high in their costs. Therefore, the job potential of such activities could be enhanced by a direct intervention in the price paid by the user, for example, by providing services vouchers that are targeted at specific tasks, but where the consumer pays only part of the real price with public authorities paying the difference – see European Commission (2012c) ([99]).

3.3.3. Regional differences

The Commission's Eighth Progress Report on Economic Social and Territorial Cohesion reviews the severe impact that the current economic crisis has had on the EU's regions, viewed at the level of the 270 NUTS-2 regions ([100]). It focuses on rising unemployment and the negative impact on GDP growth in the vast majority of EU regions between 2008 and 2012, bringing to a halt the tendency towards declining regional disparities that had previously been observed (European Commission (2013e), pp. 10–11).

This section looks forward, however, and considers how projected demographic developments are likely to impact on Europe's regions over the next two decades. It examines the extent to which different NUTS-2 regions are affected by ageing populations and a shrinking workforce, based on a 20-year projection using the DG EMPL's socio-demographic projection tool and the EU Labour Force Survey data. It is important to go beyond the EU 2020 time horizon as the EU workforce is projected to decrease more quickly from next decade on.

Demographic dependency will multiply in many regions ...

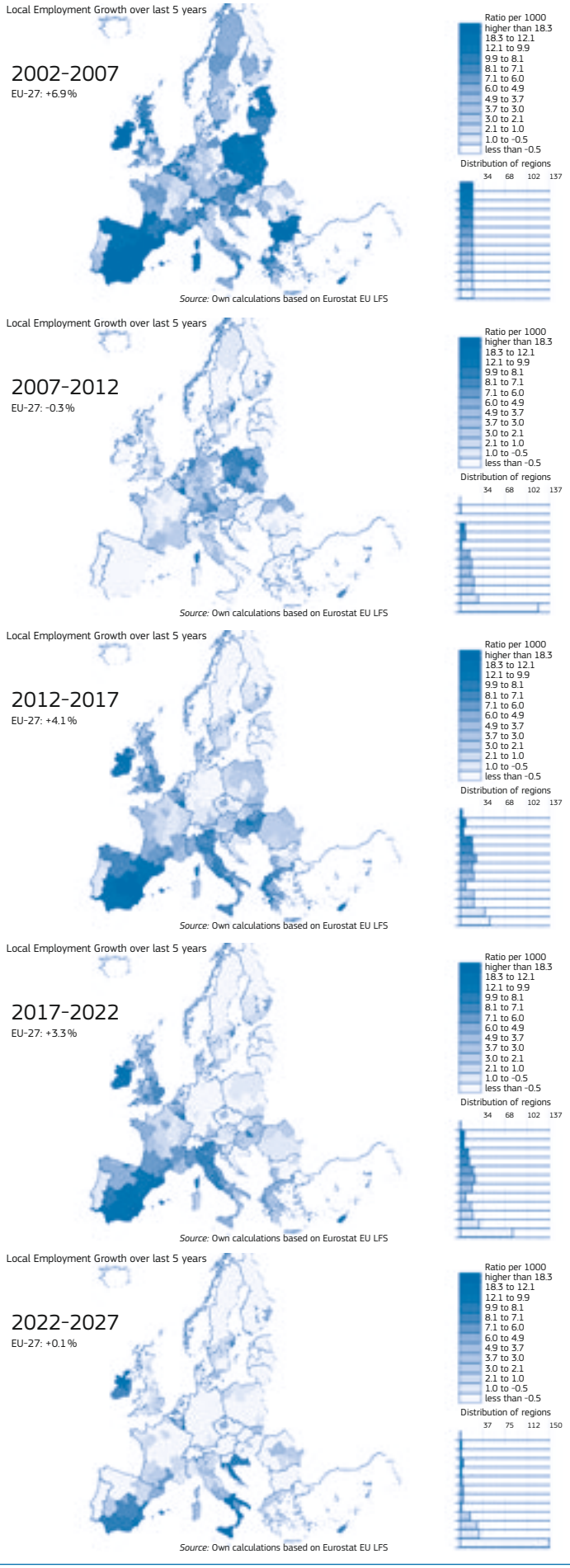
Chart 17 shows the total dependency ratio, defined as the share of the working-age population (WAP) in total population in each of the NUTS-2 regions in the EU, with the darker coloured regions having the highest share.

During the last 10 years, around half of the EU's NUTS-2 regions had declining demographic dependency, with WAP still growing, baby-boom cohorts still part of the workforce, with the decline in fertility that had been reducing the WAP in other parts of the EU being delayed in Eastern Europe.

([99]) Such a system exists, for example, in Belgium for activities done at home (cleaning, laundry and ironing, cooking and sewing) and outside the house (shopping, ironing in an ironing station, and providing assistance with the transportation of persons under specific conditions). European Commission (2012c) extrapolates the Belgian system to the EU (by taking into account the respective size of both populations, simple multiplication by 50) yielding 4 million of new jobs in housework services –– at a net cost of 1.2 billion euros.

([100]) For an explanation of the NUTS (Nomenclature of territorial units for statistics) see http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction

Chart 18: Potential employment growth (aged 20–64) in EU regions assuming optimistic employment rate scenarios



As those cohorts reach working age, however, the situation is reversing quickly. The next 10 years will see a projected increase of total demographic dependency in almost all EU regions, with the situation becoming aggravated in the second decade of the century. Moreover, this trend is expected to continue up to 2032 (the regional model's maximum projection horizon).

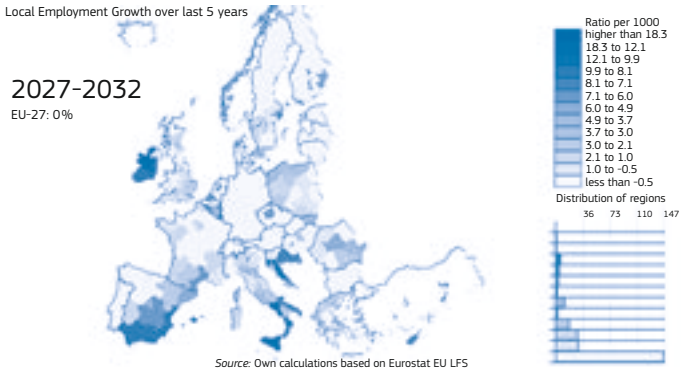
While the trend in Eastern Europe may be delayed, the fertility decline is much more pronounced than in other countries, and the shift towards higher demographic dependency in Eastern Europe is expected to be much stronger after 2030. For example, by 2032, Romania's dependency would still be the lowest as can be seen in the sub-chart although, according to Eurostat's Europop2010 projection, by 2060 it will be one of the highest in the EU (i.e., the share of working-age in total population in Romania being one of the lowest by 2060).

Chart 18 shows that growing total demographic dependency is projected to hit many regions hard over the next two decades. In 2012, 40% of all EU NUTS-2 regions are projected to show a share of WAP in total population of below 60% but by 2032 around 86% of NUTS-2 regions in the EU would be in this situation. Many regions in Germany (particularly Eastern Germany), Austria or Italy face strongly increasing dependency as low fertility cohorts enter working age and/or those regions showing negative mobility balances.

... ...while regional employment will be strongly driven by demographics and local mobility trends

Looking over the next two decades, the working age population is projected to decline in two thirds of the EU's regions which will have a direct impact on potential regional employment. DG EMPL's regional socio-demographic projection tool allows for a projection of regional employment, taking on board the *national* EU2020 employment rate targets for the year 2020, broken down to the regional level ([101]).

([101]) For technical reasons, those are applied to the year 2022 and then broken down to NUTS-2 level in a way as low-employment regions contribute more to achieving the national target than those showing high employment rates today (update of Peschner (2012), pp. 220–224).



Source: EU-LFS and DG EMPL calculations based on DG EMPL's regional socio-demographic projection tool.

The chart shows the observed and projected annual average regional employment growth of the age group 20–64 across Europe over different 5-year periods. The darker the colour, the higher the employment growth is. As can be seen, the second sub-chart shows how employment growth virtually collapsed in many regions in the course of the current crisis, becoming negative in almost half of all NUTS-2 regions.

For the current decade the model assumes full compliance with the goals of EU2020 ([102]) in that regions increase their employment rates to meet the national employment-related targets for 2020 set out in their April 2011 National Reform Programmes ([103]). Such a scenario implies that a particularly strong effort will have to be made by a number of Mediterranean countries' regions, although little further action is needed in Germany or the Nordic countries where local employment rates are already above average. Doing so would thus lead to the envisaged 75 % average employment rate for EU-27 by 2022 (up from 69 % today). Under these assumptions, total employment growth over the ten years between 2012 and 2022 would need to amount to 7 %, with almost half of all EU NUTS-2 regions seeing employment grow by this rate or more, despite a decline in their workforce.

For the years after 2022, it is assumed that those regions still lagging behind an employment rate of 75 %, will manage to reach that level by 2032. This particular assumption implies a major leap for most regions of Southern Italy or Spain, leading to an EU-27-average employment rate of slightly above 77 % by 2032. However, even under these assumptions, the EU's average employment growth in the years around 2030 (see last sub-chart) will be around zero, with almost 60 % of the EU's NUTS-2 regions showing negative employment growth.

As a result, the decline of working age population will pose huge challenges for a number of EU regions. At national level, with employment growth stagnating or even negative, productivity growth would become the main source of economic growth in almost all Member States even under the most generous assumptions concerning employment growth, see Peschner (2012) and Peschner/Fotakis (2013).

In regions facing massive outward mobility, the problems would become even more urgent. The Commission assessment finds that 'outmigration will reinforce the natural aging process' with mobility across regions and national borders being one of the core rights of EU citizens and an indispensable source of employment growth. However, regions facing a continuous outflow of potential workers and increasing demographic dependency are likely to rely on national and EU transfers to alleviate the imminent economic and social implications. Under such circumstances, the supply of the most important public goods, such as care, housing or infrastructure will become increasingly difficult to ensure (European Commission (2008d), p. 11).

Over the next 20 years, a large number of regions in Eastern Germany or Eastern Europe are projected to see two-digit declines in their working-age population, with a number of locations facing declines of 20 %, or even 30 %. It will be very difficult to compensate such severe losses through productivity gains within the local industries. Moreover, much will depend on the effectiveness of national and EU Cohesion Policy in encouraging and assisting local investment in human capital in order to improve and protect the competitive positions of these areas. In that respect, the Commission's 2010 Cohesion Report (European Commission (2010i), p. 231) concludes that 'creating … a social infrastructure and social services is an important part of Cohesion Policy to ensure that young qualified people have the incentive to stay. Cohesion Policy should make sure 'not only that there are sufficient employment opportunities for people of working age but also adequate social and cultural facilities'.

3.4. Greening

The overall impact on the volume of employment in the EU of the ongoing transition to a more low-carbon, resource-efficient and climate-resilient economy is expected to be rather modest by 2020 ([104]), with the most important effects being seen in terms of the changing composition of employment and the associated job profiles. See, for example, Cambridge Econometrics (2011).

The nature of these future employment outcomes are expected to be particularly influenced by the impact of policies intended to mitigate further climate change and strengthen resource efficiency, as well as by the need to adapt to already ongoing changes in the environment. In these respects, the employment effects will depend to a large extent on the type of instruments used to attain the policy targets (notably whether they depend on tax changes or legal regulations), and on the nature of the technological innovations involved (notably whether or not they are capital intensive, and the extent to which they generate demand for high or low skilled workers). See, for instance, European Commission (2012j).

([102]) For the EU as a whole the EU2020 strategy adopted in 2010 foresees a 75 % employment rate for people aged between 20–64 years by the year 2020 (starting from below 69 % in 2010, with little progress seen so far). For technical reasons we draw on 2022 instead of 2020.

([103]) See http://ec.europa.eu/europe2020/pdf/targets_en.pdf on the employment-related national targets for the year 2020 (second column). For countries with a target range the upper threshold will be assumed. For the UK, in the absence of a national target, it is assumed that the target be 81 % –a necessary assumption in order to arrive at 75 % average for EU-27.

([104]) This assumes no change in the overall level of aggregate demand in the economy. In the circumstances of a recession, however, policy action to green the economy could form part of a policy stimulus with a positive impact on total employment.

The current assessment is that, by 2020, the effects of actions taken to mitigate the effects of climate change will have had a stronger impact on employment than a more general adaptation ([105]) to environmental change although this is likely to vary considerably from locality to locality. See, for example, European Commission (2009a).

Moreover, a general greening of the economy, accompanied by the associated technological progress, is expected to significantly affect working conditions and skill requirements, although the way this develops in practice will very much depend on the interaction between governments – who are the main initiators of green growth – and the market and technological responses of both private and public sector enterprises. As a consequence, the realisation of the growth potential of economic greening in terms of employment outcomes is neither automatic or easily predictable.

Finally, as greening of the economy will have a strong impact on skills needs and training needs ([106]), social partners are developing initiatives, at different levels (European, national, sectoral, regional and company) to ensure a smooth transition towards a green economy. While the crisis has reduced public funding for green employment initiatives overall, the European Social Fund (ESF) provides support for new initiatives. See, for example, European Commission (2012aa) and European Commission (2010b).

3.4.1. Adaptation

Adaptation to changes in the environment, including climate change, will clearly affect employment opportunities across many sectors and regions – see European Commission (2013f). However, the sectors seen as most likely to undergo significant changes in employment in the long run include agriculture and fisheries, beach and skiing tourism, infrastructure building, energy supply, construction and finance and insurance. Likewise, the regions seen as most likely to undergo significant changes include coastal zones, densely populated floodplains, and mountainous areas. See, for instance, ETUC (2007), OECD (2008) and Muller *et al.* (2013).

In terms of new job opportunities, adaptation to climate change is also seen to have a positive effect in, for example, the provision of services related to health, sanitation, access to clean water, etc. See, for instance, ETUC (2007). Nevertheless, by 2020, job opportunities in response to adaptation are expected to be driven primarily by efforts to build new infrastructures to deal with the issues that are likely to become more pressing after 2020, such as the strengthening of inland flood defences or of sea dikes ([107]).

3.4.2. Mitigation

Mitigation will affect jobs via ...

Further reductions in greenhouse gas emissions and the strengthening of resource efficiency are seen to have a strong impact on the job potential in the EU by 2020 ([108]), being driven by the building and operation of new infrastructures as well as by taxes and regulations that are needed to 'push' and provision of information about energy and environmental performance that are needed to 'pull' producers, consumers and governments to act in a more sustainable way ([109]).

... infrastructure building...

Job opportunities would result from the operation and maintenance of the infrastructure (especially, renewable energy infrastructure) built to reach the Europe 2020 green targets, but, given the long lead times required, they could also arise from the building of new infrastructure with a view to reaching targets related to the 2050 resource efficiency targets (see European Commission (2011c)).

While the construction of new infrastructure would be expected to provide job opportunities mainly for skilled workers in the initial phase, job opportunities for the less skilled should follow, provided they are able to adapt (with or without appropriate support) to the types of work that emerges.

... and shifts towards greener economic activities, including renewable energy, ...

Greening the economy will also affect how goods and services are produced and consumed, with important impacts on the allocation of job opportunities as the following examples illustrate.

An important source of strong job creation by 2020 is seen to be the development of renewable energy, which is projected to increase its employment share in energy production from 19% in 2010 to 32% by 2020 (i.e. about 3 million people by 2020) with the generation from wind power expected to increase substantially, while the share of hydro power (currently the highest) already close to capacity. See, for instance, Cambridge Econometrics *et al.* (2011).

The counterpart of this increased supply of renewable energy will be a decrease in 'traditional' fossil-based energy providers but, since the labour intensity of the renewable energy sector is higher than that of the fossil energy sector, a net increases in employment is to be expected from this transition. Furthermore, to the extent that Europe can gain a leading position in the exploitation of renewable energy, it can increase its export markets, yielding additional job opportunities.

... energy efficiency, ...

Future job opportunities will likewise be affected by ongoing efforts to improve energy efficiency ([110]). For example, the

([105]) Adaptation means anticipating the adverse effects of climate change and taking appropriate action to prevent or minimise the damage they can cause, or taking advantage of opportunities that may arise – see http://ec.europa.eu/clima/policies/adaptation/index_en.htm; http://climate-adapt.eea.europa.eu/ as well as GHK (2010).

([106]) Whereas dimensions such as career and employment security, working time and health and safety would be less affected.

([107]) See, for instance, the Deltaplan in the Netherlands at http://www.deltawerken.com/The-Deltaplan-/92.html

([108]) Based on Cambridge Econometrics *et al.* (2011).

([109]) The net impact on jobs will be affected via direct channels that stem from changes in expenditure (such as for example the shift in investment from the fossil fuel energy sector to the renewable energy sector), indirect channels linked to the supply chain (with for example a different impact for suppliers to fossil fuel energy sector and the renewable energy sector) and induced jobs caused by changes in relative prices and incomes across the economy. Estimates of these distinct effects can be found in for example Cambridge Econometrics (2011) and ECORYS (2012).

([110]) As outlined in Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, available at http://ec.europa.eu/energy/efficiency/eed/eed_en.htm. 'Push' and 'pull' drivers of improved energy efficiency include the removal of barriers in the energy market and overcome market failures that impede efficiency in the supply and use of energy, covering inter alia insufficient awareness and capacity of market actors and institutions, national technical or administrative barriers to the proper functioning of the internal energy market or underdeveloped labour markets to match the low-carbon economy challenge.

European Commission (2008b), estimates that retrofitting houses could generate around 280 000–450 000 new jobs (gross measure) for energy auditors, certifiers, inspectors of heating systems, renewable technology installers and industries producing energy-efficient materials for buildings – with particularly strong potential in Central and Eastern Europe where the least energy-efficient buildings are located. Furthermore, Cambridge Econometrics *et al.* (2011) estimate, using an econometric model, that implementation of the Energy Efficiency Directive would increase employment by 0.18% (compared to the baseline) in 2020.

Additional job gains may also arise insofar as savings caused by the decrease in energy consumption provide purchasing power that can be spend on the consumption of other goods and services ([111]), thereby creating jobs. For example, Ecofys (2012) estimates reinvesting the savings (accruing from that a full implementation of the Ecodesign Directive) in other sectors of the economy could result in the creation of 1 million jobs.

... waste management, recycling and biofuels, ...

Furthermore, a more advanced maintenance, repair, upgrade, and reuse over the lifecycle of product of 70% of key materials could create about 560 000 new jobs by 2025, while improved waste management could create over 400 000 jobs by 2020 – see OECD (2012a).

In the same way, the bio-economy (which includes agriculture, forestry, fisheries, food production, as well as parts of chemical, biotechnological and energy industries) has a strong potential to create jobs in rural and coastal areas, although the impact of biofuels is not always clear-cut, as their job potential is closely related to the potential to use land and adverse impact on food prices. Equally, new jobs should arise also from the uptake of products covered by eco-design and labelling measures (e.g. electric motors and drivers, refrigerators and freezers).

Box 3: Illustrative employment effects of CO_2 reductions in 2020 – revenue recycling

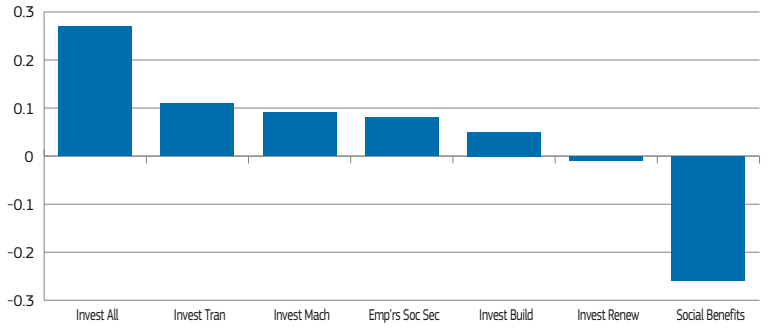
The taxation of the emission of greenhouse gases (including CO_2) provides tax revenues.

Cambridge Econometrics *et al.* (2011) report that recycling green tax revenues achieves the strongest net employment outcomes when used to subsidise low-carbon technologies (not employment), i.e. up to three times the outcome of other recycling strategies (including the lowering of social security contributions). Chart 19 shows the employment results of recycling revenue according to 5 different scenarios.

This stronger employment impact of investing in infrastructure that contributes to energy and resource efficiency stems from the fact that additional jobs are created as these technologies give EU companies a leading edge in manufacture/distribution, and drive further innovation.

The net impacts under the alternative scenarios are modest at the NACE 2-digit sector level. Nevertheless, even a 0.1% growth of total employment still covers some 235 000 people by 2020.

Chart 19: Illustrative scenario of revenue recycling of energy taxes in EU



Source: Cambridge Econometric *et al.* (Table 3.11).

Note: Invest All: All revenues used for investment in transport, machinery, buildings and renewables (25% each). Invest Tran: 25% invested in transport, 75% in income tax reductions. Invest Mach: 25% invested in machinery, 75% in income tax reductions. Emp'rs Soc Sec: All revenues offset through employers' social security reductions. Invest Build: 25% invested in buildings, 75% in income tax reductions. Invest Renew: 25% invested in renewables, 75% in income tax reductions. Social Benefits: All revenues paid out through higher benefits rates.

... as well as shifts out of unsustainable activities ...

There will also be sectors where employment opportunities will decline (including enterprises extracting and combusting coal and enterprises manufacturing refined petroleum products) as a direct result of taxes and regulations that are implemented with a view to reducing the emission of greenhouse gasses.

Other sectors producing goods that depend on energy-intensive inputs, such as aluminium and lime ([112]), will also be affected by rising prices of CO_2 emissions. For these sectors the final impact may be difficult to predict. For example, while employment in the aluminium sector would be expected to suffer as a result of the higher costs of renewable energy in this energy-intensive sector, this could be partly or wholly off-set by stronger demand for the products of the sector in order to meet more stringent building and maintenance standards with respect to building insulation (double/triple glazing, etc.). See, for instance, Cambridge Econometrics (2011).

Net employment outcomes will also be affected by any relocation of production to non-European countries with lower levels of CO_2 taxes or weaker regulations.

... to a large extent conditioned by government policies ...

Finally, government policies will have also an impact on the job potential by

([111]) As well as energy in response to improvements in efficiency, i.e. the rebound effect. See, for instance, Global View (2011).

([112]) For production of lime around 70% of the sector's carbon emissions come from the chemical reaction required for producing lime, e.g. Cambridge Econometrics (2011).

2020 through the application of environmentally friendly public procurement procedures and the strengthening public investment in research and innovation in the field of greening, as well as by strengthening the interaction with other policy fields. See, for example, European Commission (2012s).

However, the most important channel through which governments will affect the future job potential is likely to be through the way they recycle the revenues obtained from green taxes – as illustrated in Box 3 which suggests that recycling green tax revenues achieves the strongest net employment outcomes when they are used to subsidise low-carbon technologies.

... thereby also affecting job quality ([113])...

Mitigating climate change will have positive effects on the quality of life and should improve working conditions including health and safety at work. These developments should provide encouragement for increased labour market participation as people, especially older people, find it more attractive to work. Moreover, many new jobs in energy services and construction will be created at the local level as the existing building stock is re-furbished to higher energy-efficiency standards.

Nevertheless, some adverse pressures on job quality may arise from greening if they are not addressed by adequate policy responses.

First, (based on historical observation) women and young people are more likely to be employed in non-green occupations which suggests that they might be disadvantaged by any shift in employment towards green occupations. See, for instance, Cambridge Econometrics *et al.* (2011). For young people this under-representation in green jobs may be offset as their careers progress, although the current crisis risks creating permanent adverse hysteresis effects that erode skills and employability – as discussed in Section 4.1.1 in this chapter. For women this under-representation may reflect a deeper structural labour market imbalance due to occupational segmentation, which requires appropriate responses – see also Chapter 3 of this report.

Second, insofar as the greening of the economy stimulates the demand for higher skilled jobs, there is likely to be a positive impact on overall job quality ([114]), but some lower skilled occupations (e.g. office clerks) that are currently seen as relatively high quality may become redundant through technology driven innovations. Moreover, some jobs in activities such as waste management, recycling and agriculture, are often associated with less favourable working conditions for the low-skilled, including low pay and hazardous health and safety conditions.

Third, in regions that are predominantly characterised by energy-intensive industries and poor economic diversification, the job opportunities for all categories of local people may be severely hit during a transition process that can, on past experience, be very long.

Fourth, the costs of reducing emissions may fall disproportionately on low-wage earners insofar as they spend a larger share of income on heating fuels. See, for instance, Cambridge Econometrics *et al.* (2011).

... and skills profiles

Finally, greening the economy will involve also changes in skill profiles in technical as well as managerial occupations. As a consequence, training systems will have to cope with the demand for new skills – as discussed in the 'New Skills for New Jobs' initiative under the Europe 2020 Strategy, see European Commission (2010e).

Nevertheless, several studies, including for example CEDEFOP (2010), report a systemic deficit in management skills and job-specific technical skills (related to science, technology, engineering and mathematics) across the EU. Persistent skills bottlenecks may then hinder the full realisation of the job potential as they will not only have an immediate negative impact on the job potential but it will also intensify competition for workers with skills which are insufficiently supplied. This will then raise (relative) wages which will further reduce overall labour demand, and increase prices – with adverse effects on price competitiveness. For example, Cambridge Econometrics *et al.* (2011) estimates that under a skills bottleneck scenario that increases wages by 0.5 %, employment will decrease by 0.1 % in 2020 for the EU as a whole – but outcomes may differ across Member States to the extent that differences in labour market flexibility to address these mismatches exist.

4. Barriers to future labour market dynamics

The previous section showed how globalisation, technological progress, demographic change and the greening of the economy will create new employment opportunities, but will also transform and destroy old jobs by 2020.

Addressing these opportunities and challenges requires the reallocation and full use of labour, as well as the other production factors, within sectors and regions as well as across sectors and regions. However, this process may be hindered by the persistence of the current economic downturn as well as poor or inappropriate responses in pursuit of labour market flexibility.

This section examines the effects of these impediments, beginning with an analysis of the effects of hysteresis and polarisation in the labour market. It then provides an assessment of the impact of a number of structural reforms that have a direct impact on future job potential, including labour market reforms, the further deepening of the single market, and the strengthening of the skill formation processes.

4.1. Effect of the economic downturn on future job potential

4.1.1. Labour market hysteresis effects

The current economic downturn is characterised by persistently high unemployment rates (especially for the young) in several Member States of the euro area – see Chapter 5 in this report. Apart from its broad social impact and direct socio-economic cost in terms of social expenditures and lost tax revenue, persistent unemployment risks causing

([113]) A deeper analysis of job quality and greening of the economy is to be found in Cambridge Econometrics *et al.* (2011).

([114]) In general, the higher the level of skill (or qualification) associated with an occupation, the higher the job quality.

Box 4: Labour market hysteresis

'Spells of persistent unemployment can have a 'scarring' effect on the unemployed, affecting future job opportunities and earnings ([1]).

Persistent economic downturns affect future employment opportunities …

The future employment opportunities of young people are particularly adversely affected by persistent unemployment spells, as the following studies illustrate.

Edin and Gustavsson (2008) – using Swedish data from two waves (1994 and 1998) – find strong evidence of a negative relationship between work interruptions and skill levels. They report, for instance, that a full year of non-employment was associated with a decline in their relative skill position within their age group ([2]).

Cockx and Picchio (2013) – using Belgian panel data covering the labour market history of young people over the 1998–2002 period – report that, if job market entry is delayed by one year, the probability of finding a job in the following two years falls from 60% to 16% for men and from 47% to 13% for women. However, they also found that the duration of the unemployment spell hardly affects the quality of subsequent employment. These outcomes are seen to be primarily driven by stigmatisation – i.e. the fact that they are labelled as unemployed – rather than any depreciation in their human capital i.e. in their capacity to do the jobs available to them.

Kahn (2010) – using the National Longitudinal Survey of Youth (US) – reports that workers who graduate from college in difficult economic conditions are unable to move fully into better jobs, at least over the first 15 years of their careers. Andersen (2010) shows how the long-term effects of a recession affect different age groups differently. For older workers even a temporary spell of unemployment may induce early retirement because of a loss of skills and a lack of training opportunities to compensate. For young workers the impact is less clear, mainly due to the fact that younger age groups are more likely to benefit from active labour market policies that help compensate.

Ball (2009) provides empirical evidence from 20 developed countries that indicates how recessions have an overall negative impact on the long-term labour market potential. In particular he shows that the so-called natural rate of unemployment (which some theorists consider to be independent of the state of the business cycle) is in fact affected by developments in aggregate demand, and that this can lead to the degeneration of skills, a reduction in motivation to search a job, as well as to the stigmatisation of those affected in the eyes of potential employers.

Bell and Blanchflower (2011) present evidence indicating that periods of unemployment also have a negative impact on the wellbeing, health status and job satisfaction of young people, although this effect is less serious for older young people, i.e. those aged 23 or more.

Finally, hysteresis effects for particular countries or regions may also be generated by 'brain drain' to the extent that a temporarily depressed economy provides strong incentives to look for a job elsewhere with a possible permanent effect if an outflow of workers is not compensated by an inflow of workers when the effects of the recession have subsided. On the other hand, the long run effect of workers returning to their country of origin can be positive if they return with a higher level of human capital because they have acquired more skills and experience.

… as well as future earnings and job quality.

The earnings potential, as well as the employment opportunities, also deteriorate for people who are unemployed for a long period, as the following studies illustrate.

Oreopoulos *et al.* (2008) – using a large sample of Canadian college graduates – find that young graduates entering the labour market in a recession suffer a significant initial loss of earnings that, on average, takes 8 to 10 years before they recover, but with higher skilled graduates switching to better firms more quickly than lower skilled graduates.

Gregg and Tominey (2005) report – analysing data on workers in the UK – that unemployment early in life leads to a loss in earnings ranging from 13 to 21% by the age of 42. However, they also report that, if individuals avoid having repeated exposure to unemployment over their life, this loss of earnings falls to around 10%.

Similar results – using UK data for the 1991–97 period – are reported by Arulampalam (2001) who finds that unemployment carries a wage penalty of about 6% on re-entry in Britain and that, after three years, they are earning 14% less than they would have received if they had not been unemployed.

Skans (2004) – using data on Swedish youths graduating from vocational high school programmes in 1991–94 – reports a 3 percentage-points increase in their probability of being unemployed, and a 17% reduction in their annual earnings after 5 years if they experienced unemployment after graduation.

Mroz and Savage (2006) – using a sample from the National Longitudinal Survey of Youth (US) – found that a six month spell of unemployment at age 22 would result in an 8 per cent lower wage at age 23 and that, even at ages 30/31, wages are 2–3 per cent lower than they would otherwise have been.

Brunner and Kuhn (2009), – using 1972-2005 data from the Austrian Social Security Database – report a 15% loss in the present value of lifetime earnings for a cohort entering the labour force when unemployment is high compared with a cohort entering in normal economic conditions. However, the initial labour market conditions are seen to have smaller and less persistent effects on the earnings of blue-collar workers than on those of white-collar workers.

([1]) See also DeLong and Summers (2013) for the impact of hysteresis effects on economic stabilisation. In a seminal paper, Blanchard and Summers (1986) define 'hysteresis' in labour markets as the cases where actual unemployment affects equilibrium unemployment for a long time. A more strict definition would have been the case where there is path dependence of steady state equilibrium unemployment.

([2]) Reported as a 5 percentile move down the skill distribution.

long-run damage by undermining the employability and earnings potential of those affected, especially the young unemployed – see Box 4.

Furthermore, a prolonged economic downturn may also encourage older workers to retire earlier than they would otherwise have done ([115]). See, for instance, OECD (2010). This temporary loss of employability of the young and the early exit of the older workers may adversely affect the ability of labour markets to respond to new challenges and opportunities with permanent adverse effects, generally described as labour market hysteresis – see Box 4. Nevertheless, when the job of the 'main breadwinner' becomes precarious, other members of the family may become economically active, i.e. the so-called 'added worker effect'. See, for instance, European Commission (2013g).

4.1.2. Labour market polarisation

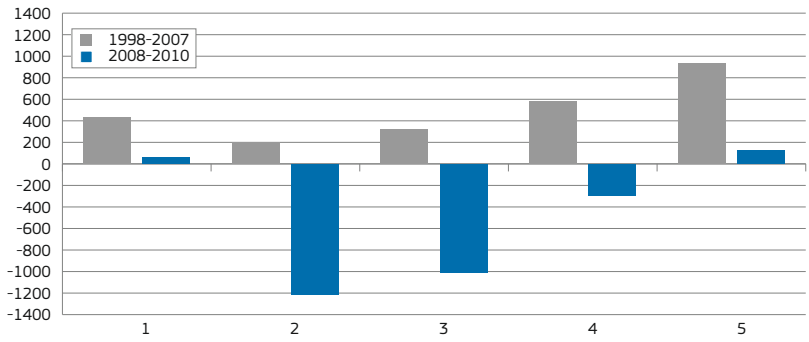
In recent decades one of the key developments in the European labour market has been an increasing number of workers at the extremes of the wage and skills distribution and fewer in the middle. See, for instance, Eurofound (2013). Such labour market polarisation may have adverse impacts that are relevant for the analysis in this chapter.

First, to the extent that polarisation in labour markets occurs in parallel with a reduced upward mobility of workers at the bottom end of the labour market, it will lead to a deterioration of equality of chances in society as a whole, thereby adversely affecting the EU's job potential by 2020.

Second, polarisation may undermine macro-economic stability and the pursuit of sustainable growth and full employment. In this respect Stiglitz (2009) argues that 'growing inequality in most countries of the world has meant that money has gone from those who would spend it to those who are so well off that, try as they might, they can't spend it all' which 'contributed to the reckless leverage and risk-taking that underlay this crisis.'

([115]) This will depend on the extent they can avoid the crisis having an adverse effect on their wealth. If not, the postponement of retirement may become unavoidable.

Chart 20: Annual average change in absolute employment by wage quintile, EU, 1998–2010 (1000)



Source: Eurofound (2013) available at http://www.eurofound.europa.eu/emcc/ejm/summary.htm

Note: No data for BG, MT, PL or RO.

The following charts illustrate the extent and nature of the increasing polarisation that has taken place in the European Union, see also Eurofound (2013).

Growing polarisation at the European level...

Chart 20 shows the annual average changes in the distribution of wage earners in the EU as a whole over the period 1998–2010 ([116]). In the period prior to the crisis (1998–2007) it was primarily jobs in the highest and upper quintiles that showed an increase in earnings while the middle quintiles remained largely stable.

In contrast, during the period 2008–10, there were major losses for those in the middle quintiles against some modest increases in both the lower and upper quintile.

... as well as at the level of sectors ...

Chart 21 shows developments at sector level for the EU as a whole over the period 1995–2010. Here, in the run-up to the crisis, it was primarily employment at the bottom end of the low knowledge-intensive service sector, and at the upper end of the knowledge-intensive service sector that experienced the strongest increases.

Since the onset of the crisis, the sectors hardest hit showed the strongest decrease in the middle quintiles – this being particularly the case for construction, and, to a lesser extent, the low- and high-tech industries and the low knowledge-intensive industries. In contrast, education and especially the health sector experienced increases at the upper end of the wage distribution.

This pattern may be viewed simply as a typical cyclical outcome – pro-cyclical in construction and industry, and counter-cyclical in education and health, and likely to be temporary and reversible. On the other hand, hysteresis effects may perpetuate these outcomes for some time.

... driven by technological progress, globalisation, ...

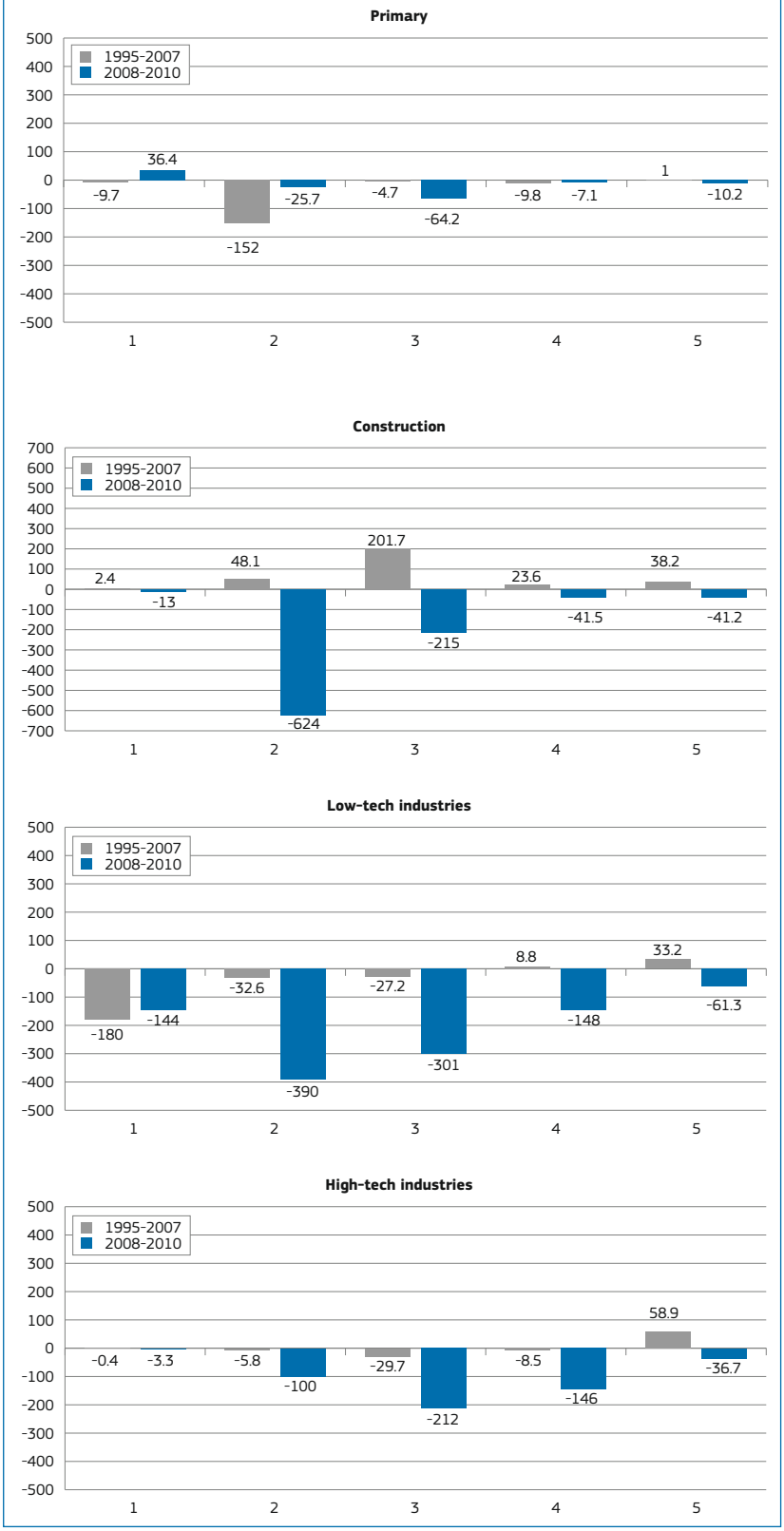
Between the early 1980s and the onset of the crisis, there was an increasing polarisation in EU labour markets, which was seen to be driven primarily by skill-biased technological progress leading to the replacement of workers carrying out routine tasks by machines and processes and, hence, a reduction in the employment share of routine middle-skilled workers. At the same time, however, job opportunities for non-routine manual workers such as housekeeping, hair dressing, gardening etc. remained strong, as discussed in Section 3.2.

The associated process of globalisation led initially to a displacement of the less knowledge-intensive industries from the EU towards those regions of the world where low-skilled workers were plentiful and where wages were low relative to productivity, with a negative impact on the employment share of the low skilled in sectors producing goods and services traded on international markets, such as textiles – as discussed in Section 3.1.

The combination of globalisation and technological progress over this period also affected parts of the production

([116]) Source is Eurofound (2013) available at http://www.eurofound.europa.eu/emcc/ejm/summary.htm

Chart 21: Average annual change in absolute employment by wage quintile and sector,EU, 1998–2010(thousands)



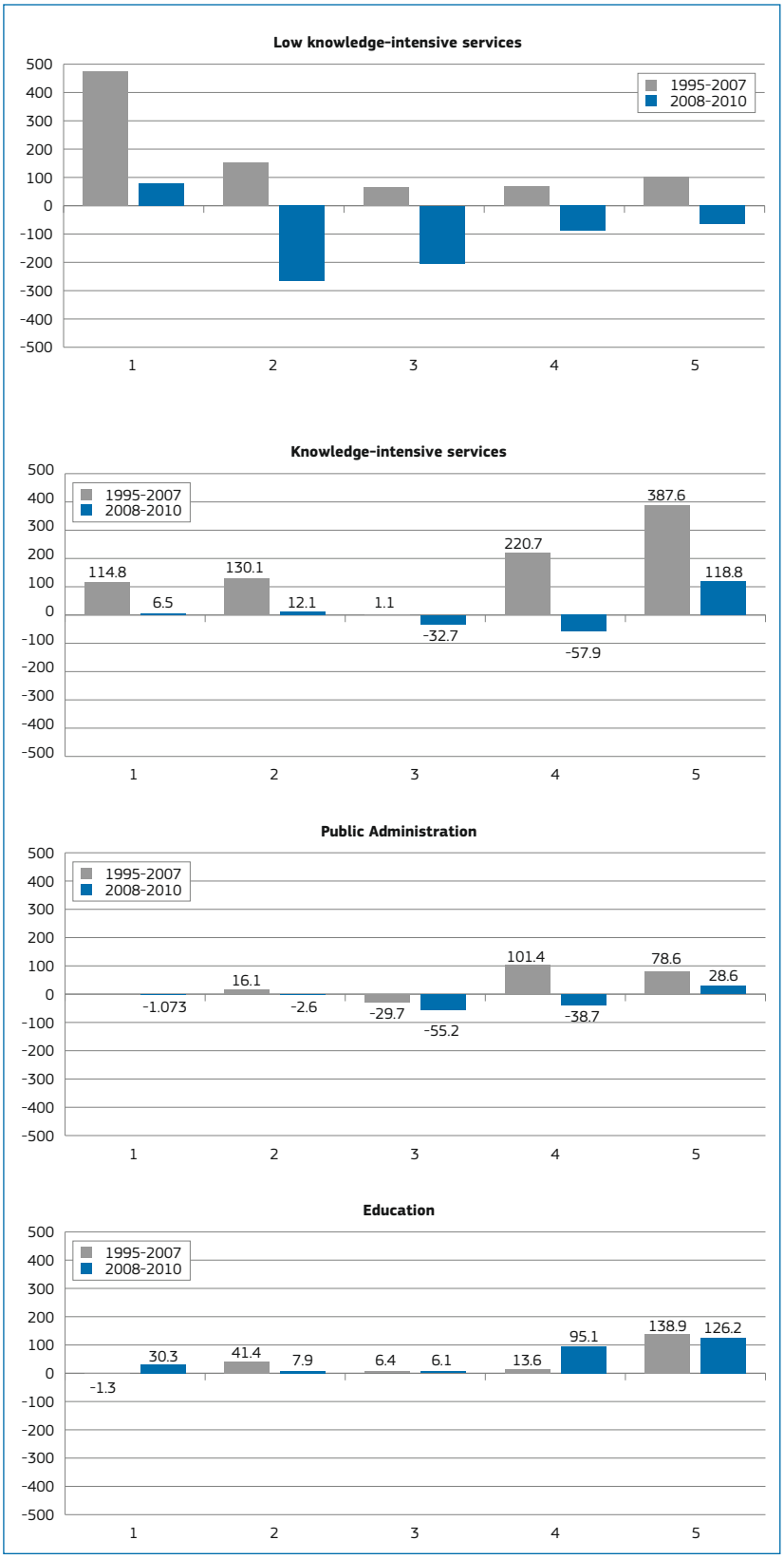
process *within* enterprises through the outsourcing of various activities, often primarily affecting those employed under temporary contracts – see Section 3.2.3.

... and labour market institutions ...

Since the onset of the crisis, however, there appears to have been an acceleration in this labour market polarisation which may also be partly attributable to the effects of negative changes in those institutional arrangements that had served to protect or support lower income workers such as minimum wages, collective wage bargaining, unemployment benefit levels at the same time as low wage employment opportunities are being promoted. See Eurofound (2013).

For instance, minimum wages prevent bidding on wages below subsistence level, especially when bargaining positions are unequal. Nevertheless, very high minimum wages may price out the young and low-skilled groups from legal employment.

Centralised wage-setting institutions and higher trade union density tend to compress wages, to the advantage of those at the bottom. See, for instance, Pontusson, Rueda, and Way (2002), Wallerstein (1999) and European Commission (2008e).



The unemployment benefit is an important part of the social safety net, supporting the most vulnerable groups in hard economic times. It may improve labour market matching insofar as it provides unemployed people with the time to find appropriate work rather than take the first job available. It may also strengthen the bargaining position of lower-paid workers. However, unemployment benefit systems should be designed in a way that the unemployed have an incentive to return to employment.

.... as well as other factors

While globalisation, technological progress and changes in labour market institutional arrangements may be the most important drivers of growing labour market polarisation ([117]), they are not the only factors at work.

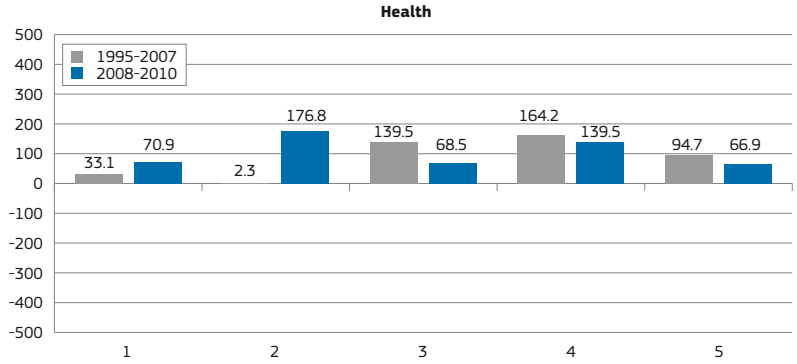
In situations where relative rather than absolute performance determines the earnings (as is the case, for example, for top athletes, musicians, and CEOs in financial services), the link between absolute productivity and wages is very unclear, giving rise to levels of wage dispersion that far exceed productivity differentials. See, for example, Dew-Becker and Gordon (2006).

Likewise, in enterprises with strong price-setting power in their product markets, this may enable employees to share in the rents ([118]) of the firm, as presented in, for example, Oi and Idson (1999) and Stiglitz (2013).

Furthermore, studies show that older workers enjoy a wage premium compared to those who are younger, as do men compared to women. See, for instance, RWI (2011). To the extent that this reflects persistent discrimination, it can discourage labour market participation among these groups. See, for instance, Koske *et al.* (2011).

([117]) See, for example, Nelson (2013).

([118]) I.e. compensation of a production factor in excess of its opportunity cost.



Source: Eurofound (2013) available at http://www.eurofound.europa.eu/emcc/ejm/summary.htm
Note: No data for BG, MT, PL or RO.

At the same time, it has to be recognised that demand for personal services and low paid tasks such as housekeeping, cleaners or waiters are increasing as the number of high income earners increase, as is also apparent with demand for basic services for older and for disabled people under the impact of demographic changes. See, for example, Mazzolari and Ragusa (2013).

In addition, as labour market participation of women increases, there is also rising market demand for undertaking household services that were previously carried out unpaid within the household. See, for example, Mason and Salverda (2010).

4.2. Absence of structural reforms

The previous sections considered the drivers of future job potential as well as obstacles raised by the current economic downturn. However the realisation of the EU's full job potential also depends on the implementation of structural reforms of the kind outlined in the Europe 2020 Strategy for smart, sustainable and inclusive growth, and this section discusses some of the structural reforms expected to have an important impact in this respect ([119]).

4.2.1. A dynamic and inclusive European labour market

An important contributor to the full realisation of the job potential by 2020 is the development of flexible labour markets across the EU in which workers are not only helped to change jobs or to get back into work, but also encouraged and enabled to invest in their skills and made aware of the benefit to be gained from the free movement opportunities offered by the EU internal market – see the European Commission (2012a).

Realising future job potential by ...

Part of the process of realising future job potential involves the effective and efficient movement of workers out of declining enterprises and sectors and into expanding ones. Social dialogue can play an important role in this respect. In 2010, the European social partners at cross-industry level concluded a framework agreement to promote inclusive labour markets ([120]).

However there are serious obstacles in the way at both national and sectoral level with job vacancy levels varying enormously across both sectors and Member States.

- On average, the job vacancy rates in business services are highest, with very high rates in Germany (7.6%) in 2012, followed by Belgium (3.8%) and the Czech Republic (3.5%), while the lowest job vacancy rates are to be found in Bulgaria (0.2%), Latvia (0.3%), Slovakia (0.4%) and Romania (0.4%).

- At the same time, the job vacancy rate in the information and technology sector is strongest in Belgium (4.2%), followed by the Netherlands (3.0%) and Germany (2.6%). At the lower end are Bulgaria (0.3%), Slovakia (0.4%), Slovenia (0.4%), Romania (0.4%) and Cyprus (0.4%).

- On average, the job vacancy rate in industry is lowest, i.e. ranging from UK (1.5%) and Belgium (1.4%) to Latvia (0.2%) and Portugal (0.3%).

These imbalances in terms of job opportunities are seen to reflect a variety of structural shortcomings in European labour markets, as presented by the European Commission ([121]).

([119]) Note: this chapter does not address the potential benefits of wider economic reforms such as banking union, fiscal union, etc.

([120]) See http://ec.europa.eu/employment_social/dsw/public/actRetrieveText.do?id=8850

([121]) Including a lack of occupational and geographical mobility, as well as unemployment benefits that discourage workers to take up a job. See, for instance, Hobijn and Şahin (2012).

... strengthening geographical ...

In this context, the limited and weak geographical mobility of workers has been identified as a significant contributor to this mismatch. See, for instance, MKW and Empirica (2009). In this context a number of factors have been identified that could improve mobility, including addressing the portability of pensions, the tax treatment of cross border workers, as well as maximising access to EU-wide vacancies (as is envisaged in the further development of EURES, see European Commission (2012d)) ([122]).

Geographical mobility has to take place in compliance with EU legislation concerning the national legal framework to be applied, in particular Regulation 593/2008/EC (Rome I) on the law applicable to contractual obligations and the Posting of workers directive 96/71/EC. The exercise of the basic freedoms of movement of people and services should take place within the channels of EU and national legislation to avoid the working conditions of the most vulnerable workers being negatively affected. All too often competition not only takes place between workers and markets of emitting and receiving Member States (MS) (home and host countries) but between legal systems, including by the use of those of third Member States with "convenience" legislations. This can give rise to situations where EU law is infringed.

... as well as occupational mobility ...

Given the scale of the challenge, occupational mobility in 2020 is still expected to be held back, to a large extent, by weaknesses in processes and support for skill formation. Even without this, however, occupational mobility could still be improved by 2020 through a further reduction in barriers such as those that prevent or discourage female workers from pursuing further education, training or job opportunities in the areas of science and technology, or those that confront young people with disabilities, people with learning difficulties, and immigrants.

Furthermore, as the European population ages, it will become increasingly important to assist and encourage occupational mobility among older workers so that they can move to jobs adjusted to their capabilities, and limit early labour market exits for health or other reasons.

... as well as better balancing supply and demand in the labour market ...

Several reforms outlined in the Employment Package ([123]) have yet to be implemented to create the framework conditions to exploit the job potential to the full, including the following: targeting subsidies to new hiring; reducing the tax on labour while ensuring fiscal sustainability; promoting and supporting self-employment, social enterprises and business start-ups; transforming informal or undeclared work into regular employment; boosting 'take home' pay, as well as modernising wage-setting systems so that wages are better related to productivity developments.

Such reforms will have an important impact on the distribution of job opportunities. For example, not only could the expansion of employment in social enterprises ([124]) have a direct impact on job potential, but also an indirect effect insofar as it leads to more effective labour market reintegration and rehabilitation of long-term unemployed people and others on the margins of the labour market – see Box 5.

... in a sustainable way

A more inclusive labour market is seen as a necessary precondition for exploiting future job potential in a sustainable way. The Employment Package, for example, argues that this objective can be realised more effectively and rapidly by labour market reforms that encourage internal flexibility within companies; encourage decent and sustainable wages; make job transitions pay; reduce the labour market segmentation between those in precarious employment and those on more stable employment; anticipate economic restructuring; develop lifelong learning and active labour market policies; deliver youth opportunities and the youth employment package; reinforce social dialogue; and reinforce public employment services.

In this light, it will also be seen as necessary to invest in social services, that cover, inter alia, investments in health and equal access to healthcare for all, the provision of individualised reintegration services for jobless people (especially the long-term unemployed, and vulnerable groups), as well as better access to quality early-childhood education and care – as described in the Social Investment Pact. In all these respects, appropriate dialogue with civil society and the social partners is seen to be necessary in order to ensure success.

4.2.2. Product market reform

Further deepening of the single market ...

The further integration, or deepening, of the European single market is an important part of the structural reform needed in order to fully realise the Union's job potential. In this respect, the continued fragmentation of many markets in the EU, due to legal, technical and physical barriers, is seen as a serious impediment.

Several key action areas have been identified, including the development of fully integrated European networks for energy and transport, fostering of the mobility of citizens and businesses across borders, support for the digital economy across Europe, and the strengthening of social entrepreneurship, cohesion, consumer confidence and non-discrimination – see European Commission (2012y).

... will create job opportunities

Market deepening will affect the employment potential in various ways, including new jobs being created by the investments needed to build new infrastructures and operate and maintain existing infrastructure. However, while the former effects are expected to generate the strongest employment effects, it is also necessary to recognise that they will diminish once the infrastructure becomes fully operational.

([122]) For more details on EURES, see https://ec.europa.eu/eures/home.jsp

([123]) See European Commission (2012a).

([124]) 'A social enterprise is one whose main objective is to achieve a social objective rather than make a profit for their owners or shareholders. It operates by providing goods and services for the market in an entrepreneurial and innovative fashion and uses its profits primarily to achieve social objectives. It is managed in an open and responsible manner and, in particular, involves employees, consumers and stakeholders affected by its commercial activities.' See, COM/2011/0682 final at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52011DC0682:EN:NOT

Box 5: Jobs in social enterprises

Social enterprises ...

Social enterprises are present in almost every sector of the economy, including banking, insurance, agriculture, craft, various commercial services, and health and social services, etc., see Defourny and Nyssens (eds., 2008). In 2012, social enterprises covered more than 11 million jobs in over 2 million enterprises ([1]), with membership of social economy enterprises estimated as high as 160 million.

... promote current job opportunities ...

Social enterprises are particularly important in terms of providing job opportunities for people who have difficulty finding work in private, profit-maximising enterprises; for example, a second-hand clothes shop employing disabled people to collect, sort, clean and resell its goods.

A specific characteristic of social enterprises is that they can create sustainable jobs for women, young, elderly, disabled people, those with mental health problems, ex-offenders, etc. Moreover, an important feature of social enterprises is that they pay special attention to the development of skills and human capital.

... as well as future ones ...

Social enterprises are also distinguishable from private, profit-maximising enterprises insofar as they supply services and goods such as the provision of early childhood education and care for families from a disadvantaged socio-economic background, such as migrants, Roma, low-skilled parents, thereby improving access to education and reducing the risk of leaving school early – an important condition for promoting future employability.

... in a resilient way

Jobs in social enterprises have also showed themselves to be more resilient to the economic crisis as a result of their long-term focus, with shareholder control being in the hands of worker members, and with strong internal flexibility in terms of hours worked or pay in order to maintain jobs.

Nevertheless, success in exploiting the potential by the non-profit private sector requires financial support and regulations that set conditions and standards for the provision of social services. See, for instance, Sirovátka *et al.* (2011).

([1]) With 70% employed in non-profit associations, 26% in cooperatives and 3% in mutual. See http://ec.europa.eu/enterprise/policies/sme/promoting-entrepreneurship/social-economy/

At that point, employment gains can be expected from the effects of lower entry barriers to markets which will strengthen competition and innovation, reduce price mark-ups ([125]) and ensure the efficient allocation of labour, as well as the other production factors, although success here may reduce the incentive for outsiders to enter the market, hence reducing the pressure on incumbents to innovate. See, for instance, Roeger *et al.* (2008).

The further liberalisation of the cross-border provision of services and the free establishment within the EU (especially in the case of services) will reduce administrative burdens ([126]), encourage foreign direct investment, facilitate access to finance (especially for SMEs), and simplify public procurement. Such progress is seen to especially benefit employment in small and medium sized enterprises, which will experience a strong disproportional reduction in business burden.

Estimating these employment effects is not straightforward – partly because its full transposition is not yet completed. See, for instance, Monteagudo *et al.* (2012) – but some indications of the strong job potential of such structural reform can be seen in the available research. See, for instance, Box 6.

([125]) Rents measure the difference between price and marginal cost.

([126]) Inter alia by setting up of eGovernment portals for businesses ('Points of Single Contact') and dismantling unnecessary red tape. See, for instance, Monteagudo *et al.* (2012).

Box 6: Illustrative scenarios of product market reform

Further deepening the Single Market could have a significant potential to increase the EU's job potential by 2020, as the following projections illustrate ([1]).

Opening markets for network industries

Regulatory reforms aimed at further opening of markets for network industries (e.g. electricity, gas) are expected to generate important employment effects. See, for instance, European Commission (2007b).

Indeed, increased competition (via the entrance of new enterprises in open markets), would put downward pressure on the (relative) price of the output of the network industries – provided output is not subject to increasing returns to scale which may be the case for network industries.

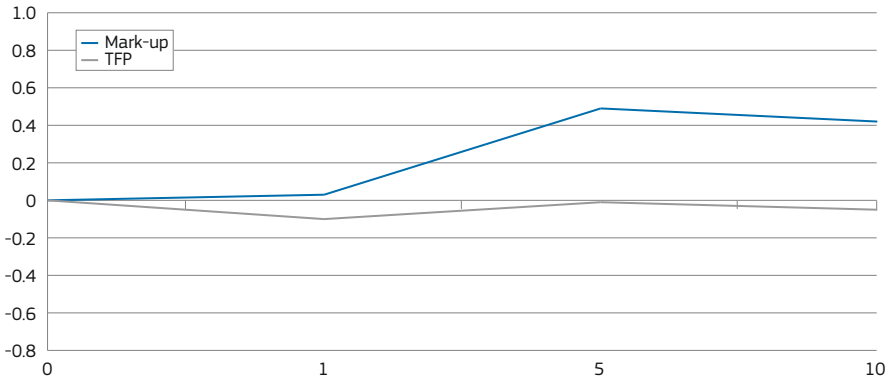
In response to such price decreases the network industries would be driven to reduce either their profit margins or production costs.

A reduction in profit margins would not have a direct impact on employment in the network industries in the short run, but it would make investment in these industries less attractive in the medium term. A reduction in production costs could be established by either increasing productivity or reducing the cost of the production factors, with increased productivity inducing a decrease in the sector's demand for labour in the medium term.

At the macro-level, lower prices would reduce the production cost for industries that use the network industries' output (such as electricity), as a consequence of which, they may gain in international cost-competitiveness, which would have a positive impact on employment. Domestic demand might receive a stimulus as lower prices for goods and services of the network industries increase real disposable household income. However, increases in productivity might also lead to a decrease in employment, thereby depressing domestic demand.

Chart 22 provides an illustrative scenario, using a general equilibrium model, that captures the above outcomes and the complex adjustment processes. The lower boundary describes the case that all adjustment occurs through changes in productivity, while the upper boundary shows what happens when the whole adjustment is achieved through changes in profit margins. On this basis, the chart indicates how the realisation of a truly European network for transporting energy could create around 775 000 extra jobs in the period between 2011 and 2020.

Chart 22: Illustrative scenario of employment effect of opening gas & electricity markets – EU



Source: DG EMPL calculations based on European Commission (2007).

Cuts in cost of public procurement

While the use of public procurement processes have grown rapidly in recent years in order to benefit from competition and combat concerns of corruption, the cost of the procurement process to bidders can amount to a high percentage of the total value of a contract. For example, the European Commission (2011b) reports that the costs of tendering range from between 18 and 29% of the contract value for a tender of €125 000, and between 6 and 9% of tenders of a median value contract (i.e. €390 000).

Reforms aimed at increasing competition in public procurement (such as the use of standardised electronic invoicing) may produce a cut in suppliers' mark-up charges. Such cost savings can then be recycled in several ways, affecting employment as well as output.

For example, Vogel (2009) estimates ([2]) that, if these cost savings are used for the reduction of labour income taxes, it would have the potential to increase employment between 0.14% and 0.65% after 10 years (depending on the range of public procurement on which cost savings can be realised) ([3]). However, an inelastic labour supply (for example as a result of inadequate skill formation) might reduce this employment gain very substantially (to just 0.06%).

([1]) Estimates of the impact of the service directive are to be found in for example Copenhagen Economics (2005), Aussilloux *et al.* (2011), Weber and Juergen (2008), and Monteagudo *et al.* (2012) which estimate the job gains of the full implementation of the Services Directive at roughly 600 000 jobs.

([2]) Based on Europe Economics (2006) which reports (based on survey data) that there is scope for decreases in contract values in public procurement within a range between 6 and 24% – varying across sectors and industries.

([3]) Recycling the procurement cost savings by cutting capital taxes or public investment would increase employment respectively by 0.01 and 0.02%.

5. What will new jobs look like?

The previous sections indicated where new jobs are likely to come from, and those insights have been used to build scenarios and investigate what their employment effects will be.

Box 7 briefly summarises the findings from sectoral and occupational projections made elsewhere by researchers, while this section explores the extent to which the job panorama is likely to be characterised, not only by a different age, gender, occupation and skills profile compared to the present, but also by changes in work content and work organisation ([127]).

([127]) The following sub-sections are based on the previous analysis as well as, inter alia, MGI (2011a), MGI (2012b), the Economist Intelligence Unit (2010), Carey (2008), Karoly *et al.* (2007), Schaffers *et al.* (2006), Talwar and Hancock (2010), Eurofound (2012d).

Box 7: Changes in job composition – projections

This box summarises changes in employment composition between 2010 and 2020. These projections are obtained using econometric and statistical models – see Cedefop (2013a).

Sectoral composition

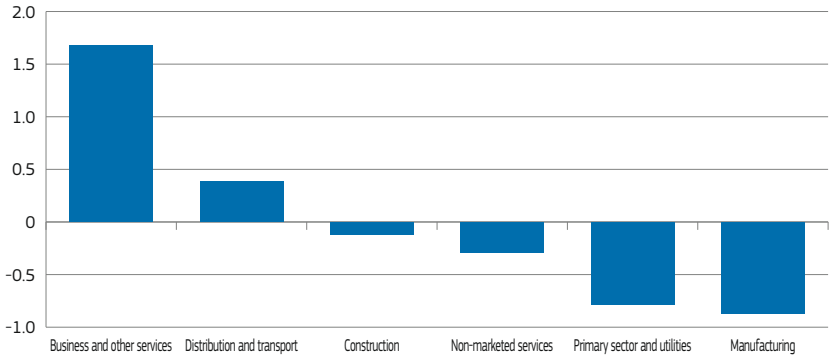
Chart 23 shows a relatively strong increase in employment in the business service sector, alongside notable decreases in both manufacturing and the primary sector between 2010 and 2020.

These projections are in line with the qualitative assessment of the trend developments discussed in the previous sections. Indeed, on the supply side, technological progress and further globalisation is foreseen to reduce the demand for labour in manufacturing and agriculture, while it will increase the demand for business services.

Occupational composition

Chart 24 shows a relatively strong increase in the share of technicians and associated professionals (covering highly-skilled occupations such as associate professionals in physical and engineering science, life science and health, teaching, finance and business sectors, as well as public administration) between 2010 and 2020.

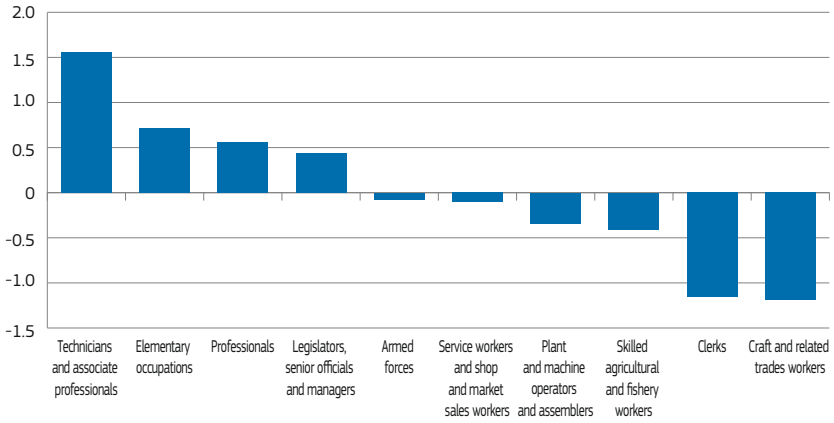
Chart 23: Percentage point changes in sectoral shares in EU: 2010–20



Source: DG EMPL calculations based on CEDEFOP (2013a).

Notes: Percentage point change (pp)in the shares for 9 occupation aggregates. Baseline projection.

Chart 24: Percentage point changes in shares for occupations in EU: 2010–20



Source: DG EMPL calculations based on CEDEFOP (2013a).

Note: Percentage point change (pp)in the shares for 9 occupation aggregates. Baseline projection.

5.1. Job profiles in 2020

On the basis of the evidence that has been reviewed, a number of developments can be foreseen with regard to the characteristics of EU jobs in 2020:

- The **average age of the labour force** is expected to have increased – provided effective active ageing policies are implemented, thereby creating the incentives for older workers **to participate more** in the labour market and **retire later** – see Section 3.3 of this chapter.
- The **gender profile** of the EU labour force is expected to have become **more balanced,** as more women are expected to participate in the labour market – see Section 3.3.
- The **employment rate of the young is likely** to **have increased**, provided institutional obstacles to hiring young people are removed and young people's skills become more in line with labour market requirements – see Section 3.3.
- Labour market participation of people with **disabilities** is expected to be higher due to the availability of technologies that allow workplaces and work organisation to be better adapted to their capabilities.
- The employment share for the **knowledge-intensive sectors** is expected to have increased in line with the full realisation of the EU's **comparative advantages in world markets**.
- A **shift to labour intensive sectors** such as health care and personal care is expected to have been established in order to meet the new demands stemming from demographic change and from the need to strengthen social cohesion – see Sections 3.3 and 6.2. Such a shift will also occur as the renewable energy sector gains market share – see Section 3.4.
- A shift of employment opportunities for the **low-skilled towards the non-tradable sectors** under the pressure of globalisation (in combination with technological progress and a further deepening of the Single Market) is likely to be seen.
- **Non-routine tasks** that require **highly-skilled workers** (such as provision of specialised health services) as well as non-routine tasks that require **low-skilled manual workers** (such as cleaning, child care, hairdressing) are expected to become ever more important by 2020 – see Section 3.2.
- The share of **self-employed** is expected to increase as start-up costs decrease, especially for web entrepreneurs.
- The share of **voluntary temporary contracts** (e.g. freelancing) is expected to increase to meet the flexibility of the emerging apps-economy.
- **International experience, cultural awareness** and communication skills, are likely to be highly valued as global value chains expand.
- Some Member States are expected to exploit their potential to **catch up** with the Member States at the cutting edge in the field of technological progress.

All in all, job profiles are expected to undergo profound changes as new needs have to be met and new technologies become available by 2020. Box 8 provides an illustrative scenario of the effects of such developments on job potential in the health sector.

5.2. Work organisation in 2020

A review of available research ([128]), suggests that the organisation of work is expected to be affected along the following lines.

- A continuing call for more **training and skill formation** in technical as well as managerial occupations.
- **Stronger synergies** between occupational profiles such as, for example, between construction and renewable energy sectors.
- More **job rotation within as well as between enterprises for the average worker** which may, however, adversely affect their loyalty to their enterprise as well as the incentive to acquire firm-specific skills.
- W**orking conditions** to be better adapted to the needs of older and female workers, including more flexible working time, better child care and elderly care facilities, etc., possibly leading to a more widespread use of part-time, and work-from-home employment.
- A greater use of **'drop-in' workplaces** with fixed desks for only a small percentage of staff.
- Possible **increases in work pressures/stresses** due to demand for enhanced availability at any time from any geographical place, although this may also provide opportunities for a better **balance between professional and private life**.
- Greater job and career uncertainty over the longer term due to stronger **outsourcing** within as well as beyond European borders.
- A partial shift to **virtual work sites** driven, inter alia, by social media and cloud computing, with the potential for less bureaucratic work environments.
- More **autonomous** work groups with **more responsibility**, especially in high knowledge and technology intensive activities**.**
- Changes in the **distribution of costs of home and mobile working** that will need to be addressed in contractual relationships between employers and employees, including costs for mobile phone charges, teleconferencing costs, remote connection, home furnishing, etc.
- **Shorter job vacancy spells** because of more efficient job search tools.
- Increased job uncertainty but **increased employment certainty** over the life cycle provided that labour market reforms along flexicurity lines are implemented.

([128]) Generally based on findings from the periodic Eurofound surveys of working conditions at http://www.eurofound.europa.eu/ewco/surveys/, as well as MGI (2011a), MGI (2012b), the Economist Intelligence Unit (2010), Carey (2008), Karoly *et al.* (2007), Schaffers *et al.* (2006), Talwar and Hancock (2010).

Box 8: Jobs in the health sector by 2020

The EU health sector has the highest employment level and the steepest growth – see Annex 2 – but with future job opportunities subject to developments on both the supply and demand side.

Technological innovations on the supply side ...

New jobs will be created and old ones will disappear or be transformed under pressure of technological innovations (including pharmaceuticals, equipment and techniques), and of changes in care delivery systems (including shifts from care in hospitals to primary care closer to home). See, for instance, Dussault *et al.* (2010) and European Commission (2012v).

More particularly, by 2020, jobs in the health sector are expected to be particularly affected by developments in e-health, i.e. the provision of healthcare services supported by ICT processes ([1]) although this outcome will be largely driven by the need to increase cost effectiveness in the health sector ([2]).

Furthermore, to the extent that technological progress allows less technical tasks to be carried out by highly-skilled service providers, there will be some scope for the creation of jobs for middle-skilled workers. See, for instance, MGI (2011a).

...and structural changes on the demand side ...

Rising demand for health services (in combination with more individualised services) is driven by both rising average income and an ageing population.

In terms of the income effect, health care is a service for which demand increases more than proportionally as income rises and, once the European economy re-establishes a pattern of sustainable and inclusive growth, demand for health services is expected to increase, generating employment growth ([3]).

In terms of an ageing population, this will also affect the demand for health care with, for instance, a stronger emphasis on chronic diseases, social care and end-of-life needs. See, for instance, Dussault *et al.* (2010). Moreover, in combination with ongoing changes in family structures (notably single parent families), households may be less able to respond to the care needs of older people, thereby strengthening the shift towards care provision by professional service providers.

... but constrained by working conditions, ...

Nevertheless, the realisation of this job potential may be constrained, not least by the fact that employment in the health sector is characterised by demanding working conditions in combination with moderate pay (in some health occupations).

Employed persons in the health sector are exposed to a broad range of risks (especially biological, musculoskeletal, psychosocial and chemical risks), as well as harassment and violence at work from patients and their relatives. See, for instance, European Commission (2010g). In addition, working conditions in the health sector are demanding, as they rely, for instance, on intense use of night and shift work ([4]). Exposure to these additional risks makes employed persons prone to a high accident rate (compared with similar jobs in other sectors) – see Annex 2.

Moreover, based on current trends, the health sector labour force is expected to continue to age, and this will require changes in working conditions in order to fully realise the job potential of the sector.

Furthermore, within the health and social work sector, there are significant differences in earnings – see Annex 2. In 2010, for the EU as a whole, women as well as men with a basic education earned just above halve the average earnings in the sector, while the highest earnings were received by men with tertiary level education who received 50% more than women with the same education level.

... lack of financial resources...

Health services involve significant costs that have to be financed either through public funding from taxation, private funding from incomes or insurance, or a combination of the two.

However, from a macro-economic perspective, it is important to recognise that these 'costs' are also the income of service providers and that a good health service (along with good education) is a necessary (if not sufficient) condition to have a productive workforce and active older population (because of fewer absences due to illness, less need for treatment, less disability, etc.). Moreover, health services is one of the most innovative sectors providing additional stimuli to overall productivity growth.

However, to the extent that health care costs are paid through taxation, these taxes may have a negative impact on people's decision to participate in the labour force with adverse effects on aggregate employment and economic efficiency. By contrast,

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([1]) It should be noted that projecting the future employment potential of eHealth is hindered by the limited availability of specific cases. See, for example, Dobrev *et al.* (2009). Nevertheless, in qualitative terms it can be conjectured that this emerging field of activity will not only create jobs (with higher labour productivity) needed for operation and maintenance (in a cost-effective way), but also jobs in the field of research and innovation –potentially creating a leadership role in world markets.

([2]) Joint Report on Health Systems, the European Commission and the Economic Policy Committee (AWG), 2010, http://ec.europa.eu/economy_finance/publications/occasional_paper/2010/op74_en.htm

([3]) To the extent that productivity improvements do not offset job creation.

([4]) Symptomatic for these severe working conditions is for example that a significant number of women do not return to work in the sector following childbirth because of difficulties expressed in reconciling work and family life – see, for instance, Eurofound (2011) and European Commission (2010g).

if the financing is exclusively carried by private health insurance these high premium payments may have a negative impact on people's ability to participate in the labour market – especially in the case of people at the margin with poor health – with adverse effects on aggregate employment, economic efficiency and social cohesion.

... and skills and competences.

By 2020, the development of newer, more integrated, care delivery models (e.g. care provision closer to home for elder patients) and new technologies, new medical appliances and diagnostic techniques will require new skills and competences, while the expansion of e-health (e.g. distant diagnostics services) can trigger new ways of working in the health sector. See, for instance, European Commission (2012i) and Matrix insight (2012).

As a consequence, realising the job potential of the health sector to its fullest extent will then require better synergies between education/training providers and employment. At the same time, skill matching in individual Member States or regions may also be affected by the migration of health professionals to areas that offer better wages and working conditions. See, for instance, Rechel *et al.* (2006).

- More people will take up **stronger responsibilities** early on in their career.
- There will be more intensive use of **video-communication**.
- **Globalised supply chains** will put stronger emphasis on **unit labour costs** in the location of economic activity.
- **Effective workers' participation** and **social dialogue** may need to develop, and even intensify, in new ways in order that employers and employees address common challenges together.

With respect to the above, cloud computing ([129]) (in combination with social networks and collaborative software programmes ([130])) is expected to be particularly important in terms of future developments in work organisation and job opportunities. See, for instance, Box 9.

5.3. Job quality in 2020

All the prospective developments described above are also expected to impact on job and employment quality.

Labour productivity is expected to increase insofar as globalisation and technological progress allows Member States to better exploit their comparative advantages in world markets, which will provide the opportunity to increase the real wages of workers. Moreover, technological progress has the potential to facilitate a better balance between private and professional life and improve the scope for adapting working conditions to the specific needs of different groups of workers.

Nevertheless, in the absence of labour market reforms according to flexicurity principles, the reallocations of labour could create pressures that have an adverse impact on job quality. For example, Eurofound (2012c) reports that life satisfaction is strongly and negatively associated with job displacement. However, those who are displaced and find a new job are significantly better off than those who remain jobless, which underscores the importance of activation policy for employees. Furthermore, while globalisation and technological progress bring potential benefits, they also carry the risk for workers being pressured to be continuously available which can be detrimental in terms of work-life balance.

In addition, there is no guarantee that, in the absence of policy action, the overall gains from future developments will be distributed in an equitable way in line with the objective of the social cohesion target of the Europe 2020 Strategy, underlining the continuing need for effective social dialogue.

([129]) According to the official US National Institute for Standards and Technology definition, "cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction." See http://www.nist.gov/itl/csd/cloud-102511.cfm

([130]) See, for instance, Bayrak *et al.* (2011) and Beblavy *et al.* (2012).

Box 9: Virtual workplaces

Cloud computing is expected to affect job opportunities via several channels, including the creation and maintenance of its infrastructure ([1]) as well as through its impact on the working of product and labour markets.

Competitive pressures in product markets will strengthen ...

With cloud computing individual enterprises will no longer need heavy investments in ICT infrastructure at the start of their activities as they can spend on ICT in line with their production needs. As a consequence, cloud computing should lower entry barriers for enterprises (and self-employed people). See, for instance, Etro (2009) and Liebenau *et al.* (2012).

Lowering entry barriers will increase competition (in sectors where fixed ICT spending is crucial), which will, in turn, reduce price mark-ups and increase production thereby creating additional job opportunities. See, for instance, Etro (2009).

Nevertheless, although technological progress will affect future employment via its initial impact on competition, the causality may also run in the opposite direction in the sense that increased competition creates the incentives to enhance cloud computing. Such interactions may then give rise to a virtuous circle between innovation, competition and job creation.

Cloud computing is also expected to affect cost structures of enterprises by providing cushions for handling short term peaks in seasonal demand, and reducing the time to market for goods and services, etc. See, for instance, CEBR (2010a and 2010b). Such cost-savings may then lead to stronger international cost competitiveness of enterprises, with a potentially positive impact on the job potential of these enterprises.

... as well as enhance labour market flexibility ...

As cloud computing reduces search cost for both employee and employer, it also has the potential to improve job matching thereby increasing both the quantity and quality of future jobs. Moreover, for self-employed people, the start-up costs for ICT infrastructure will be reduced, which will have a positive impact on future job creation.

.... while cloud computing will also affect the organisation of work ....

Cloud computing is expected to lead to a more fragmented organisation of tasks with an impact on the 'coherence' of the total workforce although the impact of this on productivity is less clear.

On the one hand, to the extent that 'team-spirit', enhanced by physical interaction, affects positively productivity growth, the creation of virtual teams connected by cloud computing may carry a downside risk for productivity growth.

However, cloud computing creates opportunities for shifting less efficient firm-based data handling tasks to more efficient data centres, which will have a positive impact on productivity. Furthermore, to the extent that efforts of workers at a distance cannot be observed in a direct way, a change in payment schemes may arise. Finally, outsourcing obviously carries the risk that tasks can be outsourced to areas with lower unit labour costs.

... provided that barriers to take-up of cloud computing get removed.

Realising the job potential of cloud computing to its fullest extent requires the removal of several barriers that may limit its use, including the limited level of harmonisation in the digital content and electronic communications, the complexities of multiple jurisdictions, the lack of standardised contracts, differing requirements regarding safety, security and reliability, together with incomplete information, for example on the location of data centres. See European Parliament (2012) for a comprehensive overview.

([1]) However, as the location of cloud computing infrastructure will be determined to a large extent by energy costs, there may be pressure for localisation of infrastructure in places with low energy costs, see Liebenau *et al.* (2012), resulting in an uneven territorial distribution of job opportunities. Furthermore, in order to reach the full job potential it is also necessary that workers have adequate ICT skills to operate cloud computing platforms.

6. Skill formation and demography

Future labour market outcomes will be influenced, to a large extent, by structural changes driven by globalisation, technological progress, the greening of the economy, and demographic change. These developments will create new job opportunities, including in the green, social and ICT sectors, and will give rise to new forms of work organisation (including decentralised decision taking, just-in-time operation, job rotation, teamwork and multitasking). See, for instance, European Commission (2008b).

Nevertheless, it is to be expected that the supply of skills will not automatically match the profiles of these new jobs, not least due to imperfect information and structural rigidities in European labour markets. However, mismatches can be tackled and limited by promoting a better anticipation of future skills needs, developing a better matching between skills and labour market needs, and bridging the gap between the worlds of education and work skill levels and its composition – as discussed in the 'The New Skills for New Jobs' initiative under the Europe 2020 Strategy.

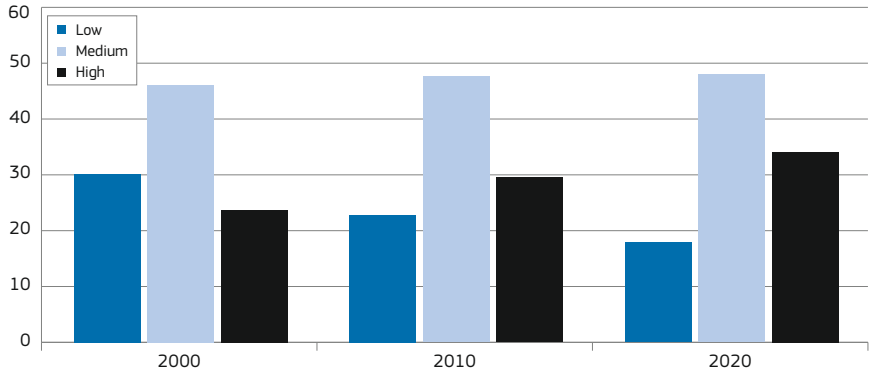
Box 10 provides projections of developments in skill composition – based on Cedefop (2013a and 2013b).

Box 10: Skill composition by 2020

Important changes in skill composition at the EU level as a whole ...

Chart 25 summarises a projection of the skill composition in the EU by 2020 (as well as skill composition in 2000 and 2010), see Cedefop (2013) ([1]). It indicates how the share for the low skilled is expected to decrease while the share of the highly skilled is expected to increase ([2]). In line with this development, Cedefop projects that the share of highly-skilled jobs will increase: from 41.9% of EU-27 employment in 2010 to 44.1% in 2025 (Cedefop 2013b, p. 2). That is, future skills needs move in the direction of higher educated and better skilled workers.

Chart 25: Skill composition (% shares)



Source: DG EMPL calculations based on CEDEFOP (2013a).
Note: Baseline scenario.

... but differences across Member States will persist

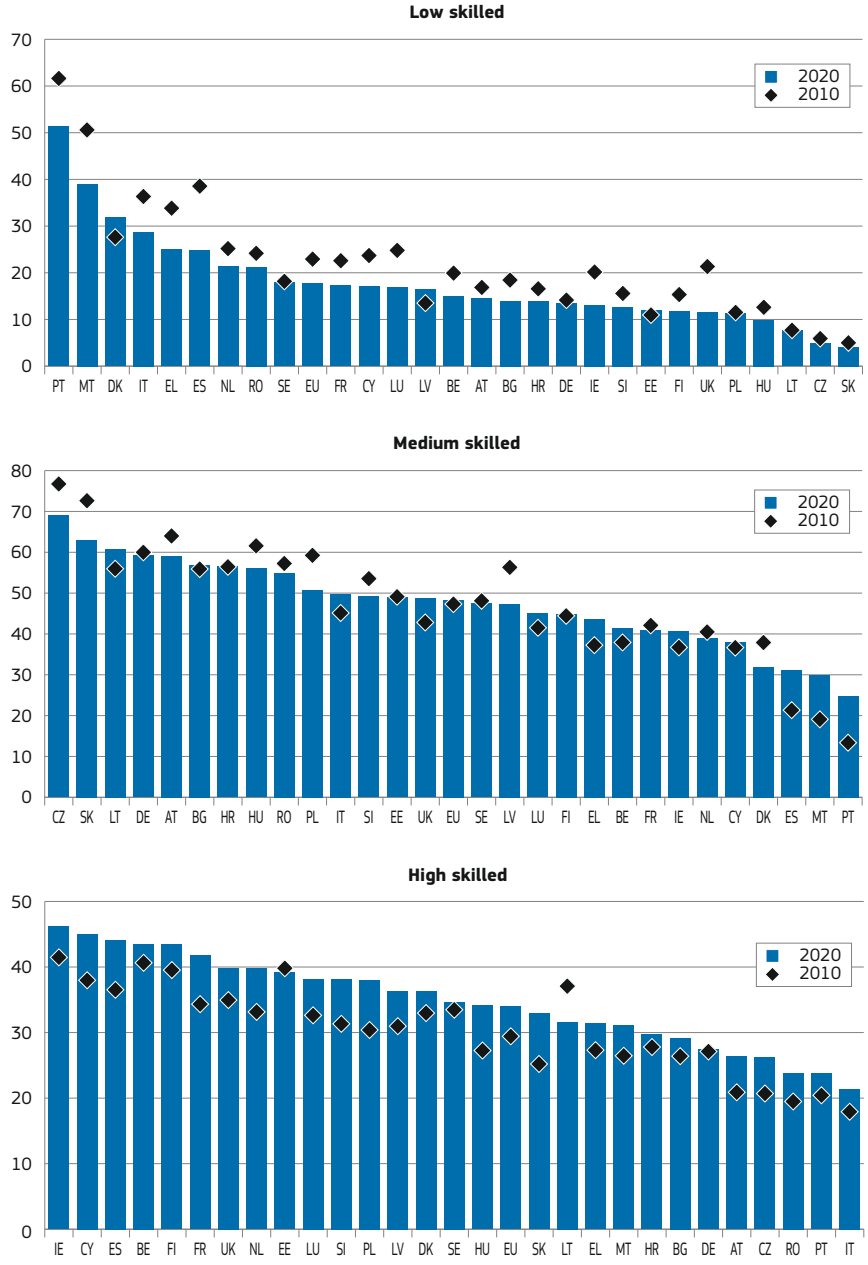
However, Chart 26 also shows that important differences in skill composition across Member States will continue to exist.

More particularly, the difference between the highest share of low-skilled workers (Portugal at 51%) and the lowest share (Slovakia at 4%) is projected to be lower (by 47 pp) in 2020 compared to 2010 (at 57 pp) with the difference between the highest share of medium-skilled workers (69% in the Czech Republic) and the lowest share (25% in Portugal) projected to rise to 44 pp in 2020, while the difference between the highest share of highly-skilled workers (46% in Ireland) and the lowest share (21% in Italy) is projected to be 25 pp in 2020.

([1]) It would be beyond the scope of this chapter to analyse this to its fullest extent. See Cedefop (2013) for a detailed projection of future skill needs in the EU.

([2]) Qualification refers to the highest level of education/qualification held by an individual. Three broad levels of qualifications are presented – low, medium and high. These are connected to different ISCED groups 0-2 for low, 3-4 for medium and 5-6 for high. See CEDEFOP (2013a).

Chart 26: Change in skill composition – 2010 & 2020



Source: DG EMPL calculations based on CEDEFOP (2013).

Without attempting a full quantitative assessment of future skill needs, Sections 6.1 and 6.2 investigate the potential impact of policy instruments aimed at improving the skills composition of an ageing population and a shrinking workforce based on a model simulation.

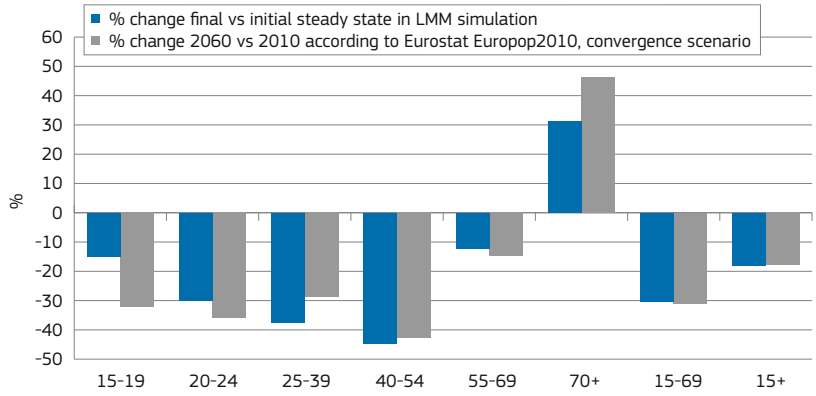
Box 11 considers the long-term effect of demographic changes using DG EMPL's Labour Market Model (LMM), a general equilibrium model with a particular focus on the labour market ([131]). It clearly indicates that 'doing nothing' in policy terms is not an option since a shrinking workforce would drag down investment, productivity, wages, and employment in the long run if no action is taken to limit the employment decline and to strengthen productivity growth.

([131]) An outline of the model can be found in European Commission's Employment in Europe 2010 (pp. 113-116). For a full technical model description by the LMM developers see Berger *et al.* (2009). Other LMM-related exercises are shown in Employment and Social Developments in Europe 2011 (pp. 221-229) and 2012 (pp. 275-279).

Box 11: Demographics and the cost of doing nothing

The model used assumes a general equilibrium in both the initial and final state. While it assumes a static population both in size and age composition, it is possible (with some limitations) to map the impact of a shrinking and ageing workforce in such a way as to depict the effects of a change in the age composition and a decline in the size of the working-age population ([1]). The LMM has eight age groups, starting at the age of 15 years. While the model covers 14 countries, Germany is taken as a platform for the simulation. The exogenous changes in terms of both the age structure and the working age population are done in a way as to resemble the long-term changes projected by Eurostat in their Europop2010 convergence scenario. The age-structural changes are somewhat less pronounced however ([2]).

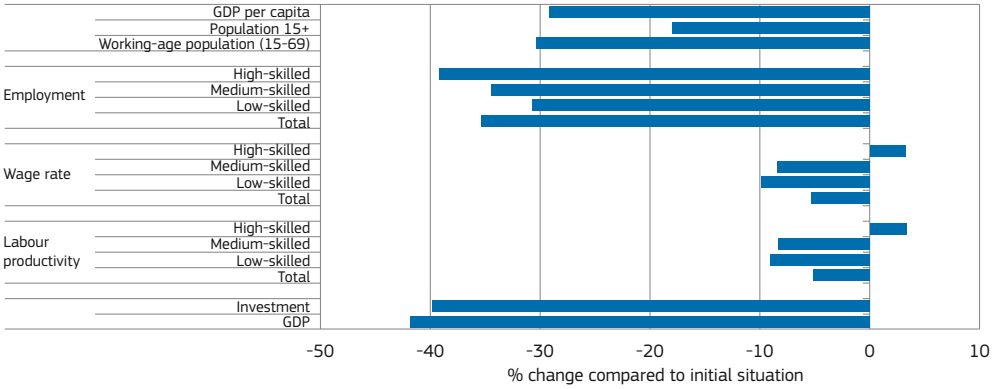
Chart 27: Exogenous long-term demographic change assumed in LMM simulation vs. Eurostat Europop2010 convergence scenario for Germany (2060 vs. 2010)



Source: Own calculation, Eurostat Europop2010 demographic projection.

Chart 27 plots the relative change between 2060 and 2010 of the population in different age groups following Europop2010 against the LMM simulation scenario. LMM would produce similar results as regards both the change of total population (15 years and older) and the change of the working-age population (age 15 to 69). The relative change of the older population (70 years and older) would be less pronounced as would be the relative decrease of the young cohorts, whereas the changes of the prime age groups (from 25 to 54 years) would be stronger in the LMM simulated scenario.

Chart 28: Exogenous shock: shrinking working-age population and population ageing, long-term impact for Germany on the labour market and the economy



Source: Own calculation based on DG EMPL's Labour Market Model.

With respect to the declining working-age population it is assumed that the exogenous shock is neutral in terms of skills in that the decline is the same for each skills group.

In the absence of any counter-balancing policy measure, this leads to the following results:

On the basis of the significant decline in the working-age population, employment would be expected to decline by some 35% in the long run, compared to the initial position. This employment decline would be more pronounced than the decline in the

([1]) These changes do not perfectly reproduce current long-term population projections such as Eurostat's Europop2010 demographic projection since this is not possible with LMM given its limited demographic control parameters.

([2]) For large exogenous shocks there are technical limitations as regards fine-tuned changes in the demographic parameters. The simulation of large-scale demographic shocks is not what LMM was developed to address.

working age population insofar as lower wages would reduce labour market participation, adding to the negative supply-side effect resulting from the demographic changes.

However, a massive decline in employment would reduce potential GDP. With demand following supply in the long run, real GDP would plummet by more than 40%, as would physical investment with a negative impact on productivity, despite lower employment, resulting in a decline in total labour productivity of 5%.

The strong productivity decline is also a result of a change in the skill mix of the employed workforce as employment declines. In effect, the complementarity between skills and capital formation means that lower rates of investment result in a relatively stronger decline in employment of those with higher skill levels, even if the initial demographic shock introduced into the model was neutral with respect to skills for a given age ([3]).

Lower productivity leads to lower wages despite the reduction of labour supply, contrary to theoretical expectations. With production falling fast and employment and wages declining, the base for taxes and social contributions will be eroded. Since it is assumed that any impact on public budgets will be neutralised by a corresponding lump-sum tax (or transfer) imposed to all households, the lower tax base necessitates an additional lump-sum tax equivalent to 15% of GDP.

([3]) The effect on the skills mix may be somewhat too strong however. As the reduction of young age groups below 24 years is less pronounced than in the official Europop2010 projection, they may be overrepresented in the new steady state. As young people are mostly low-skilled, this structural effect may skew the skills distribution to the lower end to some extent.

In fact, the evidence suggests that, even under optimistic employment scenarios, the strong decline in the working-age population will inevitably result in slower, maybe even negative, employment growth over the next decades (Peschner (2012), Peschner/Fotakis (2013) unless effective policies can be put in place to cushion the employment decline to the largest possible extent and to multiply productivity gains.

In recent decades productivity gains in Europe have been moderate compared to other regions in the world (van Ark *et al.* (2013)). To address this, policy interest has focused on the development of education and skills ([132]) because, unlike pure capital deepening (which substitutes capital for labour), human capital development is both socially beneficial and a sustainable source of higher productivity growth.

Section 6.1 therefore considers the potential impact of activities to develop skills (higher education) on productivity, employment and economic growth in the long run, while Section 6.2 looks at migration as a potential source of employment growth, with a focus on the skills-mix.

6.1. Skills, productivity, and employment

In the LMM, educational attainment ([133]) is normally treated as endogenous, implying that, right at the beginning of their careers (age 15), young people decide, once and for all, on the educational attainment level they aim to achieve, and that this is exactly how things turn out. Given that investment in education promises a return in the form of higher life-time income but also imposes a cost, young people are assumed to weigh up the relative advantages when making their decision.

For the purposes of this simulation, however, the endogenous educational decision is replaced by the exogenous assumption that, through their education policies, governments manage to reduce the share of young people who remain low-skilled and to shift a number of them into medium and high level education. This approach is similar to that taken by Peschner/Fotakis (2013) in work on France.

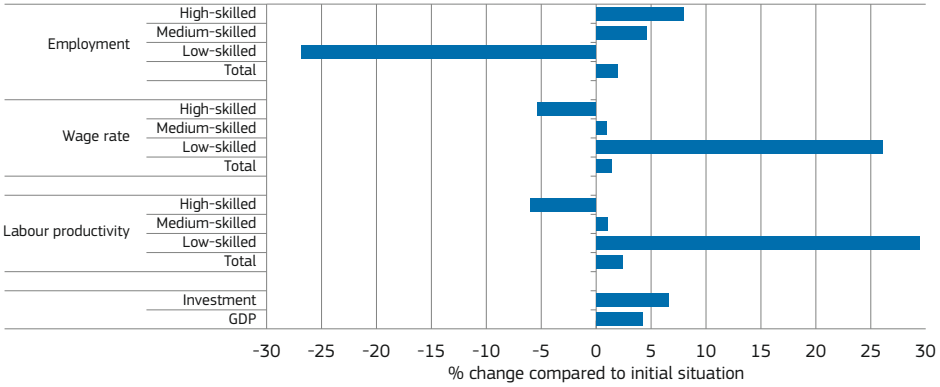
In the current case, it is specifically assumed that 5% of all people in the age group 15–19 will move from low education into medium (+2.5%) and high (+2.5%) education ([134]). As a result, the share of people holding low qualifications will be reduced by around 33% in the very long run, while the number of medium and highly skilled will rise by 4% and 9% respectively.

([132]) As van Ark *et al* (2013) point out in their conclusion: 'Especially if European businesses and governments succeed to strengthen investment in their capabilities, including technology, innovation and skills, the chances of climbing the value chain and benefiting from each individual economy's competitive advantages in part of the global supply chain will significantly increase.' (p. 22).

([133]) Though LMM makes a distinction between vocational skills (through training) and educational attainment, 'skills' are being approximated by 'educational attainment' level in this section. Earlier analysis based on LMM has already shown the relevance of vocational training for higher productivity and higher growth. See, for example, European Commission (2011a), p. 225.

([134]) In contrast, Peschner/Fotakis (2013, p. 36, 37) change the share of low/medium/high education according to a separate projection, resulting in those shares being different from the ones assumed here (for example, they reduce the share of medium-educated in total labour supply).

Chart 29: Simulation with DG EMPL's Labour Market Model: Lowering the number of low-educated, increasing medium- and high-educated people



Source: Own calculations based on DG EMPL's Labour Market Model.

The LMM also takes on board the fact that investments in skills and capital are complementary and that, following the change in the skills mix, investment is almost 7 % higher than in the initial state, raising GDP by more than 4 %.

The more favourable skills mix allows total productivity to shift by 2.4 %, hence overall wages by 1.4 % and total employment by 2 %. The more pronounced impact on low-skilled employment is due to the significant reduction in supply, resulting in much higher wages and a higher average productivity for low-skilled workers.

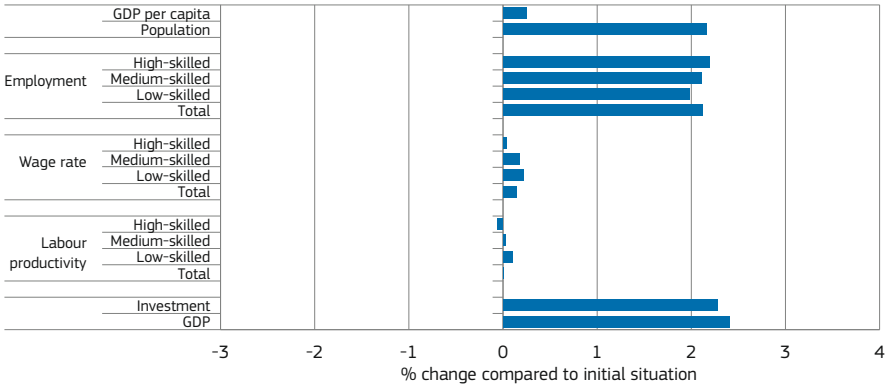
Looking at employment and wages, the purely structural effect of a reduced supply of low-skilled workforce would be to allow employment, wages and production to increase, following higher productivity and higher capital formation.

6.2. Skills and migration

There is considerable literature concerning the impact of migration on local economies and labour markets and most of this research concludes that the effects on wages and output depend on the skills mix of the migrants and whether this is complementary to the needs of the local economy. In the long-term, higher net migration is seen to have no significant impact on local wage levels as the economy adapts to the new labour force composition and characteristics (European Commission (2008c), p. 54).

Using the LMM, this section assesses the likely long-term impact of higher net migration of prime age (25–49) workers, assuming alternative skill characteristics. For each skills ([135]) group (low, medium, high), net migration increases the total population in that group in each year by 0.1 %. Chart 30 shows the long-term steady state results of such developments.

Chart 30: Simulation with DG EMPL's Labour Market Model: Migration shifts each year by 0.1 % of the population aged between 25 and 49 (skills-neutral migration)



Source: Own calculations based on DG EMPL's Labour Market Model.

([135]) Based on educational attainment.

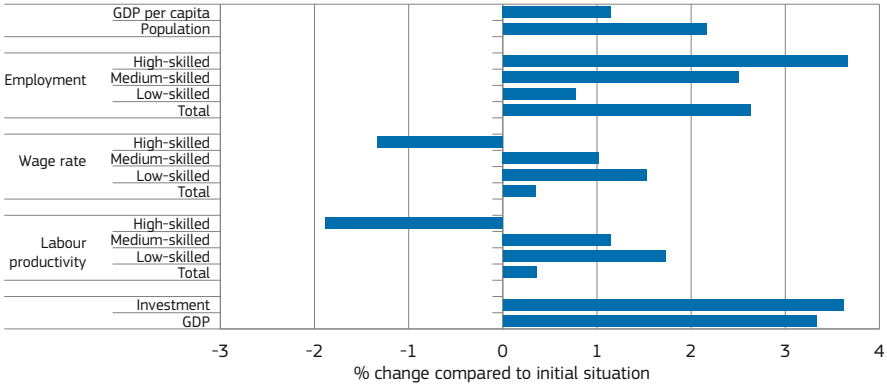
These results confirm the view that higher, skills-neutral net migration will not change the skills composition of labour supply, and will not influence wages and productivity in the long run. In particular, there is no detrimental impact on wages. This is because the new workforce, in particular the medium and high skilled, will trigger investment. Higher investment will then trigger GDP and employment growth, so that total employment increases by 2.1% in line with the increase in total population. GDP will then be almost 2 ½% higher than in the initial steady state, indicating that GDP per capita increases by 0.25% in the process.

To demonstrate the impact of migrants' skills mix on the employment outcome and the economy, a second simulation assumed the same number of migrants, but with all of them of high skill. Chart 31 shows the long-term steady-state outcomes.

Given that the overall composition of the employed workforce shifts in the direction of higher skills, total productivity increases by 0.3% with a corresponding positive impact on wage levels. As a technical effect, however, due to the concentration of employment gains among high skilled people, their average productivity decreases simply because of the much higher headcount.

Investment and GDP nevertheless increases by +3.6% and +3.2% respectively, so that the productivity of other skills groups can increase considerably, also fuelling employment gains and higher wages. GDP per capita thus increases by 1.2% following the higher net migration of highly skilled people of prime working age.

Chart 31: Simulation with DG EMPL's Labour Market Model: Migration shifts each year by 0.1% of the population aged between 25 and 49 (highly- skilled migration)



Source: Own calculations based on DG EMPL's Labour Market Model.

As a result, both skills-neutral and highly- skilled net migration produce higher employment and higher GDP per head of population, but the effects are much greater in the case of highly skilled migration. On top of that, the skills-capital complementarity brings structural benefits for low and medium skilled workers given that the investment impact of more highly skilled employment reinforces the productivity and wages of low and medium-skilled workers.

In short, skills-neutral migration would not have a detrimental impact on the economy or on the labour market in the long term but the effect is the more positive when there is a good skills mix of migrants.

7. Conclusions

This chapter investigated where new jobs will come from and what they will look like in the EU in the period to 2020 and beyond. It does not attempt to make quantitative forecasts but to provide a broad overview of the likely outcomes for employment and jobs in a variety of ways in the light of current and foreseeable trends and developments.

Globalisation, technological progress, demographic change and the greening of the economy, and the interactions between them, have had a significant impact on labour market dynamics in the EU in the past, including the emergence of global value chains as well as the recognition of the need for employees and employers to adapt their skills and competences to changing labour markets.

New job opportunities ...

It is to be expected that in the future these trend developments will strengthen providing the Member States and regions of the EU the opportunity to exploit their comparative advantages in world markets by specialising in activities with high technology and knowledge-intensive profiles.

More specifically, it is to be expected that, by 2020, new jobs (such as, for example, jobs in the renewable energy sector) will be created, while old jobs will be transformed (such as, for example, jobs in the construction sector with a view to increasing the energy efficiency of buildings) or destroyed (such as, for example, jobs in coal mining).

Moreover, technological progress (such as, for example, the creation of virtual workplaces) and the greening of the economy (such as, for example, more intensive use of teleworking to limit travelling) will continue to transform the ways in which goods and services are produced, while technological progress in combination with further globalisation will induce continuing changes in areas of the world where specific stages of the production process take place (such as, for example, the production of intermediary inputs of electronic devices).

... but also challenges,...

However, the analysis in this chapter also showed that, in order to realise this job potential to its fullest extent, the right framework conditions have to be implemented and the current economic and financial conditions have to be normalised.

Indeed, most of the opportunities and challenges facing the EU are driven, to a large extent, by market forces. The challenge and test for policy makers and social partners will be to ensure that these changes are shaped according to the path of smart, sustainable and inclusive growth.

In this respect it is important to recognise that, while structural changes inevitably create some insecurity, the EU can actively promote employment security by strengthening the operation of its labour markets along flexicurity lines, in close cooperation with social partners as well as other stakeholders.

Moreover, there are no guarantees that the benefits and costs of these changes will be distributed in an equitable manner, although globalisation, together with technological progress, should strengthen the opportunities to specialise in the production of those goods and services in which the EU has a comparative advantage in international markets, thereby increasing its overall productivity and living standards.

... including labour market polarisation ...

These developments are expected to create a stronger demand for highly-skilled workers, with a positive effect on their earnings prospects. To the extent that the upward mobility of workers with lower skills is hindered, there is a continuing risk for further labour market polarisation.

Past experience has seen labour market polarisation being especially apparent in manufacturing activities where routine work performed by low and medium-skilled workers has been adversely affected by technological progress (in combination with globalisation) with only limited labour market institutional support for re-skilling.

... job quality ...

One of the most positive aspects of the combination of technological innovation with globalised production is the possibility to organise production processes in more flexible ways, from both the employer perspective (via for example

outsourcing and offshoring) as well as that of employees (via, for example, more household-friendly flexible working hours). Where this succeeds, the resulting flexibility can increase both productivity and earnings.

Such flexibility offers the possibility to adapt jobs and working conditions to specific individual and household needs, including those of specific groups such as disabled or older workers, recognising that job quality is an important determinant of the labour market participation decisions of people with more specific employment needs.

On the other hand, insofar as a more flexible workplace environment leads to less secure employment, work-life balances may be negatively affected which can have not only a negative impact on job quality and life satisfaction, but also lead to lower rates of labour market participation.

... skill formation and a modern approach towards migration in a changing demographic context...

Knowledge-intensive forms of technological innovation and human capital investment will be at the heart of developments and action that can realise the full job potential of the resource-scarce, skills-rich European Union in the coming years. Indeed, they are a necessary condition for ensuring the enhanced productivity growth and stronger economic growth required to off-set the effects of a shrinking workforce and an ageing population. A massive investment in skills formation and education is imperative for future productivity gains, in line with rising rates of physical investment, and rising incomes.

At the same time, the issues surrounding the foreseeable declining working age population in the EU must be addressed. In fact, the decline affects the EU at all levels – from the national as well as regional perspective. While improved productivity can off-set part of the effect of the workforce decline, much more effective use needs to be made of all sources of domestic and migrant labour.

In the case of the domestic labour force potential, much more can be done to raise the employment rates of all age and skill groups. In the case of migrants, evidence shows that, positively managed from a social perspective, migration can have an overall positive impact for all workers.

The strengthening of skills formation, in combination with policies aimed at strengthening flexicurity, job quality and working conditions, and job creation according to the 'New Skills for New Jobs' flagship initiative ([136]) is fundamental to ensuring that the European Union fully exploits its comparative advantages in international markets.

([136]) For more details see http://ec.europa.eu/social/main.jsp?langId=en&catId=958

Annex A: Manufacturing industries and knowledge based services

Table A.1: Manufacturing industries (NACE Rev. 2 codes – 2-digit level)

High-technology	21 Manufacture of basic pharmaceutical products and pharmaceutical preparations 26 Manufacture of computer, electronic and optical products
Medium-high-technology	20 Manufacture of chemicals and chemical products 27 to 30 Manufacture of electrical equipment, Manufacture of machinery and equipment n.e.c., Manufacture of motor vehicles, trailers and semi-trailers, Manufacture of other transport equipment
Medium-low-technology	19 Manufacture of coke and refined petroleum products 22 to 25 Manufacture of rubber and plastic products, Manufacture of other non-metallic mineral products, Manufacture of basic metals, Manufacture of fabricated metal products, except machinery and equipment 33 Repair and installation of machinery and equipment
Low-technology	10 to 18 Manufacture of food products, beverages, tobacco products, textiles, wearing apparel, leather and related products, wood and of products of wood, paper and paper products, printing and reproduction of recorded media 31 to 32 Manufacture of furniture, Other manufacturing

Source: http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/htec_esms_an3.pdf

Table A.2: Knowledge based services (NACE Rev. 2 codes – 2-digit level)

Knowledge-intensive services (KIS)	50 to 51 Water transport, Air transport 58 to 63 Publishing activities, Motion picture, video and television programme production, sound recording and music publishing activities, Programming and broadcasting activities, Telecommunications, Computer programming, consultancy and related activities, Information service activities (section J) 64 to 66 Financial and insurance activities (section K) 69 to 75 Legal and accounting activities, Activities of head offices; management consultancy activities, Architectural and engineering activities; technical testing and analysis, Scientific research and development, Advertising and market research, Other professional, scientific and technical activities, Veterinary activities (section M) 78 Employment activities 80 Security and investigation activities 84 to 93 Public administration and defence, compulsory social security (section O), Education (section P), Human health and social work activities (section Q), Arts, entertainment and recreation (section R)
Knowledge-intensive market services (excluding high-tech and financial services)	50 to 51 Water transport, Air transport 69 to 71 Legal and accounting activities, Activities of head offices; management consultancy activities, Architectural and engineering activities; technical testing and analysis 73 to 74 Advertising and market research, Other professional, scientific and technical activities 78 Employment activities 80 Security and investigation activities
High-tech knowledge-intensive services	59 to 63 Motion picture, video and television programme production, sound recording and music publishing activities, Programming and broadcasting activities, Telecommunications, Computer programming, consultancy and related activities, Information service activities 72 Scientific research and development
Knowledge-intensive financial services	64 to 66 Financial and insurance activities (section K)
Other knowledge-intensive services	58 Publishing activities 75 Veterinary activities 84 to 93 Public administration and defence, compulsory social security (section O), Education (section P), Human health and social work activities (section Q), Arts, entertainment and recreation (section R)
Less knowledge-intensive services (LKIS)	45 to 47 Wholesale and retail trade; repair of motor vehicles and motorcycles (section G) 49 Land transport and transport via pipelines 52 to 53 Warehousing and support activities for transportation, Postal and courier activities 55 to 56 Accommodation and food service activities (section I) 68 Real estate activities (section L) 77 Rental and leasing activities 79 Travel agency, tour operator reservation service and related activities 81 Services to buildings and landscape activities 82 Office administrative, office support and other business support activities 94 to 96 Activities of membership organisations, Repair of computers and personal and household goods, Other personal service activities (section S) 97 to 99 Activities of households as employers of domestic personnel; Undifferentiated goods- and services-producing activities of private households for own use (section T), Activities of extraterritorial organisations and bodies (section U)
Less knowledge-intensive market services	45 to 47 Wholesale and retail trade; repair of motor vehicles and motorcycles (section G) 49 Land transport and transport via pipelines 52 Warehousing and support activities for transportation 55 to 56 Accommodation and food service activities (Section I) 68 Real estate activities 77 Rental and leasing activities 79 Travel agency, tour operator reservation service and related activities 81 Services to buildings and landscape activities 82 Office administrative, office support and other business support activities 95 Repair of computers and personal and household goods
Other less knowledge-intensive services	53 Postal and courier activities 94 Activities of membership organisations 96 Other personal service activities 97 to 99 Activities of households as employers of domestic personnel; Undifferentiated goods- and services-producing activities of private households for own use (section T), Activities of extraterritorial organisations and bodies (section U)

Source: http://epp.eurostat.ec.europa.eu/cache/ITY_SDDS/Annexes/htec_esms_an3.pdf

Annex B: Health sector: Member State detail

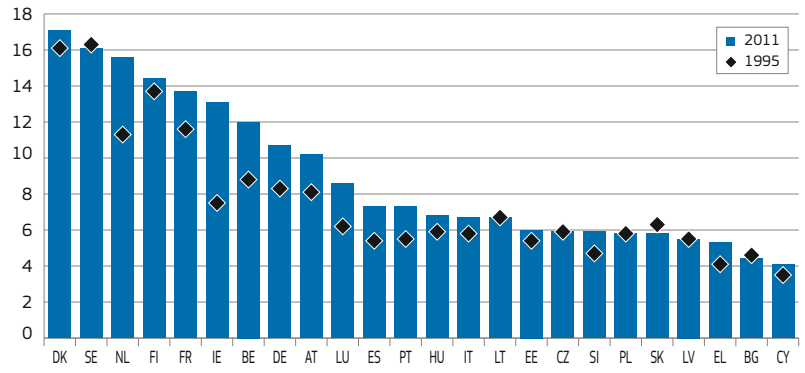
The health sector in the EU is one of the sectors with the highest employment level and sharpest growth.

Nevertheless, its labour force has its own specific characteristics (including its high labour intensity, gender imbalance, and ageing workforce) that will affect its future growth potential. See also European Commission (2012i) and (2012o).

In all EU Member States (except Bulgaria, Slovakia and Sweden), the employment share for human health and social work activities was greater in 2011 than in 1995. Nevertheless, there are still some significant differences across Member States, with the Nordic Member States recording employment shares more than double the employment shares of the Eastern and Southern Member States. See Chart B1.

In all Member States there is a strong unbalanced gender composition of the health sector and the total economy. On average, in the EU as a whole 78% of the people employed in this sector are female workers, compared with about 49% in the total economy. The highest shares are to be found in the Baltic States and Finland, while the lowest share is recorded for Malta. See Chart B2.

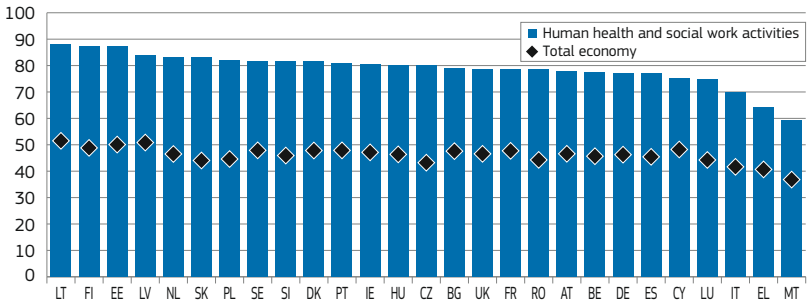
Chart B1: Employment share for human health and social work activities



Source: DG EMPL calculations based on Eurostat, National accounts [nama_nace21_e].

Notes: BG, EL, ES, LV, LT the year 2000 (instead of 2005), IE 1998, PL 2004, for PT 2010 instead of 2011. Break in series of EL and LV.

Chart B2: Gender distribution in human health and social work activities sector 2012 (aged 15-64)



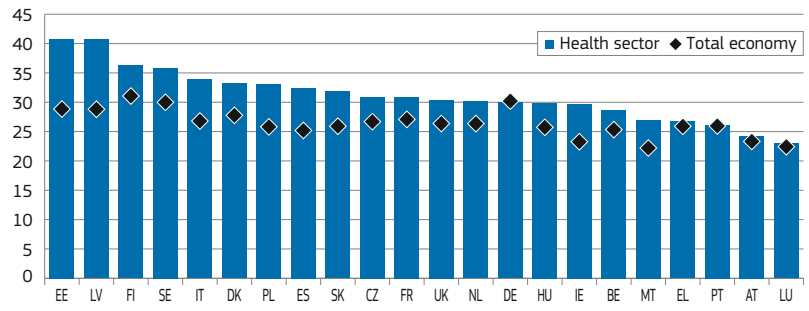
Source: DG EMPL calculations based on Eurostat, Labour force survey [lfsa_egan2].

Note: Total – All NACE activities.

In several Member States there are very notable differences between the age structure of the health sector and the total economy. This is especially the case in Bulgaria, Cyprus and the Baltic States where the share for older workers (aged 50 to 64) is more than 10 pp higher than the share for the same age group in the total economy. By contrast, in Germany and Portugal these differences in the employment share for older workers is very modest. See Chart B3.

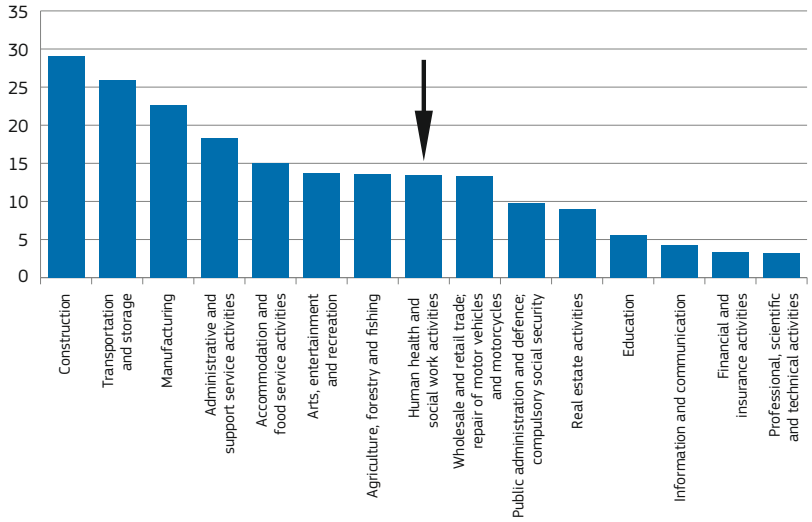
In 2010, on average for the EU as a whole, earnings of women in the health and social work sector are higher than the earnings of women in industry, construction and services ([137]) for all education levels – see Chart B4.

Chart B3: Share of people aged 50-65 in total employment



Source: DG EMPL calculations based on Eurostat, Labour force survey [lfsa_egan2].

Chart B4: Accidents at work per employed persons (x 1000) – EU in 2010

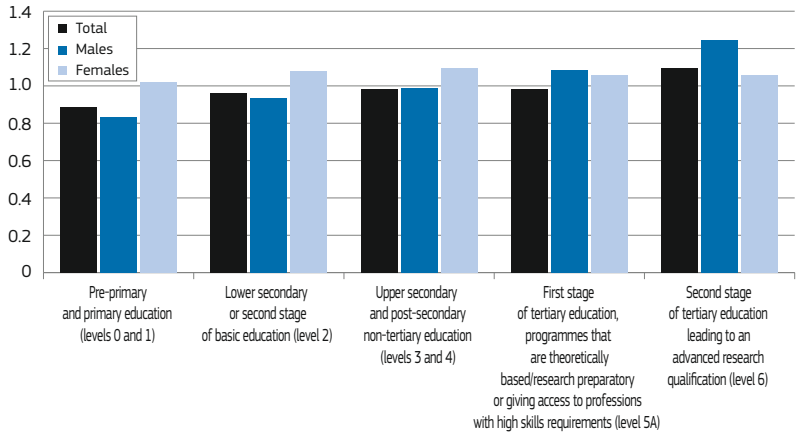


Source: DG EMPL calculations based on Eurostat, population and social conditions [hsw_n2_07 and nama_nace21_e].

Note: Total number of accidents at work with more than 3 days of absence and fatal accidents at work divided by the number of employed persons.

([137]) Except public administration, defence, compulsory social security.

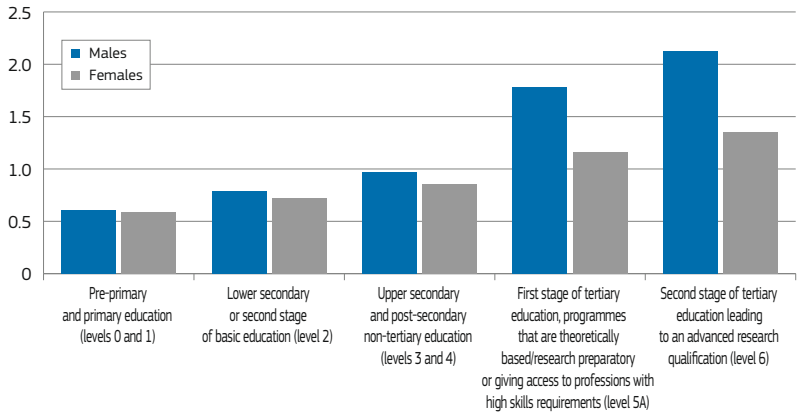
Chart B5: Earnings of health and social work sector compared with rest of economy in EU in 2020



Source: DG EMPL calculations based on Eurostat, Structure of earnings survey [earn_ses10_30].

Notes: Enterprises with 10 employees or more. Business sector comprising industry, construction and services (except public administration, defence, compulsory social security). Earnings of the health and social work sector divided by earnings of industry, construction and services (except public administration, defence, compulsory social security) with the same education and gender.

Chart B6: Earnings structure within health and social work sector in EU in 2010



Source: DG EMPL calculations based on Eurostat, Structure of earnings survey [earn_ses10_30].

Notes: Enterprises with 10 employees or more. Business sector comprising industry, construction and services (except public administration, defence, compulsory social security).

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Chapter 2

Working age poverty: what policies help people finding a job and getting out of poverty?[1]

1. Introduction

Poverty among the working age [2] population has increased significantly in two out of three EU Member States over the last four years. More than 50 million people aged 18–64 now live at risk of poverty in the EU; 28 million cannot afford the necessities for a decent life [3]; and over 30 million live in a jobless household [4]. Altogether, this covers nearly a quarter of the working age population.

Poverty among those of working age can reflect both labour market exclusion (not having access to jobs) and in-work poverty (having work, but not earning enough to make a living). The purpose of this chapter is to present evidence on the factors giving rise to working age poverty, and to identify those policies that appear to be best able to tackle and prevent them, through an in-depth analysis of labour market and poverty transitions.

During the crisis, the deterioration of labour market conditions and long-term unemployment in particular have been strong drivers of rising working age poverty. However, past experience has shown that improvements in labour market conditions (as measured by falling unemployment and rising employment rates) do not necessarily lead to poverty reduction [5]. In addition to the improvement of the economic and employment outlook, a combination of effective policy interventions is generally required in order to support returns to work and to ensure that a job enables people and their families to stay out of poverty. This is especially needed for people who have remained out of work for a long time or have weak ties to the labour market, as may be the case of many people after a long period of economic recession.

Member States at EU level have agreed on common principles of active inclusion [6], which should guide the design of strategies combining adequate income support with measures that promote inclusive labour markets and provide access to enabling services such as training or childcare. The analysis presented reviews a number of indicators covering these three dimensions of policy intervention, including the main features of tax and benefit systems and labour market institutions, and relates them to various measures of poverty and labour market outcomes, notably in terms of transitions to the labour market and exits out of poverty. The aim is to shed light on which policies are associated with better outcomes.

In this respect, the evidence shows that adequate and widely available systems of income support for those out of work do not prevent returns to employment if the measures are well-designed (for example, accompanied by job search requirements with a gradual reduction in generosity over time), so as to allow workers enough time to search for a job matching their skills, and to strengthen those skills where necessary.

The chapter is structured as follows:

- In the first section, the drivers of working age poverty – exclusion from employment and low income from work – are discussed and measured at an EU level;
- The second section looks at the characteristics of welfare systems and labour market policies, and relates them to the causes of working age poverty identified in the first section;
- The third section describes the profile of adults at risk of poverty due to in-work poverty and labour market exclusion;

(1) By Magdalena Grzegorzewska and Céline Thévenot.

(2) In this analysis, the working age is set at 18–64. It refers to those aged 18–59 in analysis of work intensity, income composition or poverty and labour market transitions, as the paper is not focusing on transitions to retirement.

(3) Defined as severely materially deprived – unable to afford some items considered by most people to be desirable or even necessary to lead an adequate life (severely materially deprived people - according to the SPC measure - cannot afford 3 out of 9 items: 1. pay rent, mortgage or utility bills; 2. keep homes adequately warm; 3. face unexpected expenses; 4. eat meat or proteins regularly; 5. go on holiday; 6. a television set; 7. a washing machine; 8. a car; 9. a telephone).

(4) People aged 18–59 who live in very low work intensity households.

(5) See European Commission (2009).

(6) 2008 Commission Recommendation on the active inclusion of people excluded from the labour market. See European Commission (2008).

- The fourth section analyzes the role of labour market transitions in helping those out of work and those in work to escape from poverty;

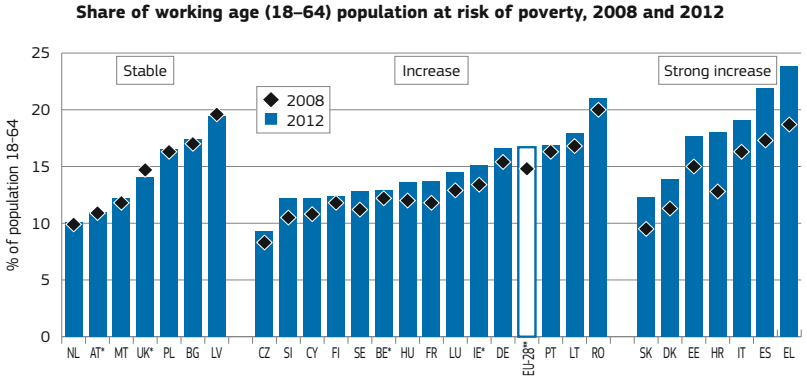
- In the fifth section, Member States' performances in aiding such transitions are examined in terms of the main characteristics of policies across areas such as tax and benefit systems, labour market characteristics and access to services.

2. POVERTY IN WORKING AGE: SERIOUS CONSEQUENCES OF THE CRISIS ON POVERTY OUTCOMES

Poverty among those of working age results from both labour market exclusion and in-work poverty, leading to different profiles of the individuals at risk and calling for different policy intervention.

Poverty is primarily about living on a low income. The at-risk-of-poverty rate ([7]) among those of working age (18-64) was 16.7 % in 2012 (incomes of 2011), compared to 17.1 % for the whole EU population. It has risen by nearly 2 percentage point (pps) in the EU as a whole over the last four years, with significant increases in two out of three Member States (mainly in Southern Europe). The increase exceeded 2.5 pps in Croatia ([8]), Estonia, Greece, Italy and Spain, where the risk of poverty had been already high, but also in Denmark and Slovakia (see Chart 1).

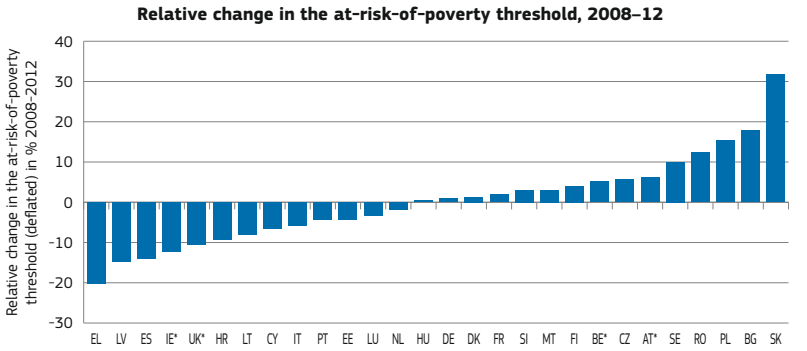
Chart 1: The serious social consequences of the crisis: poverty has increased in most Member States



Source: Eurostat, EU-SILC (2008 and 2012 income year 2007 and 2011) [ilc_li02].

Note: *AT, BE, IE and UK 2011 instead of 2012, **EU-27 in 2008.

Chart 2: Living standards of the poorest fell sharply with the decline in poverty thresholds in one out of three EU Member States



Source: DG EMPL calculations based on Eurostat, EU-SILC (2008 and 2012 income year 2007 and 2011) [ilc_li01].

Note: At-risk-of-poverty threshold in the national currency deflated (in Euro for CY, EE and SK), *AT, BE, IE and UK 2011 instead of 2012.

Changes in *relative* poverty have to be viewed, however, against trends in median disposable income, which affect the poverty threshold (see Chart 2). During the crisis, household disposable incomes in several Member States fell notably, and this led to a significant reduction (by 5 % or more) in the poverty threshold in some Member States. Hence people with a constant income might have been classified in 2012 as living just above the poverty line and just below it in 2011. This calculation tends to under-estimate the deterioration of the social situation. Some countries (Croatia, Greece, Lithuania, Ireland and Spain) have experienced both decreases in the poverty threshold and notable rises in the at-risk-of-poverty rate, while in others (Latvia, the United Kingdom) the at-risk-of-poverty threshold dropped and resulted in a stable relative poverty.

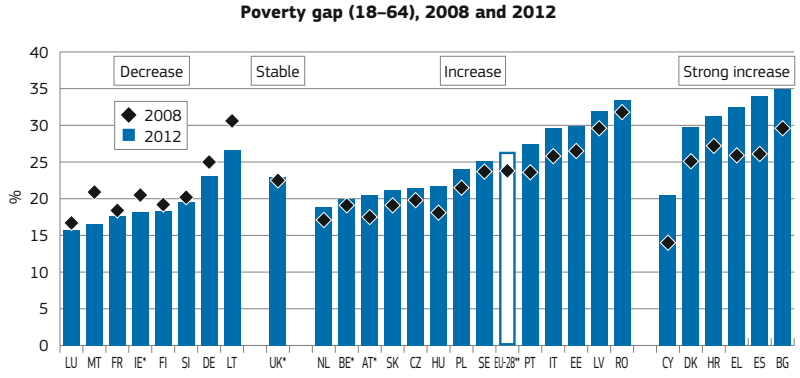
The deepening of poverty over the crisis is illustrated through the widening gap between the median income of the poor and the median income of the total population (or poverty gap ([9])). For the EU as a whole, the poverty gap has increased by 2.6 pps to 26.6 % between 2008 and 2012.

([7]) The at-risk-of-poverty rate is the share of people with an equivalised disposable income (i.e. after tax and social transfer) below the at-risk-of-poverty threshold. The equivalised income is calculated by dividing the total household income by its size determined after applying the following weights: 1.0 to the first adult, 0.5 to each other household members aged 14 or over and 0.3 to each household member aged less than 14 years old. Consequently, all household members have the same equivalised disposable income.
The poverty threshold is set at 60 % of the national median equivalised disposable income. It is set with respect to incomes in each Member State, not in relation to the EU average. Hence the real living standards of those categorised as (at risk of) being in poverty varies in line with median living standards in their country.

([8]) Croatia is included in section 1; it is excluded from the analysis in further sections due to lack of many indicators.

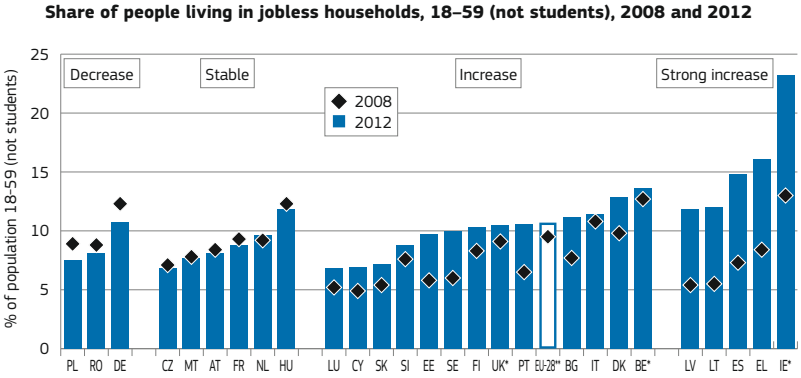
([9]) The poverty gap is defined as the difference between the median equivalised total net income of persons below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold. It gives an idea of the severity of poverty for those experiencing it.

Chart 3: Depth of poverty intensified severely in some Member States over the crisis



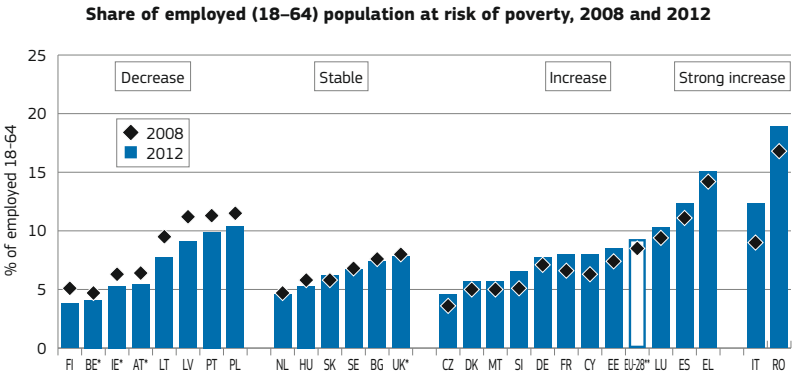
Source: Eurostat, EU-SILC (2008 and 2012 income year 2007 and 2011) [ilc_li11].
Note: *AT, BE, IE and UK 2011 instead of 2012, **EU-27 in 2008.

Chart 4: The deterioration of the labour market during the crisis increased the number of jobless households in most Member States



Source: Eurostat, EU-SILC (2008 and 2012 income year 2007 and 2011) [ilc_lvhl11].
Note: *BE, IE and UK 2011 instead of 2012, **EU-27 in 2008.

Chart 5: In-work poverty intensified severely in some Member States over the crisis



Source: Eurostat, EU-SILC (2008 and 2012 income year 2007 and 2011) [ilc_iw01].
Note: *AT, BE, IE and UK 2011 instead of 2012, **EU-27 in 2008.

Differences across the Member States are significant, with particularly high poverty gaps (of the order of 30%) being recorded in Bulgaria, Croatia, Greece, Latvia, Romania and Spain in 2012 (see Chart 3).

Exclusion from the labour market is one of the main drivers of poverty in the EU, being particularly evident in households where nobody is in work. Most Member States saw sharp rises in the share of people (aged 18-59) living in such jobless households ([10]). Recent developments are seen as particularly worrying in Ireland, Latvia, Lithuania, Greece and Spain – all of which saw more than a 6 pps deterioration between 2008 and 2012 (see Chart 4).

On the other hand, having a job does not always protect individuals or households against the risk of poverty. In-work poverty is a sizable phenomenon in the EU: one third of adults (18-64) who are at risk of poverty are employed. Altogether, 9.3% of employed individuals were at risk of poverty in 2012, up from 8.5% in 2008. In-work poverty rose significantly in Italy and Romania, and also in half of the other Member States between 2008 and 2012 (see Chart 5).

Rising long-term unemployment and joblessness are strong drivers of rising working age poverty. However, falling unemployment and rising employment rates do not necessarily lead to a reduction in poverty. As highlighted by the European Commission (2009): "employment increases [up to 2009] have not sufficiently reached those furthest away from the labour market, and jobs have not always succeeded in lifting people out of poverty" ([11]).

([10]) People living in jobless households, here based on EU-SILC – with very low work intensity are defined as people of all ages (from 0–59 years) living in households where the adults (those aged 18–59, but excluding student aged 18–24) worked less than 20% of their total potential during the previous 12 months.

([11]) See also Marx, Horemans, Marchal Van Rie, (2013).

3. Mapping the drivers of working age poverty at national level indicates the need to integrate policies

3.1. The drivers of working age poverty vary across Member States ([12])

Poverty among working age adults is driven by many factors, which can be grouped under three headings: exclusion from the labour market, insufficient earnings from work, and inadequate income support. Five indicators have been chosen to cover these dimensions, namely: the share of people living in jobless households; the long-term unemployment rate; the inactivity rate; the rate of in-work poverty; the impact of social transfers on poverty reduction.

In Table 1, countries are grouped according to the challenges they face, as reflected in these indicators. The comparison of each group with the respective poverty outcomes of the Member States concerned (indicated by the poverty rate, the poverty gap and the persistence of poverty ([13])) shows that countries that perform well on all drivers have better outcomes, i.e. a lower risk of poverty, a lower poverty gap and a lower persistence of poverty, while those with a bad performance on one or more drivers have worst poverty outcomes.

This analysis helps in identifying the prevailing drivers of poverty in each country in terms of the lack of inclusiveness of the labour market, and of the weakness of the poverty reduction impact of social transfers. However, it does not provide insight into the specific role played by labour market institutions and tax and benefit systems in explaining the relative performance of countries. The following sections review the institutional and policy characteristics that could explain part of the difference in performance between countries. This review does not include indicators reflecting the financial sustainability and efficiency of the systems (which are beyond the scope of this chapter).

([12]) This section (selection of drivers and grouping of countries) summarises a detailed analysis presented in the Commission Staff Working Document, Social Investment Package http://ec.europa.eu/social/BlobServlet?docId=9767&langId=en

([13]) See footnotes above for an explanation of the poverty rate (footnote 6) and the poverty gap (footnote 8). The persistent at-risk-of-poverty rate shows the percentage of the population living in households where the equivalised disposable income was below the at-risk-of-poverty threshold for the current year, and at least two out of the preceding three years.

3.2. Policies and institutions to prevent and tackle poverty in working age

The policy mix of each Member State, corresponding broadly to the three pillars of active inclusion (adequate income support, inclusive labour markets, and enabling services), can be described through a number of selected indicators or factors.

Table 1: Grouping of Member States based on poverty drivers

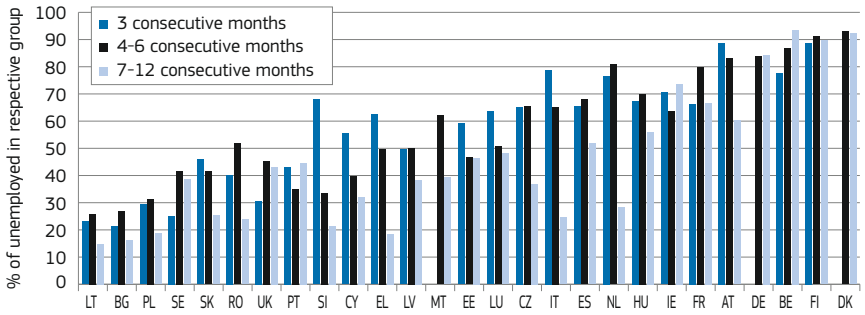
	Drivers	Outcome	Countries
Group A	Low share of **jobless households**	Risk of poverty	CZ FR
	Low level of long term unemployment	Poverty gap	NL AT SI SE
	Impact of social transfers is high	Persistent poverty	(CY)
	Relatively high level of activity rate		
	Low level of in-work poverty		
Group B	Relatively high share of **jobless households**	Risk of poverty	BE DK DE
	Low level of long term unemployment	Poverty gap	FI UK
	Impact of social transfers is high	Persistent poverty	
	Relatively high level of activity rate (BE)		
	Low level of in-work poverty		
Group C	Very high share of **jobless households**	**Risk of poverty**	IE
	Very high level of **long term unemployment**	Poverty gap	
	Impact of social transfers is high		
	Low level of **activity rate**		
	Relatively low level of in work poverty		
Group D	Relatively high share of jobless households	**Risk of poverty**	BG RO
	Low level of long term unemployment	**Poverty gap**	HU PL
	Impact of social transfers is very **low**	**Persistent poverty**	IT MT
	Very low level of **activity rate**		
	Relatively high level of in-work poverty		
Group E	Relatively high share of jobless households	**Risk of poverty**	ES EL PT
	Very high level of **long term unemployment**	**Poverty gap**	LV LT EE SK
	Impact of social transfers is **low**	**Persistent poverty**	
	Relatively high level of activity rate		
	High level of in-work poverty		

Source: EU-SILC 2010, and EU-LFS 2011, European Commission (DG EMPL) calculation. Groups are obtained by cluster analysis based on five variables for the working age population: share of the population living in zero or very low work intensity households, long-term unemployment rate, impact of social transfers in reducing poverty, activity rate and in work poverty rate. Country scores are calculated with reference to the EU average.

Notes: LU is treated as a 'shadow country' not influencing the clustering, since it presents outlier values. Countries in brackets are to be considered as on the edge of the cluster.

Chart 6: Pseudo-coverage of unemployment benefits

Share of the unemployed aged 18–59 receiving unemployment benefits during the reference period by unemployment duration, 2010

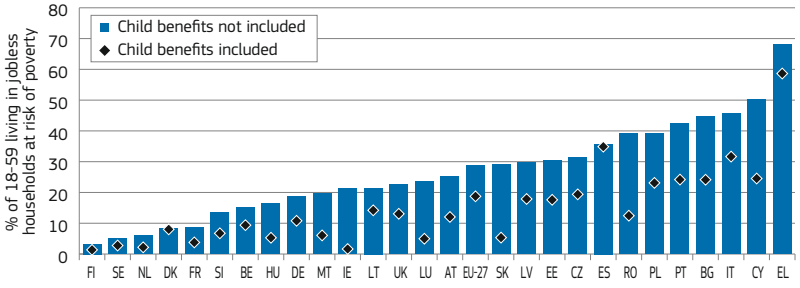


Source: DG EMPL calculations based on Eurostat, EU-SILC (2011 IE 2010).

Note: Reference population: unemployed aged 18–59 having experienced at least 3 consecutive months of unemployment over the previous year.

Chart 7: Non-coverage of social benefits

Proportion of 18–59 individuals living in jobless households at risk of poverty, whose total benefits received is less than 10 % of total net disposable household income, 2010



Source: DG EMPL calculations based on Eurostat, EU-SILC (2011, IE 2010).

In order to assess the effectiveness of income support (1st pillar of Active inclusion), the analysis focuses on income support intended primarily to cover adults of working age who lose their job and/or experienced prolonged exclusion from the labour market (namely unemployment benefits and social assistance). Other benefits, such as child benefits, disability or housing benefits, which may cover other needs, such as the cost of raising children or housing, are taken into account in so far as they contribute to the adequacy of income support, but they are not the main focus of the assessment ([14]).

Inclusive labour markets (2nd pillar of active inclusion) are seen to result from positive interactions between activation policies, labour market institutions that prevent segmentation and limit entry barriers, and well-designed tax and benefits systems. They aim at facilitating access and a return to employment and ensuring a living wage is paid, especially for those who are the most disadvantaged.

Enabling services support addressing barriers to entry into employment, such as care obligations, low skill levels or health problems, and are seen as especially important for parents, including single parents, low-skilled, migrants or the disabled.

A large number of indicators are available to describe these domains of policy intervention. To reduce the number of indicators while retaining a sufficient level of information, policy indicators have been selected to represent all the main aspects of active inclusion, with some of the indicators summarised by synthetic measures based on factor analysis (see Box 2 for a technical description and the table in the Annex).

The resulting factors and selected indicators are used to group countries according to the main characteristics of their policy mixes. These are then related to the prevailing causes of poverty identified in the previous section. The mapping of policy characteristics is also used later to examine the extent to which they can explain the level of returns to employment and exits from poverty.

3.2.1. Coverage and adequacy of benefits varies greatly across Member States

The effectiveness of income support depends on the characteristics of the benefit system, which can be described in terms of: coverage; adequacy; duration; eligibility rules; and labour market friendliness, which can be judged in terms of the financial incentives they offer relative to labour market outcomes (wage levels, working arrangements, etc.) and associated tax-benefit treatments.

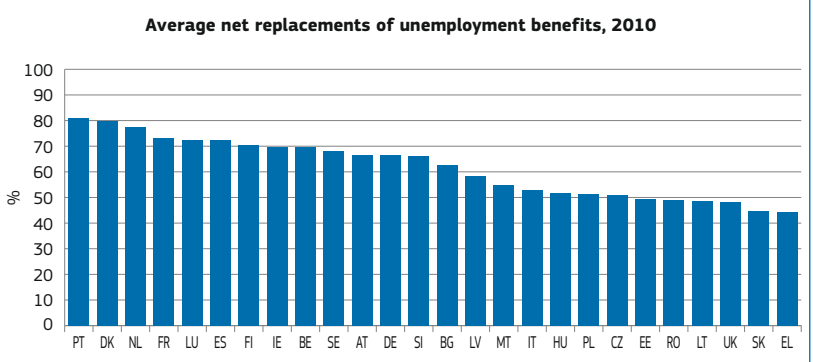
Coverage

In order to assess the effectiveness of a benefit system, it is important to measure to what extent the population at risk is covered by the system and actually receives benefits when the risk occurs. In practice, however, reliable information on benefit coverage is difficult to obtain, especially in the context of cross-country comparisons (see Box 1).

In this analysis, the coverage of unemployment benefit systems is assessed using a pseudo-coverage rate that relates the number of people actually receiving an unemployment benefit (as declared in EU-SILC with potential misclassifications) to the number of people unemployed during at least three months during the past year. The coverage of unemployment benefits varies greatly across countries and varies relative to the length of time spent in unemployment: up until 3 months; between 4 and 6 months; and between 7 and 12 months (see Chart 6).

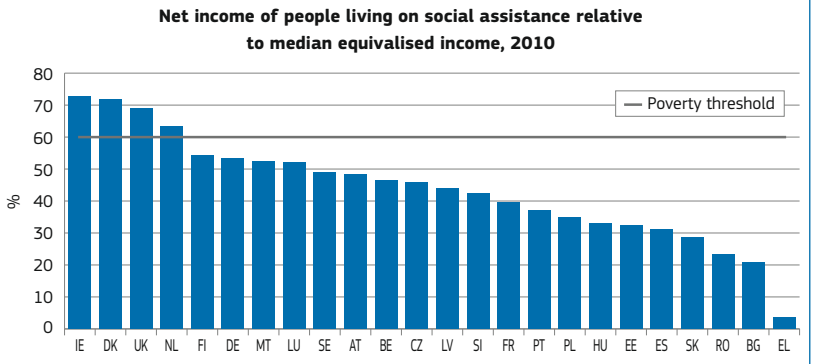
([14]) Disability benefits covering those who cannot work are not the focus of the analysis, but are taken into account in the assessment of non-coverage.

Chart 8: EU variation in the adequacy of benefits



Source: DG EMPL calculations based on OECD-EC tax-benefit model.

Chart 9: EU variation in adequacy of social assistance



Source: OECD-EC tax-benefit model.

Unemployment assistance or social assistance is generally available to those who are out-of-work but not eligible for unemployment benefits (because they have never worked, did not work long enough to be eligible, etc.), or because they have exhausted the duration of their entitlement. Assessing the coverage (or lack of coverage) of this type of benefit is challenging. In this analysis non-coverage of social benefits is defined as the share of people living in poor and jobless households (a priori in need of support) but receiving little or no benefits (accounting for less than 10% of their disposable income) (see Box 1).

On average in the EU, 20% of adults living in poor and jobless households receive less than 10% of their income from social benefits when child benefits are included, and when child benefits are excluded, the rate increases to nearly 30%. The non-coverage rate varies greatly between countries. It ranges from less than 10% in the North and Centre of Europe, while it exceeds 20% in the Southern countries and Poland (see Chart 7 and Table 2).

A number of countries (Bulgaria, Poland and Portugal) combine a limited coverage of both unemployment benefits and social assistance. This raises issues about the alternative sources of income on which these people may live, such as family solidarity and informal work (see Section 3.3 on the role that elderly pensions play in the disposable income of working age adults).

Adequacy

The adequacy of unemployment benefits is important to assess the capacity of safety nets to provide effective income support to those who need it. The OECD-EC tax-benefit model ([15]) produces two theoretical indicators to reflect this: the net replacement rates of unemployment benefits ([16]) and the net income of people on social assistance relative to the poverty threshold.

Net replacement rates of unemployment benefits vary by eligibility (families that do not qualify for other benefits such as social assistance, family benefits and cash housing assistance and for families that do qualify for such additional benefits); various types of 'stylised' households (single earner, one-earner couple, two-earner couple, each without children and with two dependent children); different wage levels (here 67% and 100% of the average worker's earnings); and different unemployment spells (after two months, half a year and a year of unemployment). The average of the net replacement rates across these dimensions is taken into account in further analysis ([17]).

The average net replacement ranges from 45% in Greece and Slovakia, to over 75% in Denmark, the Netherlands and Portugal (see Chart 8).

The adequacy of social assistance is measured by the net income of people on social assistance relative to the median equivalised income. Countries differ substantially in terms of the minimum safety nets they provide to jobless households, even when they are compared to the at-risk-of-poverty threshold which depends on the living standards within each country. Only a few countries provide households with a minimum income and related benefits (for example housing) that are sufficient to lift them close to, or above, the 60% median income threshold, and this only for some family types (see Chart 9).

([15]) The OECD-EC tax-benefit model is a joint project of the European Commission and the OECD. It aims to assess benefit generosity, work incentives and income adequacy. http://www.oecd.org/els/benefitsandwagesoecdindicators.htm http://ec.europa.eu/economy_finance/db_indicators/tax_benefits_indicators/index_en.htm

([16]) The net replacement rate compares net income while out of work (unemployment benefits plus other potential benefits received minus taxes) to net income while in work (mainly wages and salaries + associated in work benefits – taxes). The benefits may cover unemployment benefits, social assistance, family and housing benefits.

([17]) The high correlation between net replacement rates, which is confirmed by the factor analysis (Chronbach=0.97), led to the selection of the average of the net replacement rates for further analysis.

Box 1 : Estimation of pseudo-coverage of unemployment benefits and non-coverage of social benefits among individuals living in jobless and poor households

Estimating coverage rates is a challenging task that can only be partially fulfilled with currently available data, since it requires identifying (1) the population considered in need of benefits (unemployed in the case of the first level safety net, and those in need of last resort schemes in the case of the second level safety net) as well as (2) information on the population actually receiving the benefits. This box presents two possible methods to calculate the pseudo-coverage of unemployment benefits and the non-coverage of social benefits based on the EU-SILC.

Estimation of pseudo-coverage rates for the unemployed

Levels of benefit coverage of the unemployed should reflect access to some benefits for those in unemployment, as defined by the International Labour Organization (ILO), as well as the duration of the benefits. For varying reasons, such rates are difficult to measure through existing statistical sources (administrative data, the EU Labour Force Survey (EU-LFS), and the EU-SILC survey). First, administrative data on unemployment benefit recipients do not reflect the ILO status of beneficiaries and do not include information on non-recipients. Second, the EU-LFS measures unemployment as defined by the ILO, but cannot measure with sufficient accuracy the receipt of unemployment benefits over time. Last, the EU-SILC measures both benefits recipiency and unemployment status but not as defined by the ILO. The EU-SILC measure has the advantage of providing a full description of incomes; however, income data refer to a whole year with no possible monthly breakdown, while individual unemployment spell do not necessary last the whole year. Therefore, the link between unemployment spells and benefit recipiency remains fragile. The EU-SILC is used in the current analysis to estimate the pseudo-coverage of unemployment benefits by number of consecutive months in unemployment based on the following method.

The pseudo-coverage rate is estimated by the share of the unemployed (during at least three consecutive months over the reference period to avoid variation within coverage of short spells of unemployment) receiving some unemployment benefit during the income reference period, i.e. one year. It is called a pseudo-coverage rate because a number of issues cannot be taken into account. The eligibility rules cannot be checked for each individual, the non-take up cannot be taken into account (see Matsaganis *et al.* 2010, Barton and Riley 2012), and it is assumed that an unemployed person is covered by unemployment benefits if he/she received *some* benefits over the period (e.g. a person who is unemployed for 10 months, which is covered during the first 3 months but not during the last seven months, will be identified as a covered person).

Estimation of non-coverage rates for those jobless and poor

It is difficult to estimate the coverage of the second tier of safety nets as neither the target population of those in need for the last resort schemes is precisely defined nor those who are eligible. The means-tests associated with such schemes generally require detailed information on income and assets. In addition, the individual may receive other benefits that provide adequate resources. To cope with this difficulty, the current method aims at defining those expected to be in need of income support, and measuring the extent to which they receive benefits.

In this analysis, individuals living in a jobless household and at risk of poverty have been identified as a criterion to be used in measuring those in need for last resort schemes.

The non-coverage rate of at-risk-of-poverty and jobless people is defined as the share of individuals aged 18–59, who live in a jobless household and are at risk of poverty, but whose total benefits/allowances received is less than 10% of their total net disposable household income ([1]).

This indicator refers to all benefits received at an individual level by household members as measured in EU-SILC (unemployment, sickness, disability, education-related allowances, family/children benefits, and old age and survivors' benefits received by household members aged less than 60). Pensions (old age and survivors' benefits) received by individuals aged less than 60 are included in the scope of benefits, as they provide income support and are sometimes used as safety nets despite this not being their original aim. Pensions received by the elderly present in the household are not included in the calculation, since they are not received by working age adults, and their primary aim is not to alleviate poverty in working age; they are considered as a separate income source (see Part 3).

([1]) Some robustness tests have shown that various alternative thresholds (0%, 20%) do not change the picture.

Unemployment and inactivity traps

The effectiveness of benefits also depends on their design, including conditionality ([18]) (such as requirements regarding job search or participation in training); the eligibility rules applied ([19]) and their maximum duration (OECD 2007), as well as the interplay of taxes and benefits and earnings from work (see Table 2).

Efforts are generally made to design tax-benefits systems in ways that relieve poverty and at the same time reduce reliance on social benefits and increase self-sufficiency by supporting labour market participation and making work pay. Nevertheless, the combination of low wages and inadequate benefit-tax systems may produce the risk of restrained incentives to take up work. The effect of increased taxes and withdrawn benefits deducted when experiencing transitions from unemployment/inactivity to paid employment (or as will be seen later when increasing the working hours – low wage traps) are captured through the implicit marginal tax rates (unemployment traps ([20]) and inactivity traps ([21])).

The OECD reports that such 'traps' vary across various types of stylised households (single earner, one-earner couple, two-earner couple, each without children and with two dependent children) and different wage levels, and the average trap rates are used in further analysis ([22]).

The average unemployment trap is estimated to range from less than 50 % in Slovakia and the UK, to well in excess of 80 % in Latvia and Luxembourg. As regards inactivity traps (with the potentially associated effect of losing unemployment benefits), these range from between 25 % in Greece and Italy to over 75 % in Denmark (see Table 2).

Nevertheless, financial disincentives are not always associated with poor labour market outcomes. OECD (2004) notes the difference between 'incentives' and 'incentives effects' in so far as these theoretical traps do not turn always into actual ones and vice versa. The presence of the 'incentive effect' results from various specific factors and more general determinants, including the prevailing state of the economy and the general efficiency of the labour market, as well as from proper integration of policy tools, i.e. active inclusion.

In summary, the analysis, including factor analysis, resulted in the selection of six indicators which cover the main aspects of adequate income support (see Table 2 ([23])).

The table indicates that the characteristics of benefit systems vary considerably, from those with wide coverage and high levels of adequacy in the Nordic countries and Continental Europe, to low coverage and low adequacy in Eastern Europe and some of the Southern Member States. Underlying these main dimensions, countries also vary in terms of the compositions of policy instruments (unemployment insurance, unemployment assistance) and their design (adjustment of benefits over the unemployment spell, link to past earnings).

In Section 5, these coverage and adequacy indicators will be related to indicators of labour market and poverty transitions with a view to assessing the importance of these policies for preventing poverty while encouraging labour market participation.

The Member States that provide generous income support in terms of wide coverage and high level of adequacy may often be seen as reducing incentives to work. However, the analysis of this cross-country evidence indicates that the apparent disincentives are more than compensated by success in ensuring re-entry into employment when such schemes are combined with effective activation policies and strictly-enforced job search conditionality terms.

3.2.2. Inclusive labour markets result from interactions between activation policies and LM institutions that prevent segmentation

Policies and institutions promoting inclusive labour markets aim at facilitating access and a return to employment, especially for those who are the most disadvantaged. Inclusive labour markets result from positive interactions between activation policies, labour market institutions that prevent segmentation and limit entry barriers, and well-designed tax and benefits systems.

Activation policies

The key features of activation policies ([24]) are to establish and enforce work-availability and mutual obligation requirements for job seekers. Benefit recipients are expected to engage in active job search and improve their employability in exchange for receiving

([18]) The conditionality of unemployment benefits impacts on incentives to take-up a job without lowering the level of benefits, but it may push people into social assistance schemes, if their efforts to find a job are unsuccessful.

([19]) The eligibility is analysed in Palme (2013). It includes indicators on minimum qualifying period for unemployment: a) employment record needed to qualify, b) reference period used to assess employment records, and c) derived implicit minimum share of months/time worked needed to qualify, and coverage of unemployment insurance among employed.

([20]) The unemployment trap (the implicit tax on returning to work for unemployed persons) measures the part of the additional gross wage that is taxed away in the form of increased taxes and withdrawn benefits such as unemployment benefits, social assistance, housing benefits when a person returns to work from unemployment.

([21]) The inactivity trap (the implicit tax on returning to work for inactive persons) measures the part of the additional gross wage that is taxed away in the case where an inactive person (not entitled to receive unemployment benefits but eligible for income-tested social assistance) takes up a job. In other words, this indicator measures the financial incentives to move from inactivity and social assistance to employment.

([22]) The high correlation between trap rates, which is confirmed by the factor analysis (Chronbach=0.98 for unemployment traps and 0.94 for inactivity traps), led to the selection of the average of trap rates for further analysis.

([23]) Indicators are ordered according to the final grouping based on the three pillars of active inclusion.

([24]) See www.oecd.org/els/employment/almp

Table 2: Pillar 1 Adequate income support – indicators

	Adequate income support					
	Coverage of unemployment benefits (%)	Non-coverage rate of jobless poor - child benefits excluded (%)	Net replacement rate of unemployment benefits (%)	Net income of people on social assistance relative to median income (%)	Unemployment trap (%)	Inactivity trap (%)
DK	92.6	8.2	79.9	71.7	81.6	78.7
FI	89.8	3.3	70.6	54.3	69.1	57.6
NL	61.9	6.1	77.6	63.3	81.2	66.3
SE	35.1	5.0	67.9	49.0	67.4	53.0
FR	70.9	8.6	73.0	39.7	74.2	48.0
BE	86.1	15.2	69.7	46.3	77.6	60.6
AT	77.4	25.3	66.5	48.3	72.9	61.0
DE	84.2	18.8	66.4	53.3	76.9	61.6
SI	41.0	13.6	66.1	42.3	81.9	60.8
IE	69.3	21.4	69.8	72.7	60.0	60.8
UK	39.7	22.6	48.3	69.0	43.3	57.0
ES	61.7	35.7	72.2	31.0	76.8	37.8
PT	40.8	42.3	80.9	37.0	81.1	39.8
CY						
CZ	55.9	31.5	50.9	45.7	74.4	53.8
IT	56.2	45.7	52.8		74.6	24.6
MT	50.7	19.7	54.9	52.3	51.4	46.2
EE	50.7	30.4	49.4	32.3	62.0	41.9
HU	64.5	16.5	51.8	33.0	74.1	42.2
LV	46.0	29.8	58.4	44.0	86.1	55.6
PL	26.5	39.3	51.5	35.0	63.1	49.2
BG	21.5	44.7	62.7	20.7	80.9	35.6
EL	43.5	68.2	44.3	3.7	53.4	24.5
LT	21.3	21.4	48.7	53.3	63.3	55.5
RO	38.6	39.1	48.9	23.3	53.9	36.8
SK	37.5	29.2	44.6	28.7	43.1	29.8
LU	54.1	23.6	72.2	52.0	86.5	58.4
	SILC DG EMPL indicator	SILC DG EMPL indicator	OECD Average	OECD Average	OECD Average	OECD Average

efficient employment services and benefits. Overall, the effective integration of activation policies and unemployment benefit systems are seen as crucial in containing the potential disincentive effects of benefits ([25]).

Activation policies encompass a range of measures: special support for job search training and education for the unemployed and inactive; job rotation and job sharing; employment incentives and subsidies for taking up jobs; and job creation activities such as community work programmes. They are assessed in this analysis in terms of expenditure in active labour market policies ([26]) and participation in activation measures, including life-long learning. Unfortunately, these indicators cannot reflect the actual effectiveness of intervention in this field. As literature shows that participation is unevenly distributed across population groups, that measures do not always reach those who are most in need and that the impact of individual programs can vary greatly ([27]).

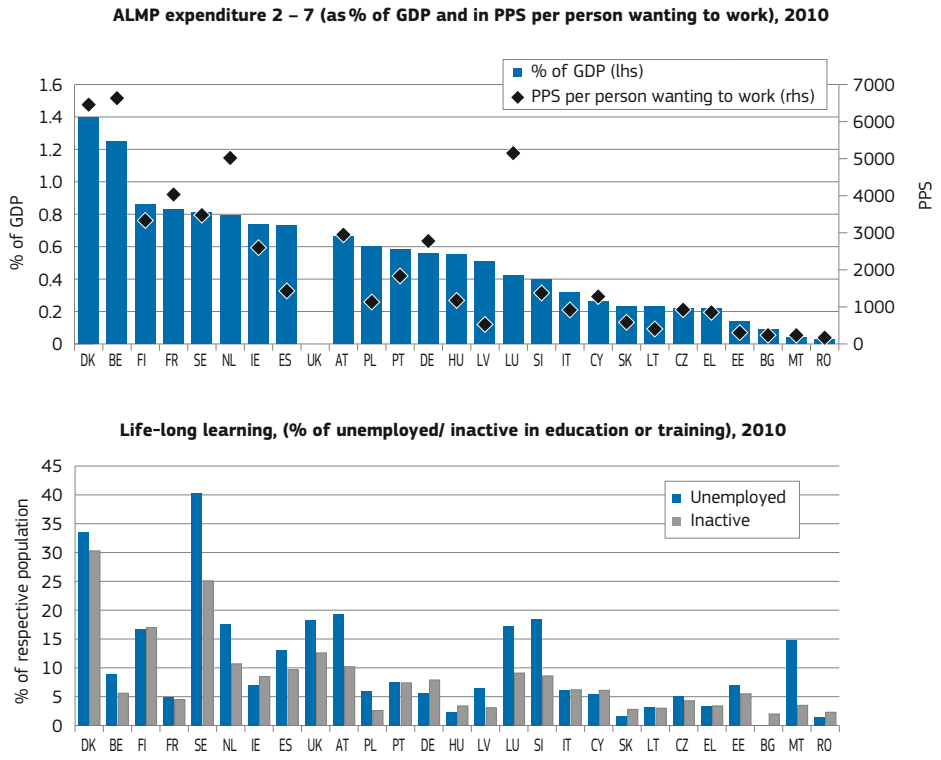
Nordic countries score better in applying activation measures than Southern and new Member States (except for Spain and Portugal), with Denmark and Sweden being particularly strong in terms of life-long learning, and Belgium making particularly important efforts in terms of expenditure on activation measures (see Chart 10).

([25]) This is confirmed by various macro-econometric evaluation studies that have found evidence for interactions between activation policies and other policies, for instance that spending on activation policies mitigates the impact on higher unemployment benefits in rising unemployment (Bassaninin and Duval 2006).

([26]) Expenditure in active labour market policies is expressed as a % of GDP and in relation to 100 people seeking work.

([27]) Participation refers to the use of activation policies, including participation of the unemployed and inactive in education and training (life-long learning). These measures do not take into account apprenticeship schemes, which are of special importance in Austria and Germany; they mainly benefit the young, who experience much better school to work transitions, and are better integrated in the labour market than in other countries. Various other policy indicators, including: the activation of registered unemployed and long-term unemployed, the timely activation of people who had not been long-term unemployed but would add significant information to the analysis, but the figures are unavailable for too many countries.

Chart 10: Activation concentrated in Nordic countries and Benelux



Source: Eurostat, EU-LFS [trng_lfse_02] and LMP database [lmp_ind_exp].

Note: No available LMP data for the UK.

Policies and institutions to combat labour market segmentation

Labour markets tend to be described as highly segmented ([28]) when different wages and conditions of employment exist within and between different groups on the labour market, whether defined by skill-level, sectors, gender, or type of contract. Highly segmented labour markets tend to trap people in poorly paid or insecure jobs and result in low upward mobility. Limited mobility between 'insiders' and 'outsiders' creates barriers to those seeking to return to work, or enter the labour market, and hence is likely to particularly penalise those in the weakest labour market position (such as young people or the inactive).

Indicators of segmentation and wage rigidity have been brought together under three groups: (1) contractual arrangements through the shares of temporary (involuntary) schemes and involuntary part-time employment (segmentation by contracts); (2) gender segregation; and (3) wage polarisation.

Segmentation by contract results in non-standard forms of employment, such as subcontracting, short-term and fixed contracts, and to some extent part-time work ([29]) (Frazer and Marlier 2010). It results in labour market rigidities by way of employment protection legislation reforms introducing flexibility 'at the margins' deregulating the use of temporary contracts while maintaining stringent rules on permanent contracts (see Employment in Europe, 2010, Cahuc and Postel-Vinay 2002). Segmentation by contract is captured in this analysis through four different measures: the share of employees working in involuntary part-time or involuntary temporary contracts; the lack of transitions from temporary to permanent contracts; the wage penalty associated with temporary contracts (which reflects the fact that employees in temporary contracts tend to receive lower wages than workers on permanent contracts all other things being equal); employment protection legislation (EPL) ([30]) for on dismissal of regular workers and on hiring temporary contracts ([31]).

Gender segregation in the labour market results from underlying factors such as the under-evaluation of skills and occupational segregation, with women more often in jobs where low pay is more frequent (e.g. service sector); discrimination leading to women being paid less than men, even when working in the same positions; and the unequal care burden (Frazer and Marlier 2010, European Commission 2009). Gender segregation is captured here by two indicators: the

([28]) Labour market segmentation (and labour market institutions in general) is not part of the active inclusion strategy, though it enhances the discussion on inclusive labour markets (and reflects on larger problems).

([29]) As documented in Frazer and Marlier (2010), 'the impact of part time work on in-work poverty appears rather uneven, and in many cases the majority of working poor are in full time employment. However, in some countries it can be a factor [of in-work poverty] as it is often associated with poorly paid and insecure jobs.'

([30]) The OECD indicators of employment protection legislation measure the procedures and costs involved in dismissing individuals or groups of workers and the procedures involved in hiring workers on fixed-term or temporary work agency contracts.

([31]) Low employment protection legislation in temporary forms fosters labour market participation for those on the marginsof the labour market (the young, the inactive), but might result in the polarisation of the labour market if associated with a high level of EPL for regular contracts.

Table 3: Pillar 2 Inclusive labour markets – factors and indicators

	Inclusive labour markets					
	Expenditure on activation - factor	Participation in activation - factor	Segmentation by type of contract - factor	Gender segregation - factor	Low-wage trap (%)	Transitions to higher pay (low wage earners) (%)
DK	2.4	3.0	-1.0	-0.1	76.3	33.0
FI	0.7	1.1	-0.3	0.9	64.4	39.1
NL	1.4	0.5	0.6	-0.1	65.5	24.4
SE	1.0	2.7	-0.6	0.0	55.5	43.1
FR	1.0	-0.5	2.0	0.0	56.5	33.3
BE	2.1	-0.2	0.1	-0.6	63.6	38.2
AT	0.4	0.5	-0.9	0.6	54.5	34.3
DE	0.5	-0.2	-0.1	0.5	65.4	30.8
SI	-0.4	0.3	0.7	-1.2	61.9	34.7
IE	0.4	-0.1	-2.5	-0.1	61.0	
UK	-0.6	0.7	-3.2	-0.1	61.9	36.5
ES	0.1	0.3	2.6	0.2	42.4	36.9
PT	0.0	-0.2	2.1	-0.1	51.5	37.6
CY	-0.6	-0.4	0.5	0.7		28.1
CZ	-0.7	-0.6	0.0	0.9	55.0	32.9
IT	-0.6	-0.3	0.7	-1.1	47.5	35.0
MT	-1.1	-0.3	1.3	-0.7	39.2	32.9
EE	-1.0	-0.4	-0.3	1.9	34.6	33.8
HU	-0.2	-0.8	-0.4	0.5	57.9	39.7
LV	-0.4	-0.7	0.1	0.4	57.8	41.7
PL	-0.2	-0.7	1.7	-0.9	58.5	31.6
BG	-1.1	-0.9	-0.2	0.4	41.0	31.4
EL	-0.8	-0.7	1.4	-1.4	32.7	28.1
LT	-0.9	-0.8	-1.1	0.5	59.7	38.3
RO	-1.2	-0.9	-3.1	-1.3	40.6	21.0
SK	-0.8	-0.8	-1.0	1.4	55.5	35.6
LU	0.5	0.4	1.2	-1.1	68.7	29.6
	LMP Factor	LMP LFS Factor	LFS SILC SES OECD Factor	SES LFS Factor	OECD Average	SILC

gender pay gap ([32]) and segregation by type of occupation ([33]).

Last, wage polarisation intensifies the risk of limiting the career possibilities for those in the lower end of the wage distribution, and exacerbates problems of job-skills mismatches and over-qualification. European Commission (2011) report an increase in wage polarisation since the recession. Wage rigidities are captured in this analysis by low wage traps ([34]) and limited opportunities for lower wage earners to move up the income ladder ([35]).

Segmentation by type of contract, gender segregation and wage polarisation are features observed on most labour markets, though they tend to prevail differently across countries. Segmentation by type of contracts is commonplace in Greece, France (Blanchard and Landier, 2002), Malta, Poland, Portugal (Centeno and Novo, 2012) and Spain (Amuedo-Dorante, 2000), while it is limited in Ireland, the UK (Booth, Francesconi, Frank, 2002) and Romania (see Table 3). Gender segregation is of more concern in Austria, Germany and Finland, but also in several of the Eastern Member States (the Czech Republic, Slovakia, Hungary, the Baltic States and Bulgaria). Wage rigidities and polarisation, on the other hand, are more commonly seen in the Northern Member States (notably Germany, Denmark, the Netherlands), but also the United Kingdom and Ireland, Slovenia and Romania.

3.2.3. Enabling services support inclusive labour market policies

Enabling services support labour market participation by addressing barriers to people's entry into employment and by facilitating mobility, work and family life reconciliation, and social participation. They include access to early childcare, education and training, health care and housing.

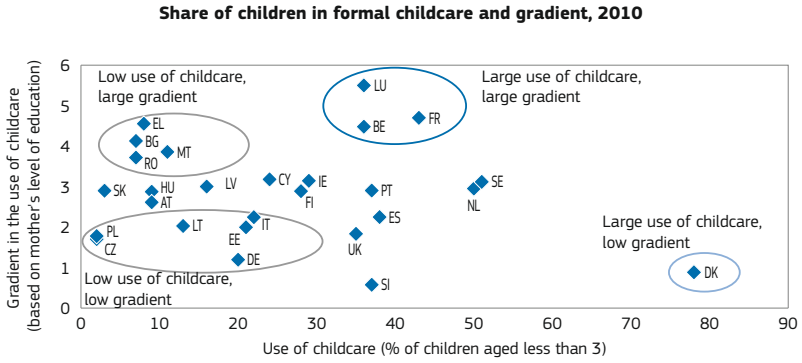
([32]) The gender pay gap measures the difference between men's and women's average gross hourly earnings as a percentage of men's average gross hourly earnings (for paid employees); see Chapter 3 on gender issues.

([33]) Gender segregation in occupations is calculated as the average national share of employment for women and men applied to each occupation; differences are added up to produce a total amount of gender imbalance presented as a proportion of total employment (ISCO classification).

([34]) The low-wage trap is defined as the rate at which taxes are increased and benefits withdrawn as earnings rise (due to an increase in work productivity). This kind of trap is most likely to occur at relatively low wage levels, due to the fact that the withdrawal of social transfers (mainly social assistance, in-work benefits and housing benefits), which are usually available only to persons with a low income, adds to the marginal rate of income taxes and social security contribution.

([35]) Net income relative to poverty threshold for a full time minimum wage earner would be an additional relevant indicator, but data is unavailable for too many countries to include in the analysis.

Chart 11: Use and access to early childcare



Source: DG EMPL calculations based on Eurostat, EU-SILC (2011, IE 2010).

The provision of formal early childcare (to children less than three years old), as expressed in the share of children cared for in formal arrangements, is complemented by data on the number of hours spent in childcare. The use of childcare is particularly low in some of the new Member States (especially the Czech Republic, Poland and Slovakia), while more than two thirds of young children use childcare in Denmark. In other terms, while in Denmark and Finland children aged less than three years old are cared for, on average, for more than 25 hours per week, the average length of childcare in the Czech Republic, Poland and Slovakia is only one hour.

A combination of various barriers – high costs, deprived neighbourhood, limited availability – might lead to a 'social gradient' in access to services ([36]). Research has shown that many collective services are more intensively used by people with higher educational attainment than by others, which serves to reinforce inequalities – a fact re-enforced if poorer areas have poorer quality services in the first place ([37]). On the other hand, some collective services have been identified as pro-poor, such as bus services ([38]) in cities. Inequalities in access to services are reflected through the observed gradient ([39]) in the use of childcare (see Chart 11) and in the use of education and life-long learning facilities.

Education and life-long learning data cover enrolments by adults (aged 25–64) as well as young people (18–24). Adult participation is broken down by educational attainment: low, medium and high – while young people are assessed in two: medium and higher education. Both measures are aggregated into one indicator representing the use of education and training services, and the social gradient which underlines the relationship between skills and participation in learning activities ([40]).

Two other complementary services are included in this analysis: healthcare and housing. The lack of adequate provision of the health care is captured by the unmet need for medical and dental care, and the lack of adequate support for housing is captured by the housing cost overburden rate ([41]), the overcrowding rate ([42]) and the severe housing deprivation rate ([43]).

3.3. Integrated and comprehensive active inclusion policies are linked to better performance with respect to poverty drivers and poverty outcomes

The active inclusion principles emphasise the need to improve the integration of the three pillars. For instance, adequate income support (carrying potential financial disincentives to labour market participation) needs to be complemented by well-functioning activation policies and enabling services (addressing barriers to taking up work). It is also important that interventions supporting the employability of workers are complemented by measures that address segmentation and segregation on the labour market.

In this section, the characteristics of the various Member States' policy mixes with regard to active inclusion are confronted with the main drivers of working age poverty in each case, as identified in Section 3 of this chapter. Table 5 summarises the main institutional and policy characteristics of the Member States using the indicators selected in the previous section. Overall, countries with the more comprehensive sets of policies tend to have the better outcomes. These indicators reflect the institutional and policy characteristics that could explain part of the difference in performance between countries; however, it is important to keep in mind that they do not include indicators reflecting the financial sustainability and efficiency of the systems (which are beyond the scope of this chapter).

Five groups of Member States in the top left corner have high to medium income support, inclusive labour market policies

([36]) Social gradients reflect the differences between social groups in the use of the services. Social groups are captured here by education level. Complementary work has illustrated that there is a large coherence with other possible measurement of social groups based on labour market participation, income, etc.

([37]) See Bramley and Besemer (2011), Ward and Ozdemir (2012).

([38]) Ibidem.

([39]) Gradients in the use of childcare and ineducation and lifelong learning are estimated as the differences between social groups in the use of the services. The current measure used to summarise the gradient inthe use of childcare over the three education groups is calculated as the square root ofthe ratio A/B between (A) the sum of squared gaps between the use of childcare in each education level and the middle education level and (B) the use of childcare over the whole population.

([40]) The DG EAC study based on the Survey of Adult Skills (PIAAC) reports a high percentage of people caught in a 'low-skill trap', ie. adults with low literacy and numeracy skills not having opportunities to participate in learning activities. See European Commission (2013).

([41]) The housing cost overburden rate is the share of the population living in households where the total housing costs ('net' of housing allowances) represent more than 40% of disposable income ('net' of housing allowances).

([42]) The overcrowding rate estimates the share of population living in an overcrowded household that does not have at its disposal a minimum number of rooms, one room for the household (one room per couple in the household; one room for each single person aged 18 or more; one room per pair of single people of the same gender between 12 and 17 years of age; one room for each single person between 12 and 17 years of age and not included in the previous category; one room per pair of children under 12 years of age).

([43]) Severe housing deprivation rate is defined as the share of population living in a dwelling that is considered as overcrowded, while also exhibiting at least one of the housing deprivation measures (a leaking roof, no bath/shower and no indoor toilet, or a dwelling considered to be too dark).

Table 4: Pillar 3 Enabling services – Factors and indicators

	Enabling services			
	Early childcare - factor	Life-long learning (%)	Lack of adequate housing (%)	Unmet need for care (%)
DK	2.8	31.6	52.8	3.7
FI	1.5	20.7	20.8	3.4
NL	0.8	16.3	29.1	0.8
SE	1.2	23.5	42.4	4.1
FR	0.9	5.0	26.1	5.9
BE	0.5	7.0	28.9	2.3
AT	-0.9	14.3	32.2	2.0
DE	-0.3	7.2	32.1	4.0
SI	0.7	15.6	34.7	0.2
IE	0.0	6.4	16.4	2.3
UK	0.0	18.6	37.9	2.0
ES	0.5	12.0	26.5	0.4
PT	0.7	7.7	20.7	3.7
CY	-0.1	7.1	12.7	7.8
CZ	-1.2	8.1	45.9	1.0
IT	-0.2	8.4	35.2	7.2
MT	-0.8	9.2	9.9	1.5
EE	-0.1	9.5	41.5	6.3
HU	-0.8	2.8	53.2	2.8
LV	-0.4	4.7	50.5	23.7
PL	-1.2	5.8	48.6	7.5
BG	-0.9	1.6	39.1	22.7
EL	-0.9	3.4	55.4	5.6
LT	-0.6	5.0	44.7	1.4
RO	-0.8	2.1	54.0	7.5
SK	-1.1	5.0	46.9	2.0
LU	0.5	12.3	27.6	1.7
	SILC Factor	LFS Average	SILC Constructed	SILC

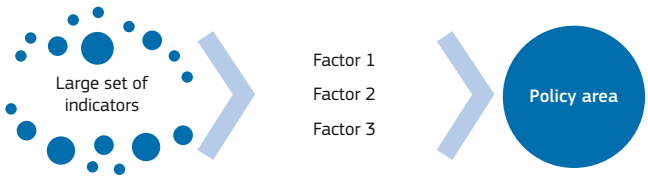
and enabling services, and these coincide with relatively good labour market and poverty outcomes. Conversely, the four groups in the bottom right corner have less comprehensive income support, inclusive labour market policies and enabling services, which undermine the functioning of their labour markets and do not prevent poverty risks.

Box 2: Factor analysis on policy indicators

Any socio-economic concept can be described by one or more statistical measures (indicators). Factor analysis is commonly used to reduce the number of dimensions necessary to represent the concept while maintaining the information from the original data. The number of resulting variables ('factors') depends on the variability of the initial information. If the original set of indicators is limited and covers similar information, one factor might be sufficient to describe all the information. If the original set of indicators reflects two or more issues, then several factors may be needed. The intrinsic cohesion of variables can be assessed by multidimensional analysis, more specifically the alpha Chronbach ([1]) coefficient, for example.

In this chapter, factor analysis is used to reduce the number of indicators to be considered in each main policy area, with one or two factors in each domain being extracted, depending on the intrinsic variability of the data.

Chart: Factor Analysis reducing the number of indicators in each policy area



([1]) See Guio Marlier Gordon for example.

Table 5: Policy characteristics of Member States based on the three pillars of active inclusion and national drivers of poverty

	Adequate income support *benefits coverage adequacy*	high coverage and adequacy +++ +++/++	high coverage and adequacy ++ ++	high coverage and high to medium adequacy +++/++ +/++	medium coverage and high adequacy + ++	medium coverage and adequacy +- +-	low coverage but high adequacy -- ++	medium coverage and adequacy + +-	medium coverage and low adequacy +- --	very low coverage and adequacy medium [LT]" --/--- ---
	Inclusive labour markets *ALMP expenditure and participation in activation measures*	high spending and participation +++/++ +++/++	high spending and medium[BE]-low[FR] participation +++/++ +-	medium spending and participation + +	medium spending and participation + +	low spending and high participation - ++	medium spending and participation + +	low spending and medium participation -- +/--	medium spending and low participation + --	very low spending and participation --- ---
	Enabling services *Childcare, LLL...*	high use of childcare and LLL ++ +++/++	high use of childcare and medium use of LLL ++ +	SI high, DE medium, AT low use of child-care, medium use of LLL +-/--- +-/++	SI very high and IE medium use of childcare and LLL ++/+- ++	medium use of childcare and good use of LLL +- ++	medium use of childcare and LLL ++ +-	low to medium use of childcare and medium use of LLL +-/-- +-	low use of childcare and medium to low use of LLL -- -+/--	low use of childcare and LLL -- ----
	LM segmentation	wage rigidity/ polarisation	BE wage rigidity/ polarisation FR contract segmentation	DE SI wage rigidity/ polarisation AT DE gender segregation	wage rigidity/ polarisation	wage rigidity/ polarisation	contract segmentation	CY IT MT contract segmentation CZ gender segregation	PL contract segmentation CZ HU LV gender segregation	EL contract segmentation BG SK LT gender segregation

A	Overall good performance	low risk of poverty, low poverty gap, low persistent poverty	NL SE	FR	AT SI				CY CZ		
B	Good overall performance, but joblessness	some risk of poverty, some poverty gap, some persistent poverty	DK FI	BE	DE		UK			
C	Joblessness	high risk of poverty, low poverty gap, low persistent poverty				IE				
D	Lower performance, Inactivity, In-work poverty	high risk of poverty, high poverty gap, high persistent poverty							IT (MT)	PL (HU)	BG RO
E	Lower performance, Long-term unem-ployment, In-work poverty	vary high risk of poverty, high poverty gap, high persistent poverty						ES PT		EE LV	EL (SK) LT

Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 and 2011, EU-LFS and ALMP database, and the OECD-EC tax-benefits database.

4. THE PROFILE OF ADULTS AT RISK OF POVERTY: FOCUS ON THE WORKING POOR AND ADULTS LIVING IN JOBLESS HOUSEHOLDS

This section analyses the profiles of working age adults at risk of poverty and describes their socio-economic and income characteristics compared to those not at risk of poverty.

The population is described through two main profiles:

- those who are in-work poor (36% of the 18–59 population at risk of poverty);
- those who are living in a jobless and at-risk-of-poverty household (34% of the 18–59 population at risk of poverty.

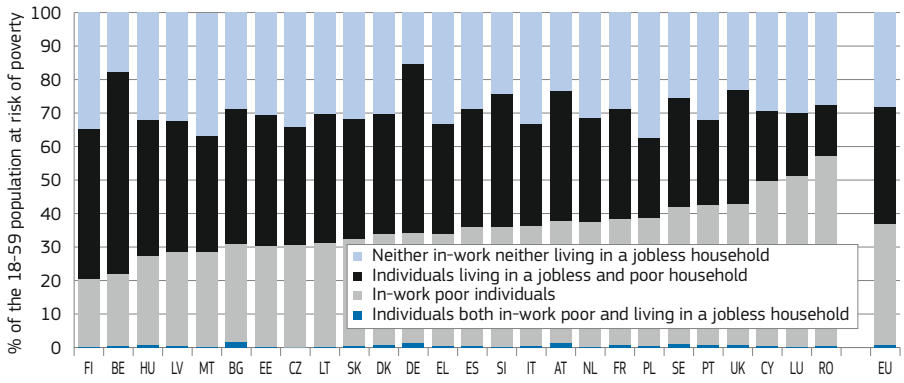
These two profiles do not cover *all individuals* at risk of poverty. Adults who are non-working but who do not belong to a jobless household either are not covered by the taxonomy (see Chart 12). The rationale for this is that incomes are defined at household level: those individuals have an income composition that is similar to the one of in-work poor individuals.

4.1. Main characteristics of in-work poor and adults living in jobless households

Women, young and older workers, the low skilled, migrants, people with disabilities and single adults, including single parents are over-represented among the people living in jobless and poor households. Men, prime age people, the low and middle skilled, migrants, couples with children, and to some extent single people and single parents, are overrepresented among the in-work poor (see Chart 13).

The main drivers of in-work poverty are well identified by the literature (see ESDE 2011). They include insufficient quantity of work (temporary contract ([44]) or limited hours, i.e. part-time); low wages; and household composition effects. Chart 14 illustrates that the in-work poor are more often employed on a temporary contract, or holding part-time job and that there are great variations in the number of hours worked.

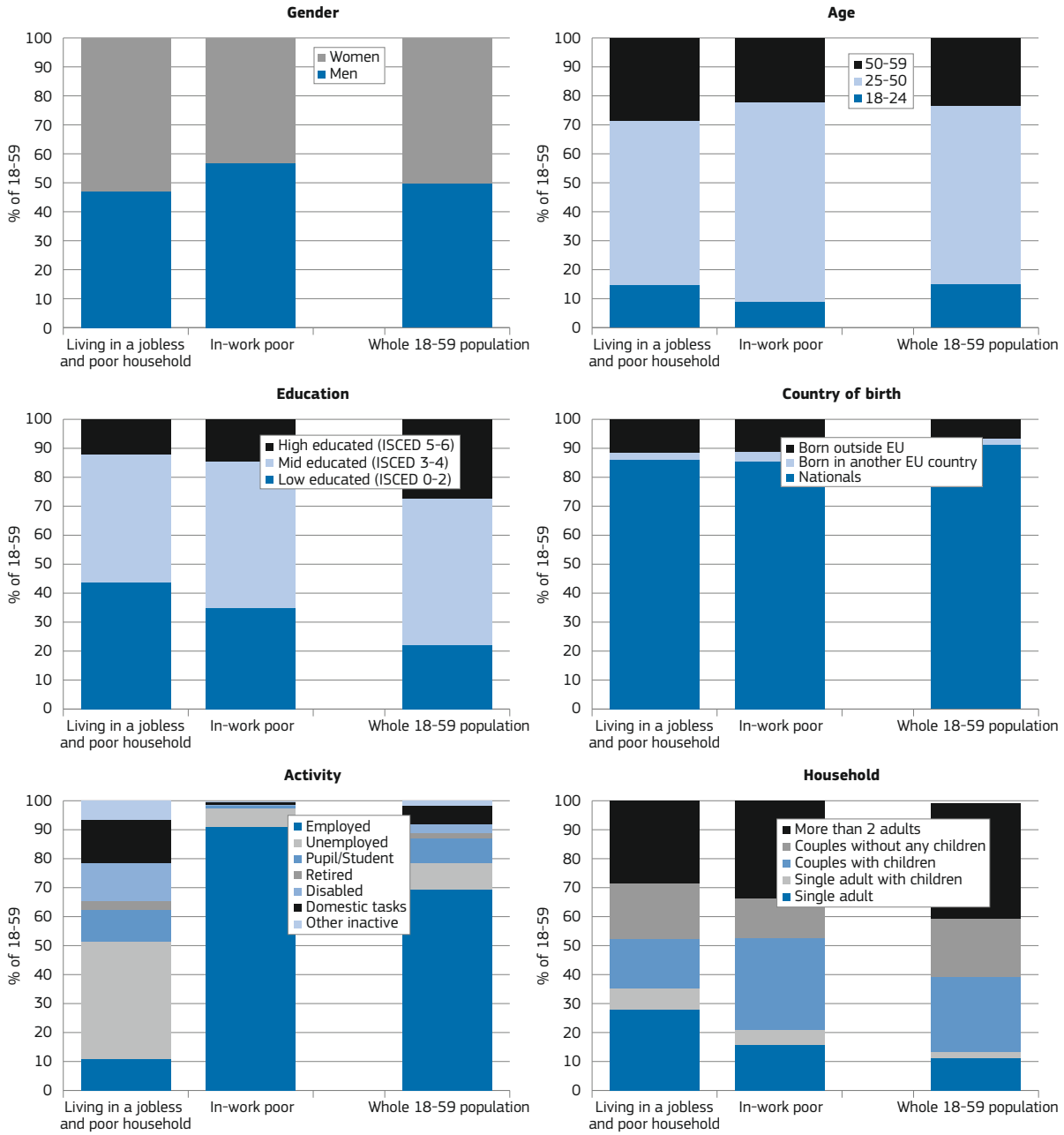
Chart 12: Profile of the population of adults living in poverty



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

([44]) This mainly applies to the situation where temporary contracts are of (very) short duration, implying breaks during the year, thus fewer months of work.

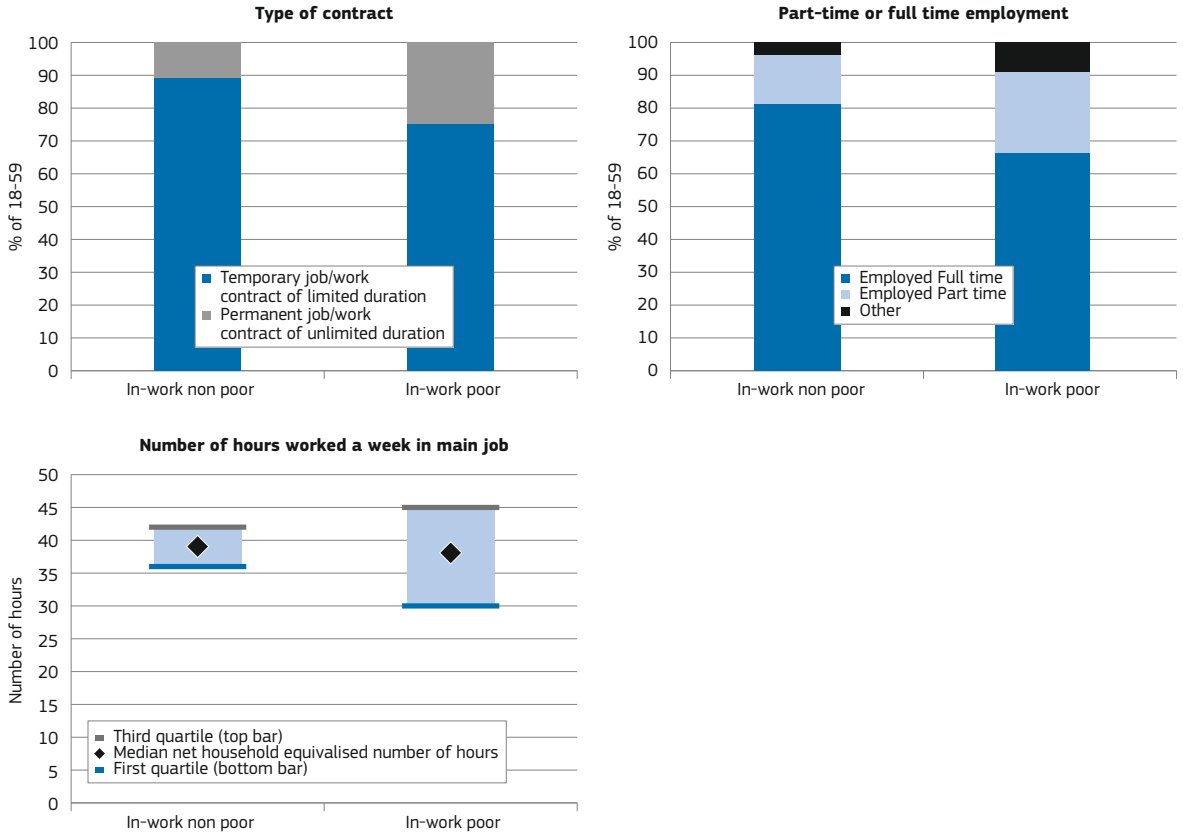
Chart 13: Profile of those living in jobless and poor households and in-work poor by socio-economic characteristics



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Note: A small proportion of individuals living in jobless households at risk of poverty appear in the chart as employed as the activity status is measured at the time of interview, while joblessness or in-work status is measured over the whole EU-SILC reference period (a whole year all countries but UK and IE). For the same reason, some of the in-work poor are unemployed at the time of the interview because of changes in their labour market status between the reference period and the time of interview.

Chart 14: Type of contract, part-time/full-time status and number of hours worked a week by poverty status for those working age in work



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Note: The diamond represents the average number of hours of the group. The highest bar represents the number of hours worked by the quarter of the population with highest number of hours, and the lowest bar, the number of hours worked by the lowest quarter of the population.

Chart 15, 16 and 17 illustrate that the characteristics of the in-work poor vary across countries. The share of temporary contracts among the in-work poor is especially large in Spain and in Poland, where 45 % of the in-work poor are employed through a temporary contract, against 25 % of those who are employed but not poor. In Austria, the proportion of those employed through a temporary contract remains small for both the in-work poor and those who are employed and not poor (10 % and 6 %).

At EU level, 25 % of the working poor work part time, against 15 % of those who are not at risk of poverty. People working part time are over represented among the working poor in the UK, Austria, France, and Poland (see Chart 16).

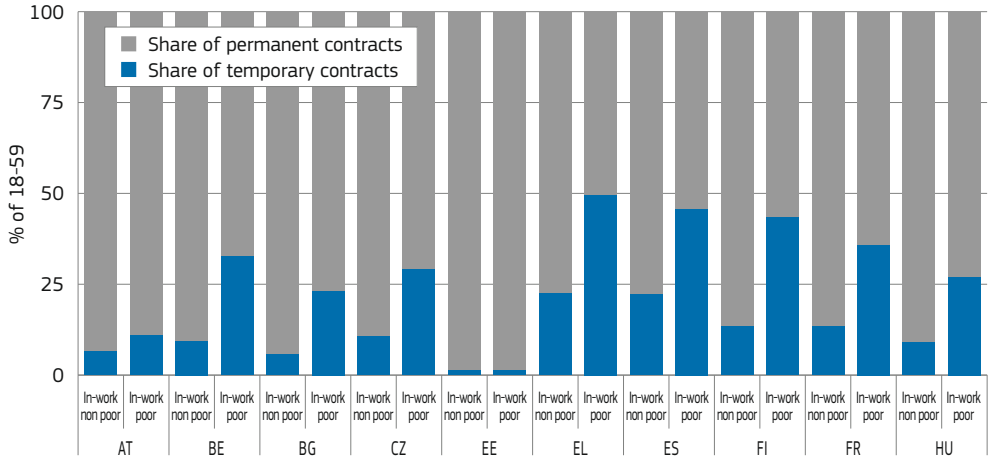
In-work poverty is also linked to low pay. Chart 17 presents the share of individuals with low wages ([45]) who are classified as in-work poor, and the share of those who are not poor. It shows that low wage earners are over-represented among full-time workers at risk of poverty. Germany is the Member State with the highest share of low wage earners among the full-time working poor ([46]), while Greece and Portugal have the lowest shares of low wage earners in this position.

Some low-wage earners are not living in poverty while some non-low wage earners are at risk of poverty. This is largely explained by the size and composition of the household. Chart 18 shows that single parents and households with children are more likely to face poverty, especially when there is only one breadwinner.

([45]) See Box 3 on low wages definition used in the current analysis.

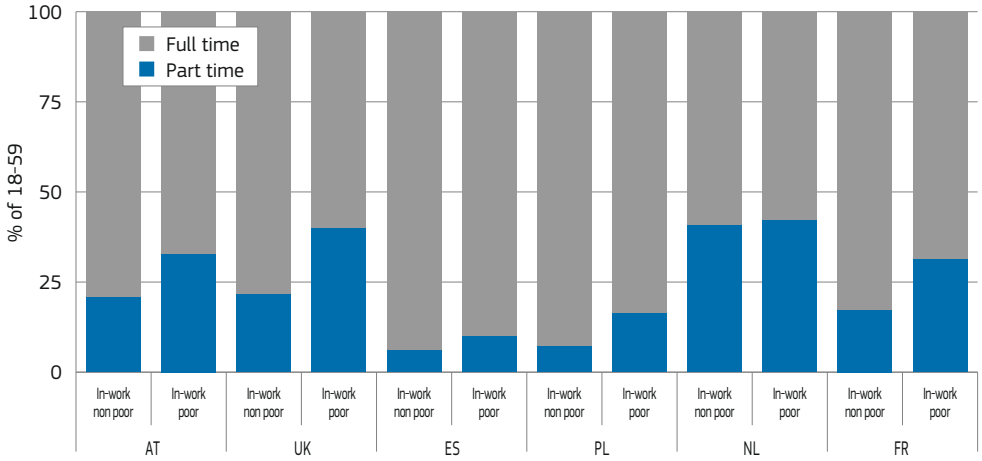
([46]) Which could imply that even full-time workers may need income support.

Chart 15: Type of contract by poverty status for the 18–59 population at work



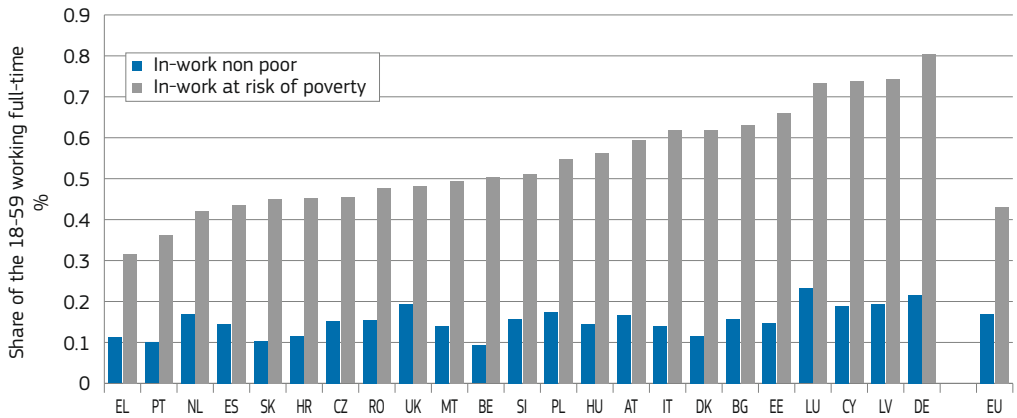
Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Chart 16: Working time by poverty status for the 18–59 population at work



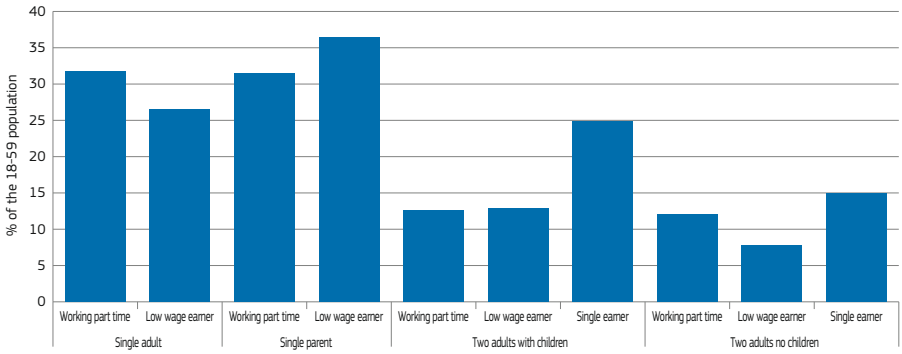
Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Chart 17: Share of low wage earners among full-time workers at risk of poverty or not by Member States



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Chart 18: The at-risk-of-poverty rate for given household types and labour market attachment (EU)



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Note: Categories are not exclusive and might add up to more than 100%.

Box 3: Measuring hourly wages with EU-SILC – A proposal

As a source of data, EU-SILC has the advantage of gathering information on labour market situations and wages at the level of individuals. However, it is not straightforward to compute hourly wages from this source. With the exception of Engel and Schaffner (2012) and RWI (2013), few estimates have been made.

A proxy of the hourly wage has been estimated by restricting the population to those who worked full time over more than 9 months during the previous year, and by applying to them the number of hours worked a week declared at the time of the interview. Low-wage earners are defined as those employees who earn less than two thirds of the national median gross hourly earnings.

The wage variable refers to a whole year while labour market status is a snapshot of the situation at the time of the interview. This issue is solved by calculating the number of months worked over the income reference period thanks to the calendar of activity (employed full-time or part-time at each month of the past year). The most problematic cases occur when the person experienced two distinct spells of employment over the period. For this reason, our estimate is only based on those who were employed for *at least nine months* over the reference period. A remaining problem is that the number of hours worked a week is known only at one point in a year (at the time of the interview) and is not in the calendar data. For this reason, our estimate is done *only for those employed full-time.*

Second, the wage information refers to the previous year, while the activity status refers to the date of interview. The second issue can be treated with the assumption that there has been no change in the number of hours worked between the time of the survey and the year before. This hypothesis is strong, but the comparison with the Eurostat statistics on wages and labour cost of low wage earners based on Eurostat data shows that the results are not excessively biased.

The results are encouraging in that the estimated median hourly earnings estimated with EU-SILC are closely correlated with the wage and labour costs statistics (R^2=0.94, see Chart a). However, the share of low wage earners differs slightly from the official figures, despite the overall good matching of rankings (R^2 at 0.47, see Chart b). This can be partly explained by the population considered (full-time employed in the estimation having worked at least 9 months over the year in EU-SILC estimate, all employee in firms of more than 10 employees in the other).

Chart a: Comparison of the low wage threshold estimated with EU-SILC and Structure of Earnings Survey

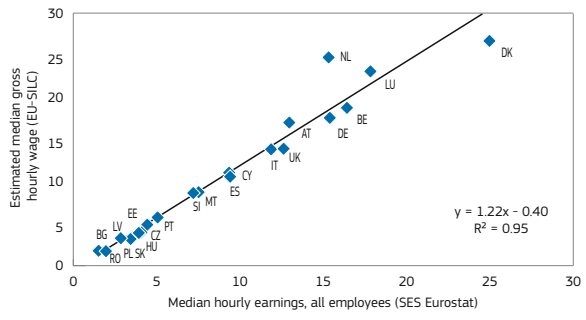
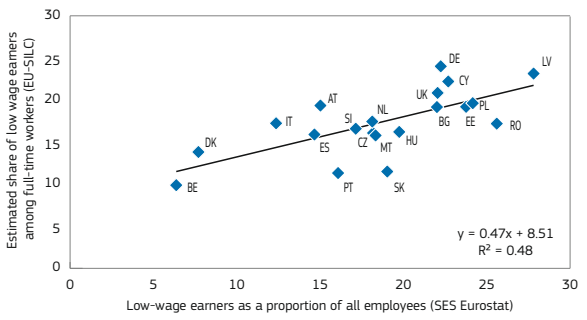


Chart b: Comparison of the share of low wage earners estimated with EU-SILC (full time workers) and Structure of Earnings Survey



Source: DG EMPL calculations based on EU-SILC 2011 and Eurostat. Structure of Earnings Survey [earn_ses_pub2s] and [earn_ses_pub1s].

See http://epp.eurostat.ec.europa.eu/statistics_explained/index.php/Wages_and_labour_costs for more details on low wage statistics.

4.2. Working age adults at risk of poverty are living on incomes from work, social benefits and pensions from elderly household members

Most of the in-work poor are mainly living on earnings from work. They represent around 80% of the annual gross disposable income ([47]) (before taxes and contributions) of in-work poor individuals (slightly less than for those not at risk of poverty, see Chart 19). Social transfers ([48]) represent on average 17% of the incomes of those in-work poor, as opposed to 8% of the income of those not at risk of poverty.

Most jobless households are living mainly on social transfers. They represent about 70% of the annual gross disposable income of those living in a jobless and poor household, as opposed to 8% of the income of those not at risk of poverty.

The composition of income varies across the Member States, with the in-work poor receiving very little support from social transfers in Greece, Spain, Portugal and Bulgaria (accounting for 10% of gross income in each case). Income support to in-work poor is much stronger in Finland, Sweden, Slovenia, France, the United Kingdom and Hungary, where they typically receive more than 25% of their gross income from social benefits.

The share of annual gross disposable income coming from social transfers received by individuals of working age living in jobless and poor households varies greatly across the Member States. This share is lowest in Bulgaria, Greece and Italy where jobless and poor households are living with no more than 40–50% of their annual income coming from social transfers. The level of support to jobless and poor households is much higher in Austria, Belgium, Germany, Finland, Sweden and the United Kingdom, where those living in jobless and poor households typically receive more than 85–90% of their income from social benefits (see Chart 20).

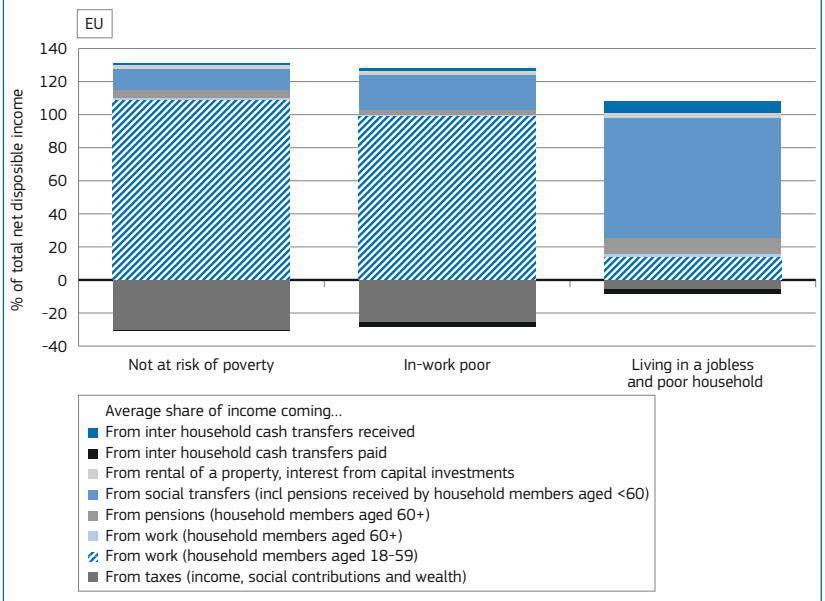
Chart 21 provides a measure of 'benefit-dependency' focused on individuals for whom more than 50% of their gross annual disposable income is derived from benefits ([49]). It shows that, in some Member States, a large proportion of the working age population is living mainly on benefits – 28% in Ireland ([50]), 12–14% in Denmark, the United Kingdom, Finland, Hungary and Belgium – while in others, such as Bulgaria, Cyprus, Italy and the Czech Republic, only 4–6% have this level of dependency.

Some vulnerable households receive little support from the state. Individuals living in jobless and poor households receiving less than 10% of their income from social transfers can be considered as a measure of 'non-coverage of social transfers', since the lack of replacement income for such people would suggest a lack of effectiveness of the benefit system in reaching the most vulnerable.

At EU level, 15% of those living in jobless and poor households receive no more than 10% of their income from social benefits (see Chart 7 and Box 1). The share of individuals not receiving income support is especially large in Greece, Cyprus, Italy, Bulgaria and Portugal, where more than 40% of those living in jobless and poor households receive 10% or less of their income from social transfers. By contrast, this share is less than 10% in Finland, Sweden, the Netherlands, Denmark and France.

However, in some countries, significant shares of working age adults tend to rely more heavily on pensions, including elderly pensions received by other household members. Such situations are not supportive of returns to employment because they are not associated with any incentive structures (activation, conditionality, etc). As an illustration, a significant proportion of households contain household members over 60 years of age who receive pensions which represent more than 25% of the household income ([51]).

Chart 19: Income composition of working age adults at risk of poverty compared to the rest of the population



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Reading note: Incomes are expressed in gross values (as the detail of income sources is measured in gross values), and presented as shares of net disposable incomes (see Box 4). These graphs do not include the value of benefits in-kind, which are more evenly distributed across income groups.

([47]) In Chart 19, data is presented in shares of gross disposable.

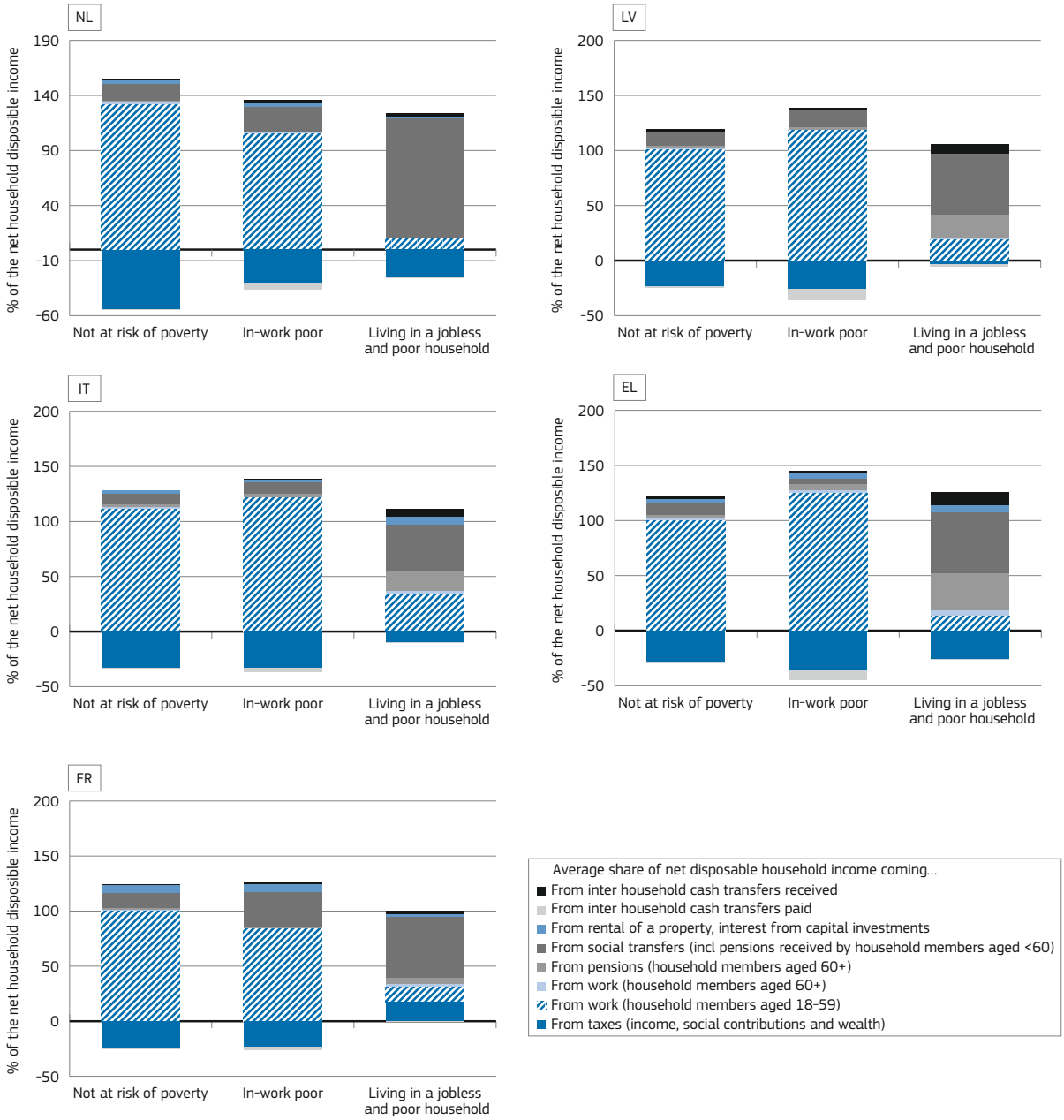
([48]) Old-age benefits and survivor's benefits are treated as 'social benefits' (or "social transfers") when they are received by individuals younger than 60 years old, and they are not included in the benefits. They are treated as a separate income source when received by household members above 60.

([49]) Pensions received by individuals from the target age group (18-59) are treated as benefits. Pensions received by other household members aged 60+ are treated separately (see Box 4).

([50]) Watson *et al.* (2012) explain Ireland's position regarding the large share of jobless households by specific living arrangements and the distribution of joblessness across households, with a relatively low rate of jobless adults living with employed adults and a high rate of jobless adults living with children.

([51]) These countries are generally those where a large proportion of working age adults are living in multigenerational households, which is especially the case for those living in jobless and poor households, see Chart 22.

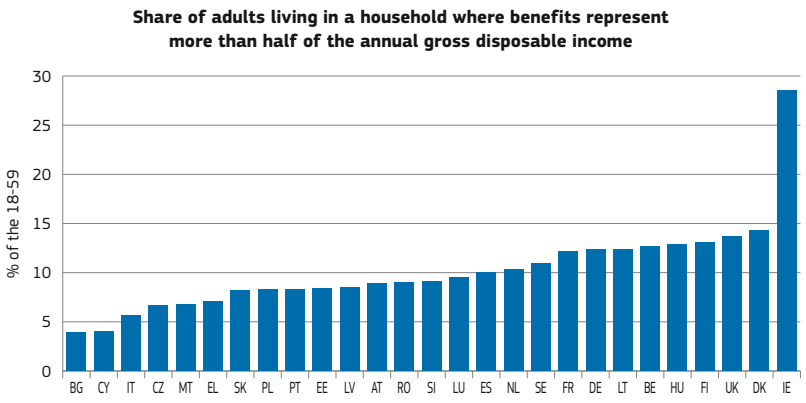
Chart 20: Income composition of working age adults in-work poor or living in jobless and poor households compared to the rest of the population



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Note: Incomes are expressed in gross values (as the detail of income sources is measured in gross values), and presented as shares of net disposable incomes (see Box 4). These graphs do not include the value of benefits in-kind, which are more evenly distributed across income groups.

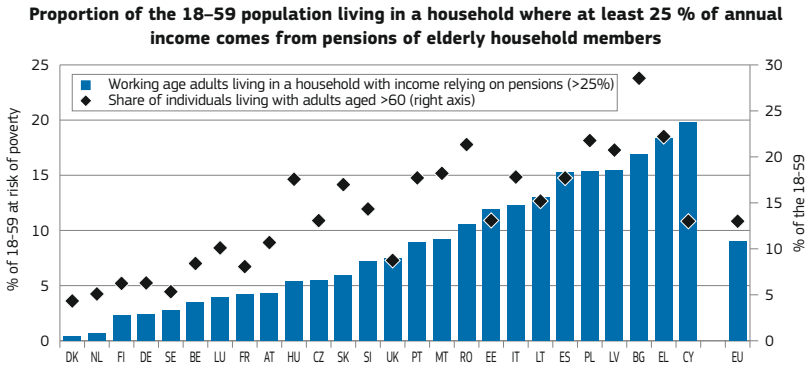
Chart 21: Benefit dependency



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

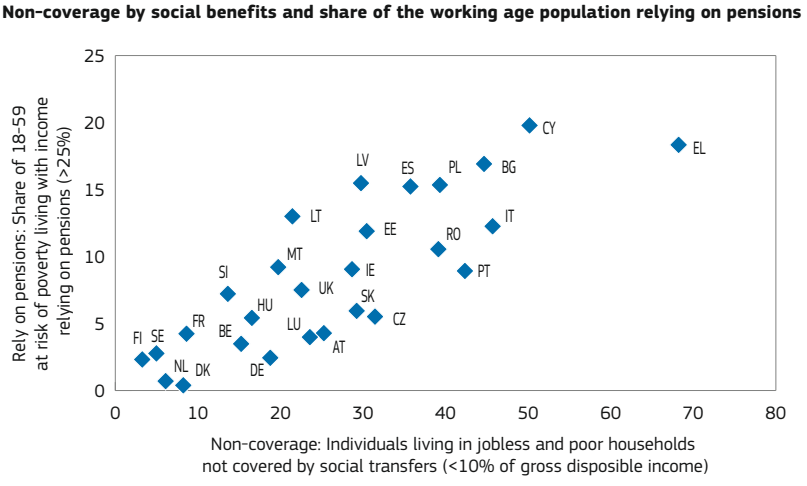
Note: Old-age benefits and survivor's benefits are treated as 'social benefits' (or "social transfers") when they are received by individuals younger than 60 years old. They are not included in the benefits, but treated as a separate income source when received by household members above 60.

Chart 22: Pension dependancy



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Chart 23: Support from social transfers or intergenerational solidarity



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

In the EU as a whole, 9% of the people aged 18–59 and at risk of poverty are living in a household where more than 25% of the total household income comes from the pensions received by a 60+ year-old household member (see Chart 22). In Denmark, the Netherlands, Finland and Germany, the share is very low – less than 1% – but it is much higher in Bulgaria, Greece, Cyprus, Spain and Poland (15–20%).

Chart 23 shows that, in Member States with low coverage rates of social benefits, the share of individuals at risk of poverty who are relying on pensions from 60+ year-old household members is much larger. This is the case in Greece, Cyprus, Bulgaria, Poland and the Baltic States, as well as in Spain and Italy, while the incidence is very low in Continental and Northern Europe.

As illustrated in Chart 23, a large proportion of individuals not covered by social transfers are found in countries with large numbers of multi-generational households. This may be explained in so far as individuals rely on family solidarity in the absence of adequate income support. This may not facilitate the return of working age people to employment, as those without individual income support may not have access to the rights and obligations associated with receiving working age benefits (job search requirement, training, etc.). Another coping 'strategy' that those without access to income support may adopt is to seek work in the informal economy. This cannot be observed directly in standard statistics, but available evidence ([52]) tends to show that undeclared work is widespread in the countries indicated above.

([52]) See Chapter 4 on undeclared work in the current review.

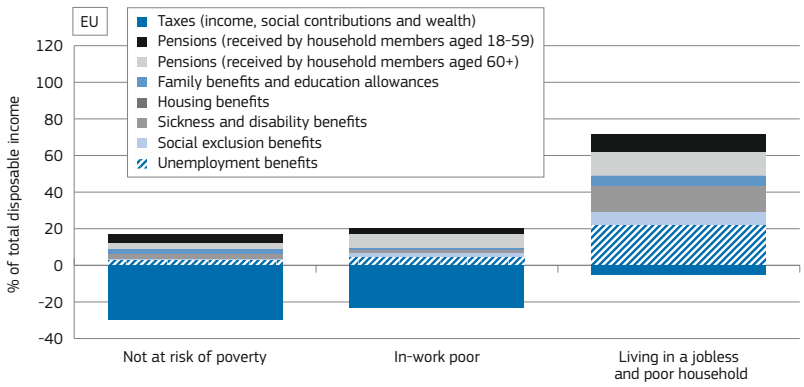
4.3. The nature of benefits received by the working age population varies across Member States

In the EU-SILC survey, social transfers are classified into broad categories of social protection, namely unemployment, social exclusion, sickness/disability, family/children, education related allowances, pensions([53]) and housing (see Box 4).

Individuals living in jobless and poor households receive, on average, the largest share of social cash transfers, with the bulk of benefits received consisting of unemployment benefits (23% of income on average, Chart 24). Sickness and disability benefits, family and education related allowances, housing and pensions also represent significant shares of the net disposable income on average.

In Belgium, Spain, France and Germany, for example, a large part of the benefits received by individuals living in jobless and poor households comes from unemployment benefits (Chart 25). In Portugal, and to a lesser extent in France, Belgium and the United Kingdom, social exclusion benefits account for a large part of support to those in this situation, while in Poland, Romania and the Czech Republic, sickness and disability benefits form the major component. Pensions represent a large share of income support of those living in jobless and poor households in Greece, Romania, and Poland, while housing benefits are significant in the United Kingdom and Germany, with family and education related allowances also large in the United Kingdom, France, Belgium and the Czech Republic.

Chart 24: Benefits composition

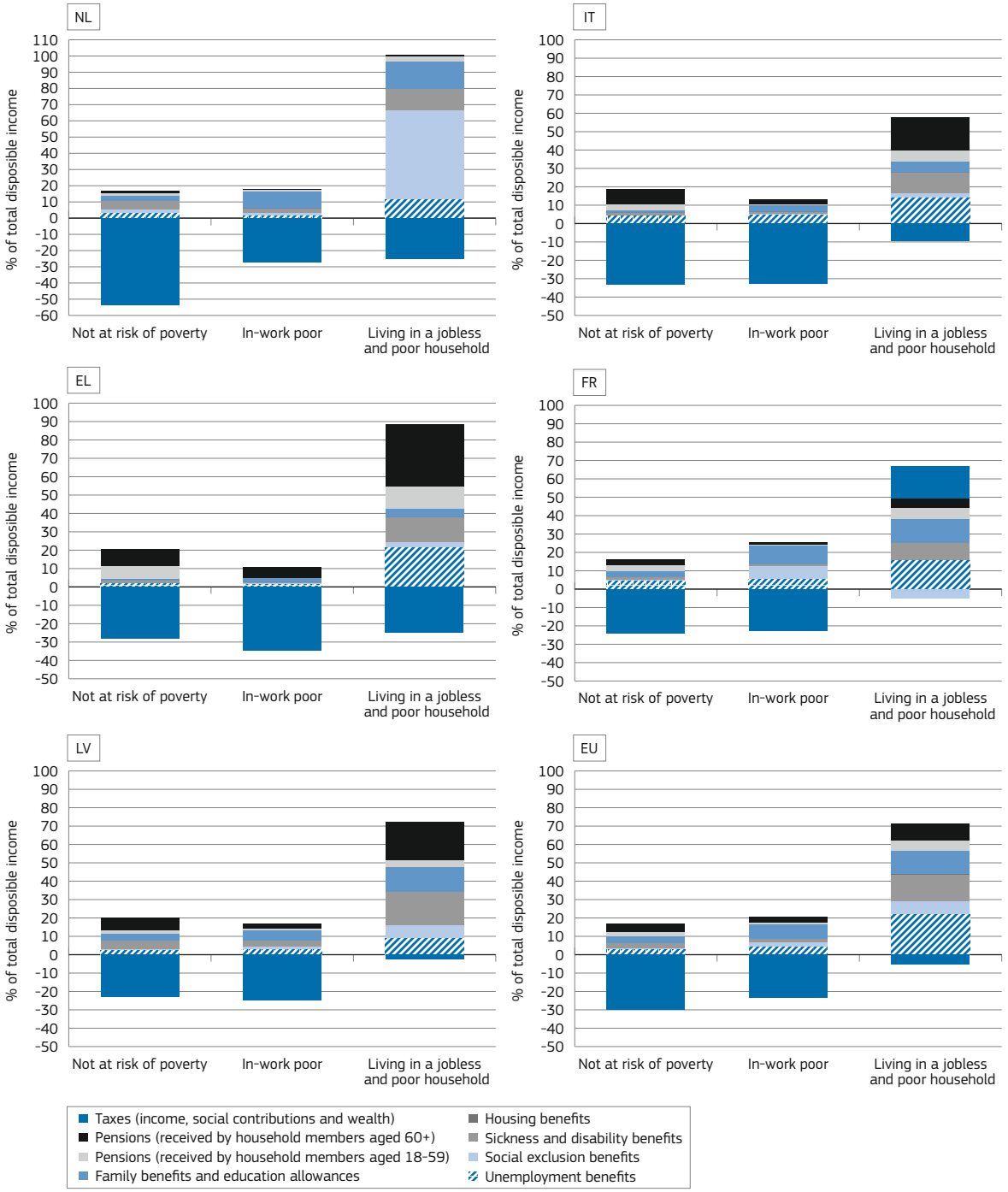


Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Note: Each block represents the average amount of benefits (relative to the net total disposable income) received in each category. The sum of the average amount of all benefits represents the share of benefits received in the category relatively to the total net disposable income. (see box 4). It is important to note here that this chart does not includes in-kind benefits, such as child care, health care and education. These in-kind benefits are more equally distributed across income groups.

([53]) Old-age benefits and survivor's benefits are treated as 'social benefits' (or "social transfers") when they are received by individuals younger than 60 years old, and they are not included in the benefits. They are treated as a separate income source when received by household members above 60.

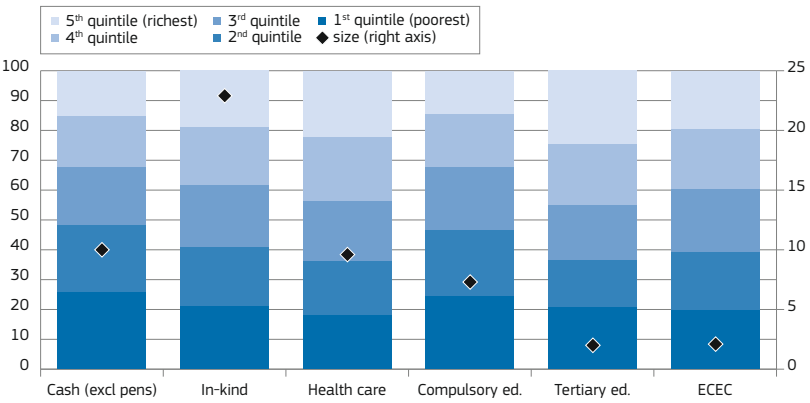
Chart 25: Benefits composition of those aged 18-59 living in jobless and poor households and those in-work poor



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011.

Note: Each block represents the average amount of benefits (relative to the net total disposible income) received in each category. The sum of the average amount of all benefits represents the share of benefits received in the category relatively to the total net disposible income. Pensions received by household members aged 60+ are not included in the total amount of benefits (see Box 4). It is important to note here that this chart does not include in-kind benefits, such as child care, health care and education. These in-kind benefits are more equally distributed across income groups.

Chart 26: Health care and tertiary education tend to benefit higher incomes more - Size and distribution of cash and in-kind benefits (non-elderly) over income quintiles



Source: Verbist, G. & Matsaganis, M. (2013) using EU SILC 2007.

One should bear in mind that this analysis is based on cash transfers only, and does not take into account in-kind benefits. This is especially relevant when comparing the share of taxes and transfers received within groups, since in-kind benefits overall tend to be more equally distributed than cash transfers, as illustrated in Chart 26 (see Verbist and Matsaganis, 2013).

Box 4: Treatment of income components and benefits in EU-SILC

EU-SILC covers information on several types of benefits: unemployment benefits, social exclusion benefits, sickness/disability benefits, family/child benefit, education related allowances and housing benefits. All these benefits should be taken into account when assessing the extent of income support provided to working age adults.

Since the focus in this chapter is on the 18–59 'working age' group, whether the income support comes from benefits directly received by an individual in the reference population or through a person from an older age group matters. For this reason, old-age benefits and survivor's benefits are treated as 'social benefits' when they are received by individuals younger than 60 years old.

Information on social benefits is not available in net value terms for some Member States through EU-SILC (DK, DE, LT, HU, MT, NL, SI, SK, UK). Therefore, benefits and income components are considered in gross terms, and compared to gross income.

Table 6: Types of social benefit in EU-SILC

Measurement Unit (individual/ household)	Type of benefit	Referred in the chapter as...
Household	Family/ children related allowances	*Social benefits*
	Social exclusion not elsewhere classified	
	Housing allowance	
Individual	Unemployment benefits	
	Old age benefits	*Pensions* if perceived by household member aged 60+
	Survivor's benefits	*Social benefit* if perceived by household member aged 18-59
	Sickness benefits	*Social benefits*
	Disability benefits	
	Education-related allowances	

Source: Eurostat.

5. THE ROLE OF LABOUR MARKET TRANSITIONS IN EXITING POVERTY

The European Commission (2009) highlighted that "employment increases have not sufficiently reached those furthest away from the labour market, and jobs have not always succeeded in lifting people out of poverty" ([54]). This section aims at exploring how labour market and poverty transitions are linked. The results show that about half of those who took up a job escaped from poverty the year after.

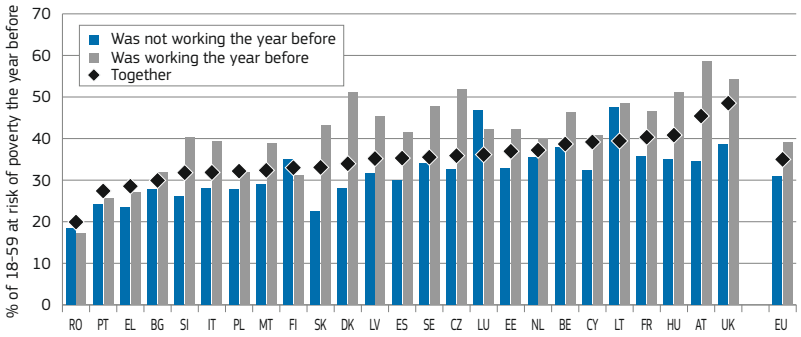
The simplest way to identify the routes out of poverty is to consider year-to-year transitions. On average, in the EU, individuals at risk of poverty have a 35% chance to exit poverty in the following year ([55]), which means, of course, that they are twice as likely to remain poor rather than exit from poverty. Across the EU, however, the average chance ranges from 19% in Romania to 45% or more in the United Kingdom and Austria (see ESDE 2012).

The chances to exit poverty are lower for those who are out of work than for those who are already in work. Chart 27 shows that an in-work poor individual has a 43% chance of getting out of poverty, on average in the EU, while an individual out of work has only a 33% chance of leaving poverty.

5.1. Non-working adults taking up a job have one chance out of two to leave poverty

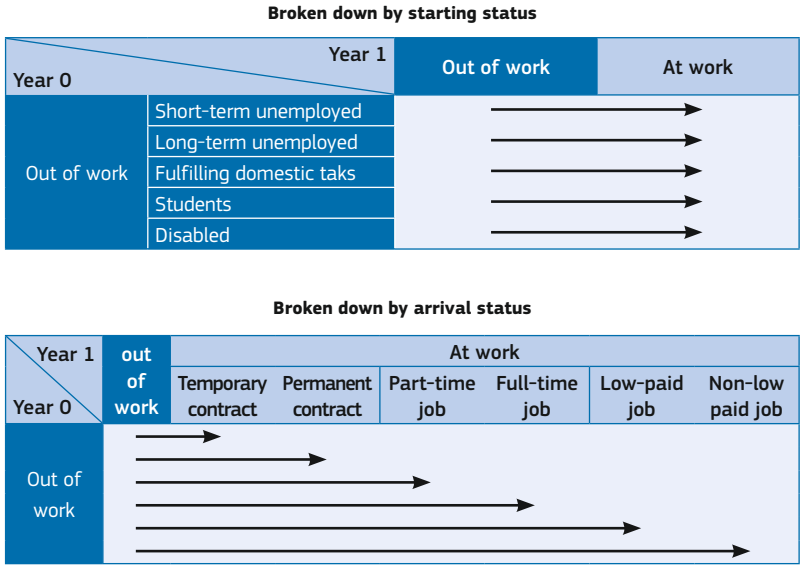
Academic literature on determinants of exits from poverty has widely shown that there are multiple pathways out of poverty: changes in the labour market attachment of individuals, or of those with whom they are living; changes in the household composition; or changes in their sources of income, including from benefits ([56]). The general conclusion is, nevertheless, that labour market transitions are the most often associated with exits from poverty (see for example Bane and Elwood 1986, Mac Kernan and Ratcliff 2005, Fouarge and Layte 2005).

Chart 27: Exit-out-of-poverty rate by initial labour market attachment



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data – Data for DE and IE missing.

Chart 28: Transitions back to work for those out of work



Source: DG EMPL.

Labour market transitions in the current analysis refer to year-to-year changes in people's activity status. The first type of labour market transition consists simply of moving from a non-working status to employment, from one year to the next. For that purpose, year-to-year transitions are extracted from the EU-SILC longitudinal database. As the reference period for the labour market status and poverty do not refer to the same year, special attention is paid to lag the most recent one (activity status) and make it time-coherent with income ([57]) (see Box 5).

5.1.1. Taking up a job: describing transitions into work

The working age population out of work is considered as being the group comprising those who are (1) unemployed or (2) at risk of poverty *and* inactive, based on the premise that both subgroups need to take up a job in order to avoid or escape poverty.

([54]) See also Marx *et al.* (2013).

([55]) Transitions refer to EU-SILC 2010 longitudinal data. As income data refer to the previous year, these figures refer to exits from poverty between 2008 and 2009.

([56]) They can also result from more disputable year-to-year changes in changes poverty threshold that are not taken into consideration in the current analysis but could be in further work.

([57]) While income data refer to the income reference period – the previous year in all MS but IE and the UK – activity data refer to the current activity status and need to be lagged in time for synchronisation. Another approach could be to refer to the calendar of activity status on the reference period. Exploratory work has shown that this leads to close estimates.

Box 5: Labour market and poverty transitions measured through EU-SILC

The EU-SILC (Statistics on Income and Living Conditions) is the reference source at EU level for statistics on income and living conditions, and for common indicators for social inclusion. The sample size exceeds 400 000 individuals a year. Each individual is interviewed over four consecutive years.

The EU-SILC panel data

EU-SILC data can be considered in two dimensions: cross-sectional and longitudinal. The cross-sectional dimension refers to all individuals interviewed during a single year. This is the most frequent use made of the survey, for example when estimating at-risk-of-poverty rates. The longitudinal dimension refers to the information gathered for an individual over the four years of observation. This is the one that is used, for example, to compute the persistent at-risk-of-poverty rate.

The four-year panel of EU-SILC has two main limitations: timeliness and sample size. The longitudinal component data is only available four years after the initial date of its collection, and requires heavy data processing. Currently, the longitudinal component 2007–10 is the most recently available longitudinal set of data with the largest coverage of the Member States. The 2008–11 data is available for 21 Member States.

Second, the longitudinal information for a given four-year framework is available only for a quarter of the sample interviewed during a given year. Indeed, the sample is organised following a rotational framework: every year, a quarter of the sample is interviewed for the first time; a quarter is interviewed for the second time, a quarter for the third time, and a quarter for the fourth time.

An option for coping with the small sample size is to replace an approach based on four-year trajectories by an approach based on year-to-year transitions. This makes it possible to cover a larger number of individuals, as information for a two-year framework is available for three quarters of the sample. However, long-term trajectories such as persistence and recurrence of poverty cannot be considered.

Measuring year-to-year transitions

In the paper, two main types of transitions are considered: labour market transitions and poverty transitions.

Transitions on the labour market aim to measure the extent to which people out of work go back to work, with some refinements on the quality of jobs and initial labour market status (unemployed or inactive). They also help measure how those participating on the labour market are moving toward more stable positions (from temporary to permanent contracts, from part-time job to full-time jobs, from a pay level to a higher pay level).

Poverty transitions are measured as the share of those who were not in poverty one year earlier but fell into poverty in the following year (entry rate into poverty). Symmetrically, the chance of getting out of poverty is defined as the share of individuals not at risk of poverty among those who were at risk of poverty the year before.

A special attention dedicated to reference periods

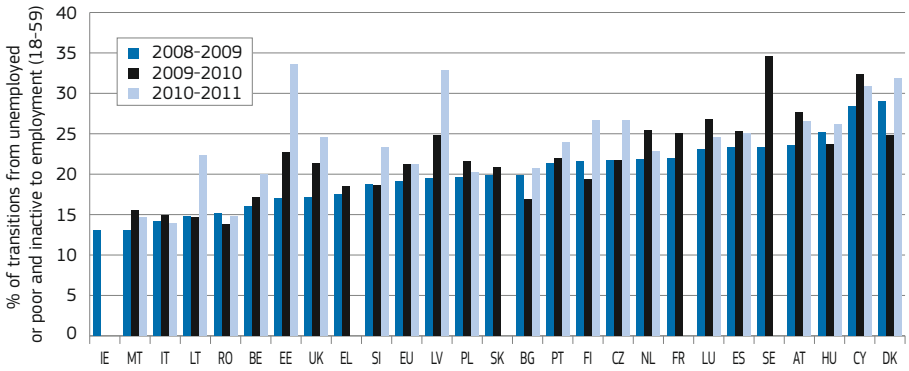
The EU-SILC interview refers to a different time period for some of the questions. The main variables on labour market participation, such as activity status, type of contract, number of hours worked a week, are related to the time of the interview. Additionally, some complementary information on activity during the previous year can be gained through the calendar of activity (number of months at work, unemployment or inactivity, and part-time/full-time information). On the other hand, income composition data (including wages) refer to the income reference period, i.e. the previous year in all the Member States except the United Kingdom and Ireland.

To properly compare the transitions into the labour market, and the poverty transitions of a single individual between two years, the variables need to be synchronised from one year to another. For example, observing the link between labour market and poverty transitions for an individual in 2008 and 2009, it is necessary to refer to the EU-SILC data collected in 2008 and 2009 for the labour market information (current status), and to the data collected in 2009 and 2010 for income composition information (which will refer to reference years 2008 and 2009).

Missing countries

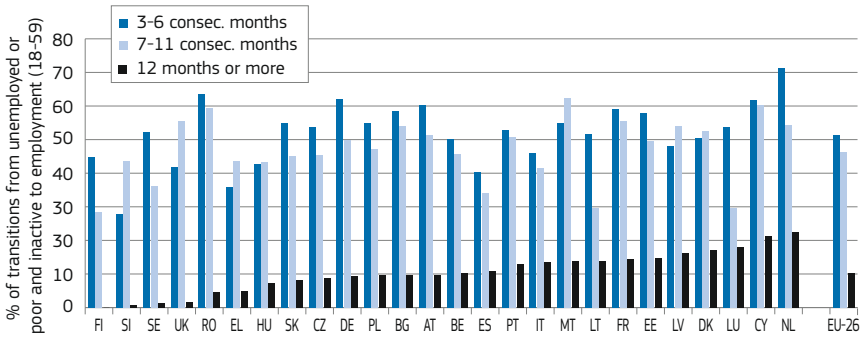
The database for longitudinal data contents no data for Germany or Ireland. Therefore, these countries are missing from the analysis. Denmark has been excluded from some of the computations because of problems in the sample size of the group of individuals who are out of work and returning to work.

Chart 29: Chances of taking up a job the year after for adults out of work



Source: DG EMPL calculations based on Eurostat, EU-SILC 2009 longitudinal, EU-SILC 2010 longitudinal and EU-SILC 2011 longitudinal – Data for DE and IE 2010 and 2011 missing.

Chart 30: Chances of taking up a job the year after by unemployment duration



Source: DG EMPL calculations based on Eurostat, EU-SILC 2011 cross sectional data –Data for IE missing.

In the EU, around 20% of those who are unemployed or inactive and at risk of poverty are in employment the following year (see Chart 29). This proportion ranges from 15% or less in Malta, Belgium, Romania, to more than 25% in Sweden, Austria, Hungary, Cyprus and Denmark.

The chance of getting a job depends on the initial activity status. While the short-term unemployed are more likely to go back to work, the long-term unemployed, those who are disabled or adults fulfilling domestic tasks might experience greater barriers to entering or re-entering the labour market.

Among those unemployed, the chances of taking up a job the year after are much greater for those unemployed for shorter durations (3-11 consecutive months than 12 months or more during the last past year). While the transition rates from long term unemployment to employment are larger in the Netherlands, Cyprus, Luxembourg, Denmark, they are much smaller in Finland, Slovenia, Sweden and the United Kingdom (see Chart 30).

Taking up a job can have different implications and lead to different outcomes in terms of exits from poverty, depending on the characteristics of the job found (standard versus non-standard job). EU-SILC provides possible indicators to capture the nature of the contract, the time worked over a week, and the wage level. While certain of these aspects (temporary or permanent contract, part-time or full-time contract, and low wage versus non-low wage jobs ([58])), can be associated to positive outcomes these characteristics associated to non-standard forms of jobs are nevertheless associated with greater risks of poverty (see Table 8 and OECD 2013).

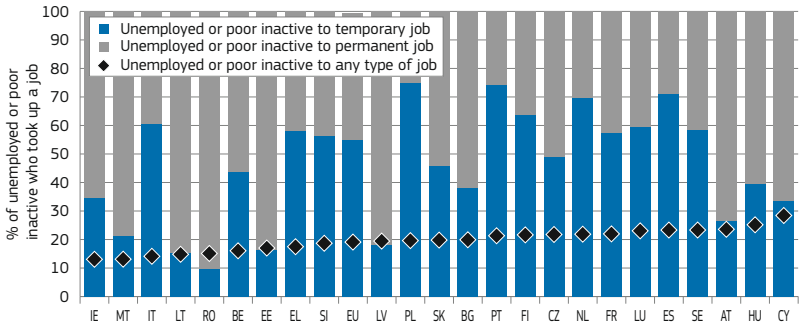
Table 8: At-risk-of-poverty rate of employed persons by job characteristics, 2011

	Type of contract		Part-time / Full-time		Wage level	
	Permanent	Temporary	Full-time workers	Part-time workers	Non-low wage earners	Low wage earners
EU-27	5.4	13.2	7.5	13.5	2.6	15.2

Source: Eurostat, EU-SILC [ilc_iw05] [ilc_iw06], at-risk-of-poverty rates by wages: DG EMPL calculations based on Eurostat, EU-SILC 2011.

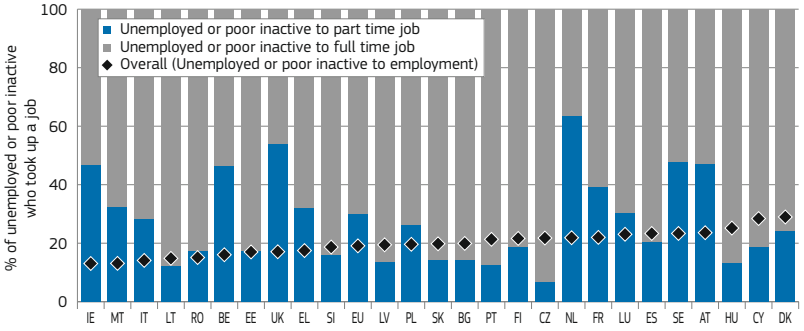
([58]) See box 3 for technical details.

Chart 31: Share of temporary/permanent contract workers among the unemployed or poor inactive who found a job 2009–2010



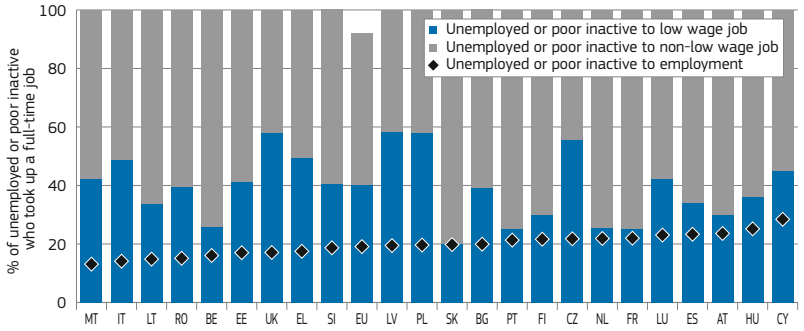
Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data – No Data for DE.

Chart 32: Share of those part-time/full-time workers among the unemployed or poor inactive who found a job 2009–2010



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data – No Data for DE.

Chart 33: Share of those who found a low wage (resp. non-low wage) job among the unemployed or poor inactive who found a job 2009–2010



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data – No Data for DE.

Chart 31, Chart 32 and Chart 33 show the likelihood of taking up a permanent or fixed-term job, part-time or full-time job, and low paid and better paid jobs for those who are out of work (both unemployed and poor inactive).

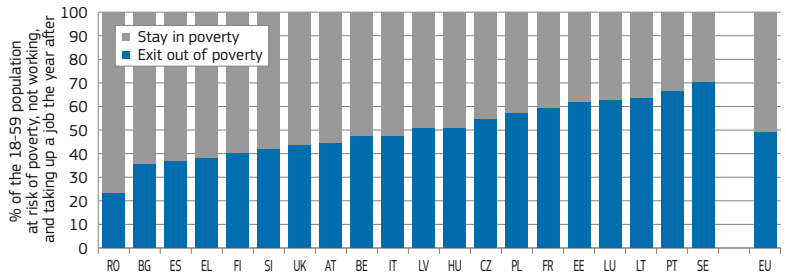
Most of the job take up relates to full-time jobs, except in some Member States, including Belgium, Ireland, the Netherlands, Austria, Sweden, and the UK. Job take up corresponding to temporary jobs are high in Italy, Slovenia, Portugal, Spain, France and Sweden – all Member States where labour market segmentation based on the type of contract is relatively high (except Sweden, see Section 2).

Last, some 40% of job take up for the unemployed or poor inactive relates to low paid jobs, with the share especially high in Latvia, Italy, Bulgaria, Poland, the Czech Republic and Slovenia. In all these Member States, with the exception of Poland and Italy ([59]), the minimum wage is also just below the poverty threshold (see European Commission 2011, Chapter 4).

([59]) In PL, the minimum wage is slightly above the poverty threshold, and in Italy there is no minimum wage.

Chart 34: Is taking up a job enough to escape poverty?

Share of 18-59 non-working, at risk of poverty and taking up a job exiting out of poverty during the period



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data – Data for DE and IE missing.

Notes: these estimates are based on limited sample sizes and should be considered as fragile.

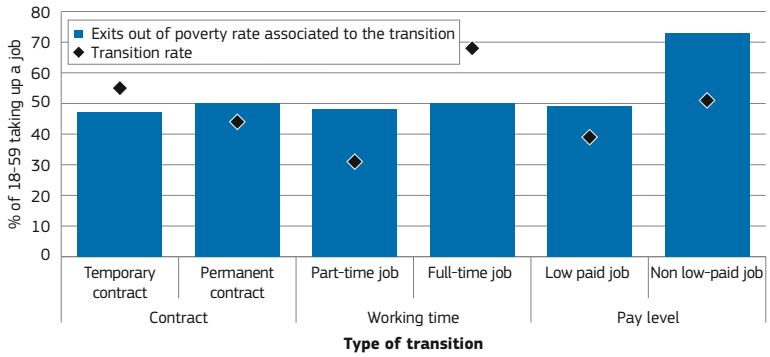
5.1.2. Getting a job helps to get people out of poverty ... but only in half the cases

To what extent does getting a job help a person escape from poverty? Between 2008 and 2009, 50 % of those who were poor in 2008 and took up a job were no longer poor in 2009. The chance of getting out of poverty while taking up a job varied from 20 % in Romania and Bulgaria, up to more than 65 % in Portugal and Sweden (see Chart 34).

Various reasons explain why taking up a job does not guarantee an exit from poverty, notably the quality of the job found (as indicated by the type of contract, working hours and wages) and the composition of the household. At EU level, exit rates from poverty are similar if the job happens to be a permanent contract or a temporary contract, or if the job is part-time or full-time, although taking up a better paid job clearly makes a more substantial impact (see Chart 35). However, this overall picture needs to be nuanced as patterns of working arrangement differ a great deal across Member States in terms, for example, of whether temporary contracts or part-time jobs serve as stepping stones, or imply entry into the wrong part of a highly segmented labour market ([60]).

([60]) Unfortunately, due to limited sample sizes, such estimates cannot be produced with sufficient robustness at a national level. Likewise, it is not possible to determine from available sources whether individuals who escape poverty in one year avoid falling back into poverty in subsequent years.

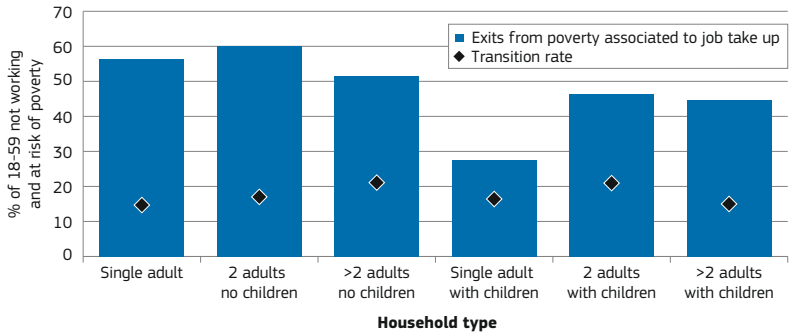
Chart 35: Exit-out-of-poverty rate by type of labour market transition (from 'poor and not employed' to employed) and transition rate



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data – Data for DE and IE missing.

Note: Among those individuals at risk of poverty who had a transition from non-employed (unemployed or inactive) to employed in a temporary contract 40% got out of poverty.

Chart 36: Exit-out-of-poverty rate while getting a job, and share of those who took up a job by household type



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data – Data for DE and IE missing.

Chart 37: Transitions that could drive exits from poverty for those at work

Year 0 \ Year 1		Out of work	At work					
			Temporary contract	Permanent contract	Part time job	Full time job	Low paid job	Better paid job
Out of work	Temporary contract		→					
	Part time job				→			
	Low paid job						→	

Source: DG EMPL.

Whether getting a job is enough to get out of poverty may also depend on household composition. Chart 36 shows that adults without children are more likely to get out of poverty when they take up a job than adults living with children, and especially single parents.

5.2. Getting out of in-work poverty: the role of wage transitions

When people are in work but do not earn a living wage, several transitions can help them out of poverty, including working more hours or increases in the pay level. In addition, given that many temporary jobs are associated with a wage penalty, or are of short duration, moving from a temporary to a permanent job may also help with getting out of poverty. The following section explores to what extent different labour market transitions are associated with exits from poverty.

5.2.1. Most upward labour market transitions are wage transitions

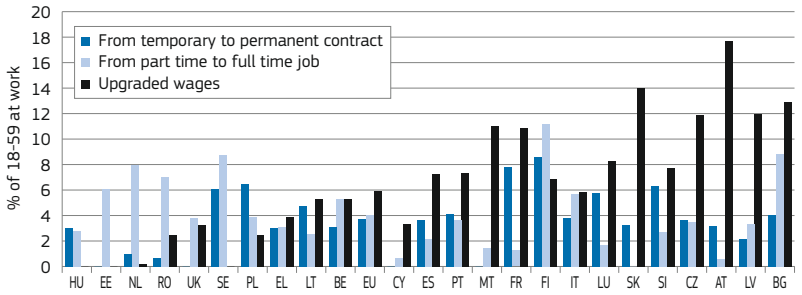
Labour market transitions of those already at work are captured through the following changes (see Chart 37): moving from a temporary contract to a permanent contract, moving from a part-time job to a full-time job, or moving either to a higher hourly wage decile or from a low wage job to a non-low wage job ([61]). As several of these transitions might occur at the same time, the previous order of transitions (contract, working time, low wage, wage decile) is used to isolate one 'main' transition per adult ([62]).

The frequency of labour market transitions varies by type. At the EU level, some 20% of the in-work poor experienced at least one of the labour market transitions listed above in a given year. The most frequent transition involves changes in the wage decile (14% of those in-work poor). The least frequent concerns a transition from a part-time to a full-time job (achieved by only 5% of part-time workers at risk of poverty).

([61]) See box 3 for the technical definition of low wage in this analysis.

([62]) For example an individual moving from a temporary full-time job to a permanent one and earning higher wages will be considered as having experienced a transition from a temporary to permanent contract, as this transition appears first in the priority order.

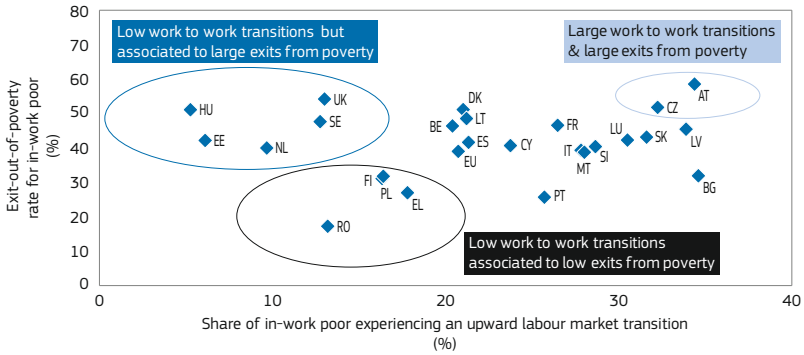
Chart 38: Share of individuals at risk of poverty experiencing one labour market transition



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data.

Note: Member States are ordered by increasing share of in-work poor experiencing any transitions.

Chart 39: Share of in-work poor experiencing a labour market transition and exit rate out of poverty



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data.

Note: Between 2008 and 2009, in Bulgaria, 34% of in-work poor experienced a labour market transition (i.e. from temporary to permanent, from part-time to full-time, from low paid to non-low paid, or toward a higher wage decile). Among them, 30% got out of poverty.

The likelihood of each type of transition occurring also varies across countries (see Chart 38) with the highest rates of transitions among the in-work poor found in Austria, Bulgaria and Slovenia. Among the in-work poor employed on a temporary contract, the largest transitions to permanent jobs occurred in Slovenia and in Finland, where more than 20% of temporary workers moved to permanent jobs.

Transitions from part-time to full time were also more frequent in Finland (16% of part-time workers), in Sweden and the Netherlands (10%). This share was also high in Bulgaria, Romania and Estonia, where 8% of part-time workers moved to full-time work.

The transitions from low paid jobs to better paid jobs were high in Austria, Bulgaria, Slovakia, Latvia and the Czech Republic. They were much rarer in the Netherlands, Romania, and the UK. Lastly, transitions to a higher wage decile – the most frequent transition – occurred more often among the in-work poor in Austria, Bulgaria, Slovenia, Latvia, the Czech Republic and Bulgaria.

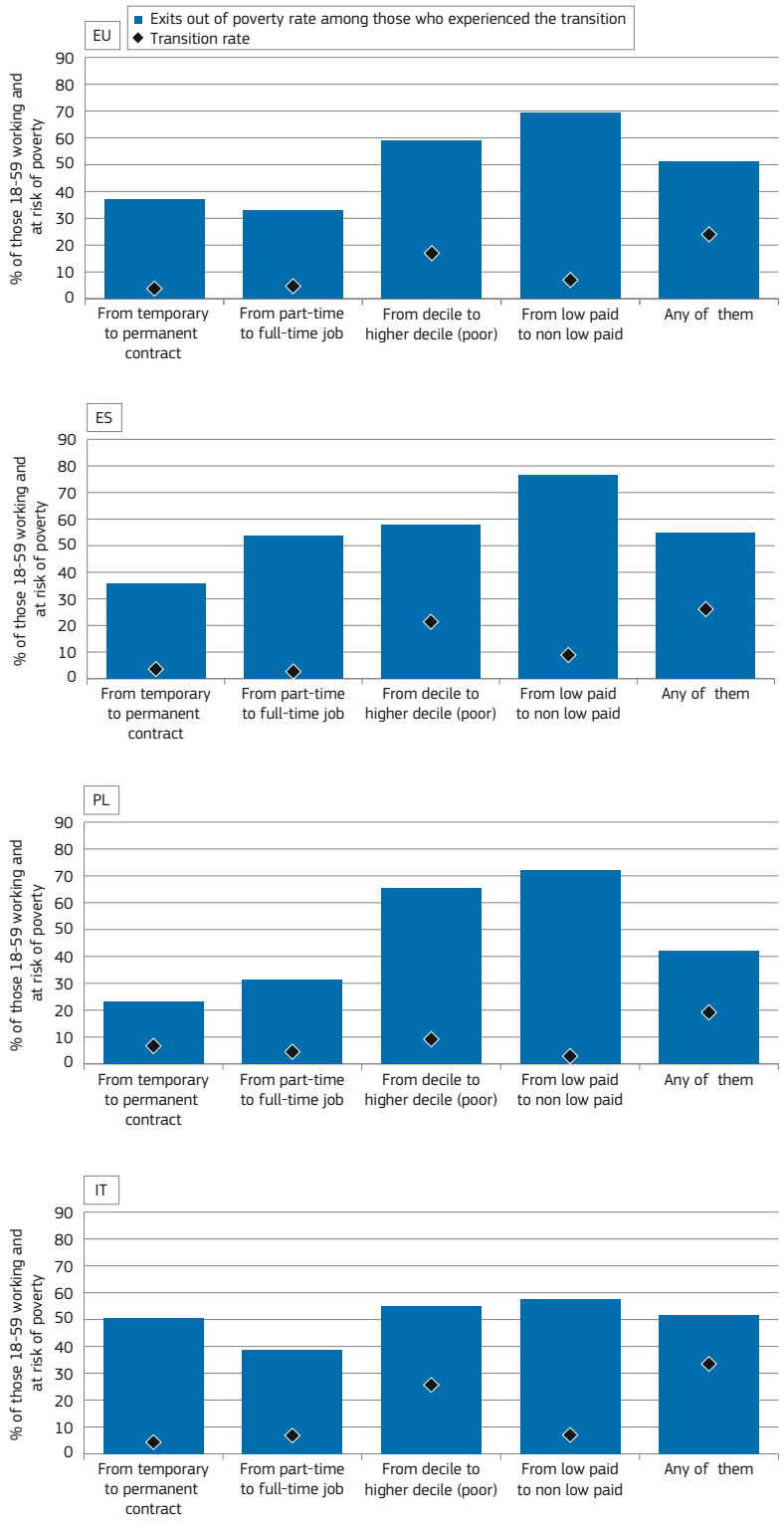
5.2.2. Even significant wage increases are sometimes not enough to escape poverty

Upward labour market transitions for the in-work poor do not necessarily translate into exits from poverty. At EU level, 24% of those who were in-work poor experienced one of the upward transitions described above between 2008 and 2009. However, only half of these escaped poverty during this period. Chart 39 shows the incidence of labour market transitions among the in-work poor and related exits from poverty for Member States. It shows no single or simple relationship between upward labour market transitions and exits from poverty. In Member States such as Austria, the high level of transitions is associated to exits from poverty. In Bulgaria, on the other hand, the number of transitions among the in-work poor is high, but they do not translate into exits from poverty. In Member States such as Denmark or the UK, a lower rate of transitions is observed, but these are associated with large exits from poverty. Lastly, in Member States such as Greece or Romania, transitions are relatively rare, and do not result in exits from poverty.

Small sample sizes limit the possibility of analysing the link between labour market transitions and exits from poverty in detail across all the Member States. However, it is possible to do this in the case of several large Member States. As Chart 40 shows, in Spain, Poland and Italy exits from poverty occur most often in connection with upward transitions in pay level (occurring in 20% of cases in Spain and Italy and 10% in Poland). These transitions were associated with exits from poverty in more than half of the cases, which is a positive result, but one that also shows that even significant increases in wages are not always enough to help people escape in-work poverty.

Moving from a temporary to a permanent job is also associated to lower exits from poverty, and to varying extents across the Member States, with much larger exit rates in Italy compared to Spain and Poland.

Chart 40: Exits out of poverty rate related to labour market transition and transition rate



Source: DG EMPL calculations based on Eurostat, EU-SILC 2010 longitudinal data.

6. Which policies facilitate returns to work and limit poverty?

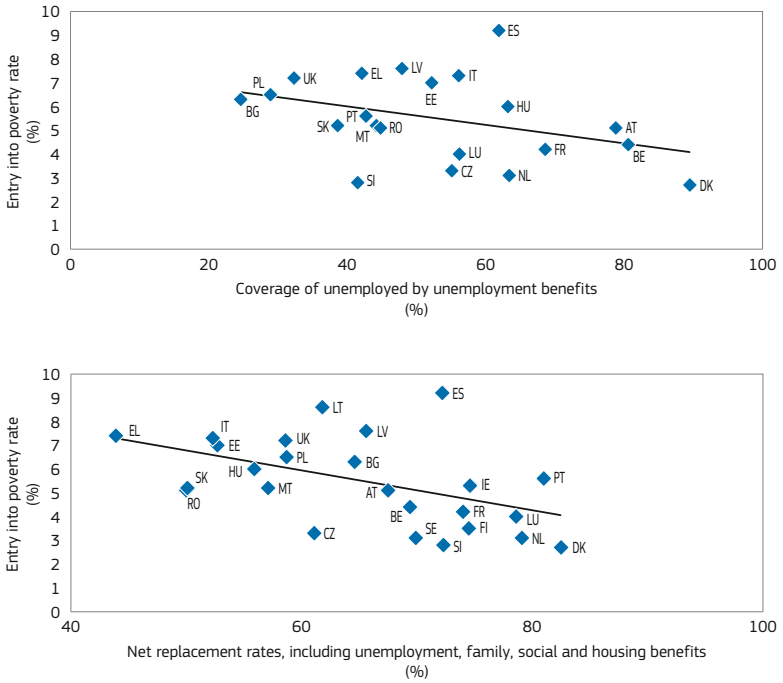
This section seeks to identify the type of policy mixes that best support the return to employment and to a living wage of those at risk of poverty. It considers to which extent combining adequate income support, measures to promote inclusive labour markets, and access to enabling services can sustain returns to employment and exits from poverty. It particularly considers issues of coverage and design of income support.

6.1. The generosity of income support does not prevent returns to employment

6.1.1. Unemployment benefits

Unemployment benefit systems are intended to provide income replacement and resources for the unemployed to enable them to both maintain acceptable living standards and search for adequate job matches. However, 'generous' systems can also bring with them financial disincentives to work, as illustrated in the form of high marginal effective tax rates, the so-called unemployment traps (see part 2 of this chapter). The following analysis shows that broad coverage and the relatively high net replacement rate of unemployment benefits are in fact associated with lower rates of entries into poverty; and that they do not prevent, and even in certain circumstances, facilitate, returns to employment, and thereby are associated with better exits from poverty.

Chart 41: Coverage and adequacy of unemployment benefits limit entries into poverty



Source: DG EMPL calculations based on Eurostat, EU-SILC 2009–10–11 longitudinal data and OECD-EC tax-benefit model.

Note: EU-SILC – transitions in/out of poverty refer to yearly 2008–10 averages.

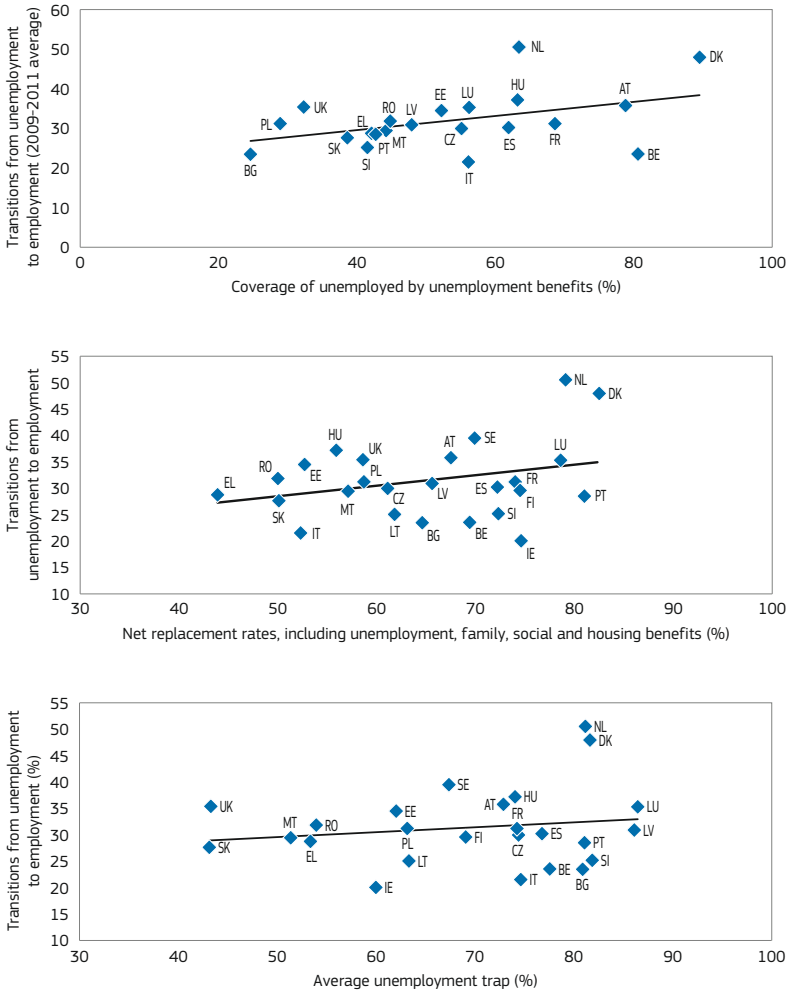
Chart 41 shows the extent of diversity that exists across the Member States. Countries that, by combining relatively broad coverage with high income replacement rates, such as Denmark, Austria and the Netherlands, tend to achieve low rates of entry into poverty, high returns to employment, and high exit rates out of poverty.

In Bulgaria, Poland and the UK, the low coverage and low net replacement rates of their unemployment benefit schemes are associated with larger entries into poverty. However, returns to employment and exit rates from poverty are much higher in the case of the UK ([63]) than they are in Poland or Bulgaria. The case of Spain stands out in that there is a high rate of entries into poverty despite rather high replacement rates and a medium level of coverage (see Chart 42).

There seems to be no relationship between the level of financial disincentives (as measured by the average unemployment trap) and the chances to get back to work for the unemployed.

([63]) See also ESDE 2012, Chapter 2, on the large turn-over of poverty in the UK.

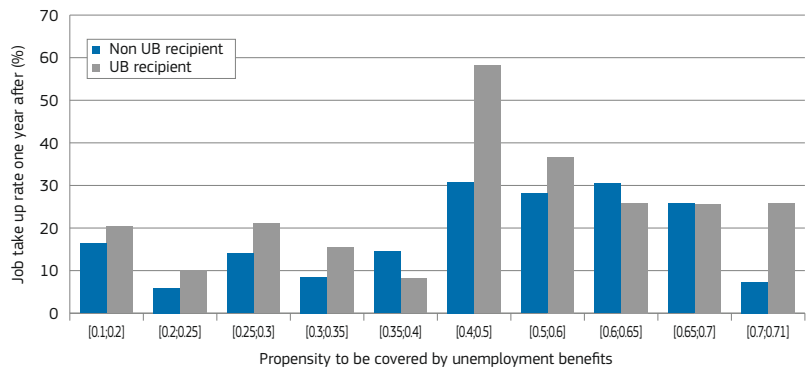
Chart 42: Higher coverage and adequacy of UB do not prevent returns to employment



Source: DG EMPL calculations based on Eurostat, EU-SILC 2009–10–11 longitudinal data and OECD-EC tax-benefit model.

Note: EU-SILC – transitions in/out of poverty refer to yearly 2008–10 averages.

Chart 43: Job take up rate among unemployed Europeans by unemployment benefit recipiency



Source: DG EMPL calculation based on Eurostat, EU-SILC 2010 longitudinal data.

Note: Propensity score matching is based on the chances to be employed during the past three years to the income reference year (more than 30 months, between 12 and 30 months, less than 12 months), the age (and age^2), the education level (low level of education or not).
There is no country effect included in the model.

6.1.2. Unemployed covered by unemployment benefits have greater chances to go back to work, all things being equal

At the individual level, the unemployed receiving unemployment benefits have greater chances to be working the year after compared to those who are not receiving any. This result highlights a positive relationship between unemployment benefits recipiency and transitions back to employment. This does not necessarily mean that benefit recipiency per se favours transitions to employment, as unobserved but related variables, such as training, conditionality of benefits or activation measures cannot be included in the model.

This result is found by comparing the chances to take up a job depending on whether the unemployed are covered or not by unemployment benefits. As the coverage depends on individual characteristics, we use propensity score matching ([64]), to compare individuals with similar chances to be covered in terms of time spent in employment over the past four years, age, gender and education.

Chart 43 illustrates that, among individuals with similar chances to be covered, the job take up rate is higher among individuals receiving benefits in most cases. The estimated impact ([65]) of benefit recipiency on the job take up is positive (see Table 9), even when controlling for additional characteristics not closely linked to benefit entitlement (e.g. number of children).

([64]) This three-step method first requires an estimation of individual chances to be covered by unemployment benefits depending on age, gender, education and time spent in unemployment during the last three years. Second, it identifies pairs of covered and non-covered individuals with similar chances of being covered. Then it compares the job take up among non-covered individuals and their matching pairs (difference in differences).

([65]) As mentioned earlier, the results illustrate a positive relationship rather than an impact as unobserved factors associated to coverage can also play a role (training programs, activation).

Table 9: **Average treatment effect of the impact of receiving unemployment benefits on job take up among unemployed Europeans**

Matching technique	Average treatment effect*	Standard error	Sample sizes
Nearest neighbour matching *identifies for each non-recipient the benefit recipient with the closest propensity to be covered.*	0.031	0.009	recipient: 2882 non recipient: 4595
Radius matching *The radius method considers all benefit recipients with a likelihood to be covered differing no more than x% from the likelihood of the selected non-recipient (x being the so-called 'radius')*	0.095	0.013	recipient: 2882 non recipient: 4643
Kernel based matching *The Kernel method considers a wide range of recipients around the non-recipient, and attributes to each of them a weight that decreases with the distance to the selected non-recipient.*	0.031	0.002	recipient: 2882 non recipient: 4643
Stratification matching *The stratification matching is based on blocks of individuals with a similar chances of being covered. It matches each non-recipient with all recipients in the block.*	0.026	0.005	recipient: 2882 non recipient: 4643

* the average treatment effect compares the job take up of identified pairs as the difference between non take up of covered individuals and non-covered individuals.

Source: DG EMPL calculation based on Eurostat, EU-SILC 2010 longitudinal data.

Note: Propensity score matching is based on the chances to be employed during the past three years to the income reference year (more than 30 months, between 12 and 30 months, less than 12 months), the age (and age^2), the education level (low level of education or not). There is no country effect included in the model. This helps to identify wider groups of individuals with similar characteristics whether or not they are covered (as an individual with a given profile might be covered in one Member State and not covered in another one based on eligibility rules). This, however, also has disadvantages, as variables such as current economic situation cannot be controlled.

The average treatment effect is estimated taking into account the following factors: number of consecutive months in unemployment during the income reference period (4-6 or 7-12 versus less than 3), the number of months spent in work during the past 3 years before the reference period, the education level (low level of education or not), the age (being aged 18-24 or not), the gender and the number of children.

6.1.3. Social assistance: high coverage and adequate support limit persistence of poverty

The effectiveness of social assistance is assessed here through indicators of non-coverage (see Section 2 – Box 1) of the jobless and poor households ([66]), the net income of people living on social assistance relatively to the median income, and the effective marginal tax rate for inactive people taking up a job, the so-called inactivity trap (see Section 2).The results show that countries with the lowest levels of persistent poverty are those where the non-coverage of jobless and poor households is low, and where the adequacy of social assistance benefits is high (see Chart 44).

It has to be noted, that, in most countries, it is not social assistance in itself that lifts people out of poverty. It is only in Sweden, Denmark, and the Netherlands that safety nets cover almost all those living in jobless and poor households, and provide net incomes for those living on social assistance that are above the poverty threshold. By contrast, Romania, Greece and Bulgaria are characterised by a very low coverage of the population living in jobless and poor households and very low adequacy of social assistance, resulting in very high rates of persistent poverty. Higher inactivity traps are associated with lower persistence of poverty, suggesting that such theoretical financial disincentives do not materialise into actual barriers to work.

6.2. Benefit systems integrated with inclusive labour markets and enabling services facilitate the returns to employment

Integrated policy interventions are seen as central to facilitating returns to employment and to ensuring decreased rates of poverty. In this section, we refer back to the description of national policy frameworks as summarised in Table 5 (Section 2.3) and relate them to rates of successful transitions into work and out of poverty. In this way we aim to explore whether Member States with better outcomes (in terms of transitions) are those that have best been able to combine well-designed benefit systems with both inclusive labour market policies and appropriate enabling services.

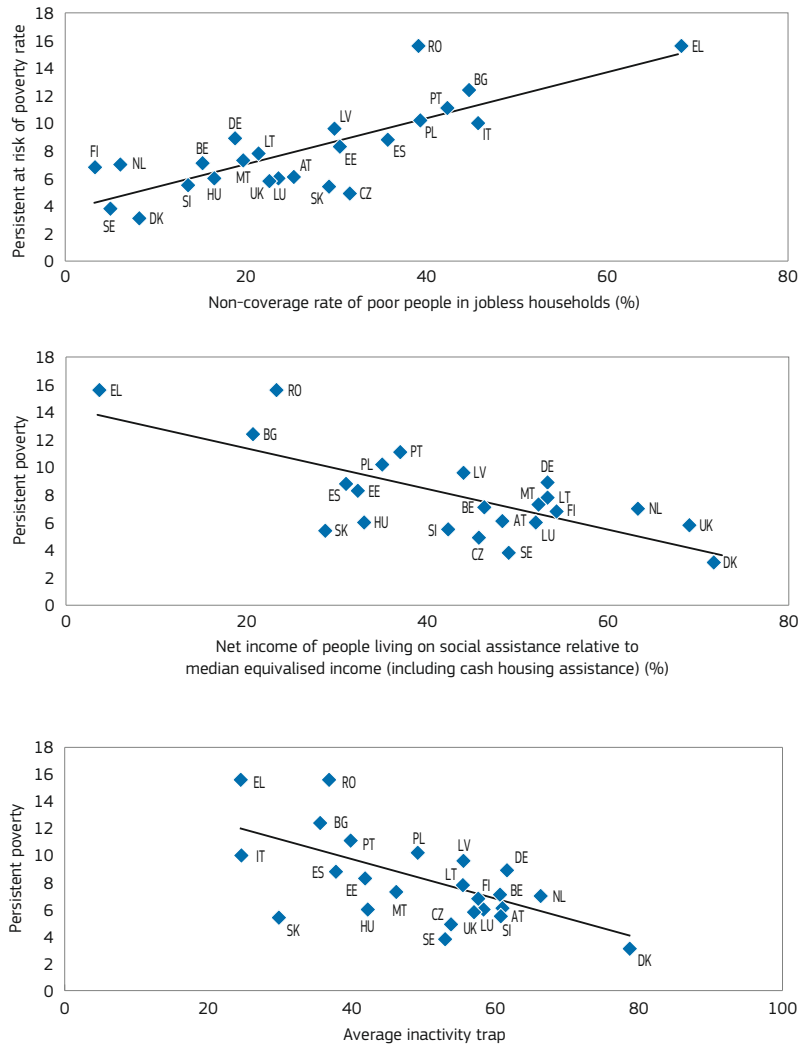
In this respect Chart 45 relates the transition rates from unemployment to employment with exit rates from poverty for the period 2009–11. In this chart, Member States are identified with symbols representing the main characteristics of their policy design as elaborated in Section 2 with clear areas representing the main trends to be focussed upon.

The first message that emerges from this chart is that Member States such as Denmark, the Netherlands and Sweden achieve both large returns to employment and medium to large exits from poverty, and that they are characterised by the strength of their income support and activation system, low levels of labour market segmentation and gender segregation, and wide access to enabling services (See section 2).

However, the fact that neighbouring Finland, which shares the same policy characteristics, achieves lower rates of transition to employment and lower exits

([66]) See Box 1 for a definition of non-coverage of social benefits.

Chart 44: Non-coverage and adequacy of social transfers and the dynamics of poverty



Source: DG EMPL calculations based on Eurostat, EU-SILC 2009–10–11 longitudinal data.

from poverty offers an indication that success in policy terms may depend on more than just the structure and nature of the systems. In practice – and this applies across all countries – other less tangible and less easily documented factors, such as whether or not the systems and staff are effectively managed, or whether or not they attract public respect and support, may also play their part.

Austria and France share several characteristics of the above Member States, but tend to have lower rates of returns to employment associated with large exits from poverty. This may be due to the French labour market being more segmented and Austria being characterised by higher gender segregation and lower access to childcare services. Belgium, which is seen as being close to France in terms of policy design, nevertheless achieves lower returns to employment and lower exits out of poverty.

The United Kingdom achieves very large exits from poverty, and medium transitions to employment. Exits from poverty can be explained by a high degree of targeting, while medium returns to the labour market could be related to low activation and labour market segmentation. In the United Kingdom, however, large exits from poverty have also been found to be related to a high risk of recurrent poverty spells (ESDE 2012).

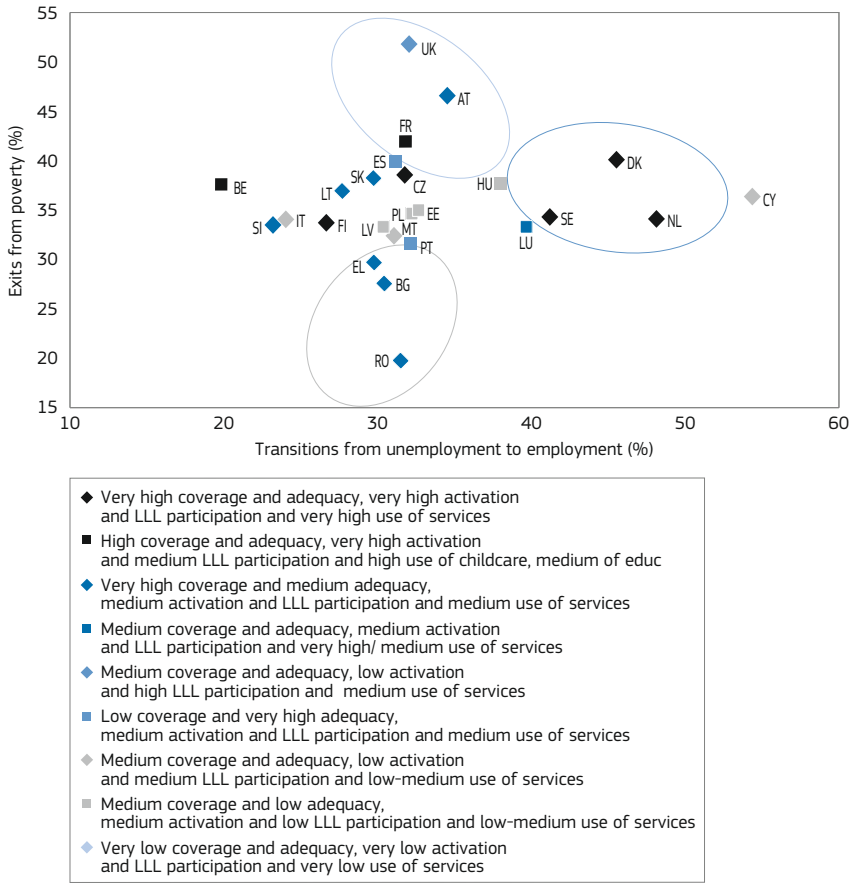
Greece, Bulgaria and Romania, by contrast, achieve medium to low transitions to the labour market and low exits from poverty. These Member States are also those with the weakest level of income support, both in terms of coverage and adequacy, which is associated with low activation and very low use of services. Slovakia and Lithuania, who share similar policy characteristics (see the triangles in the chart), perform slightly better in terms of exits from poverty, but their transition rates to employment remain below average.

Latvia, Estonia, Hungary and Poland achieve medium returns to both employment transitions and exits from poverty. They are characterised by medium coverage and adequacy and medium activation, but a low participation in lifelong learning and a low to medium use of services.

Italy and Malta have low transitions to the labour market, but medium levels of exits from poverty. This is seen to be related to policy design, with medium coverage and adequacy, low activation and low to medium use of services. Cyprus and the Czech Republic share the same policy characteristics and achieve similar exit from poverty rates, but with much better transitions to employment in the case of Cyprus and also, in the Czech Republic, better transitions out of poverty.

Spain and Portugal both achieve average returns to employment, while Spain has medium exit from poverty rates compared with low rates in Portugal. Both Member States are characterised by their low coverage but high adequacy of income support, associated to medium activation, a high level of segmentation and a low to medium use of services.

Chart 45: Transitions from unemployment to employment, exits out of poverty, and policy design characteristics (See table 5 in section 2.3)



Source: DG EMPL calculations based on Eurostat, EU-SILC 2009–10–11 longitudinal data.

Note: Transitions on the LM refer to the average of 2008–09; 2009–10 data.

7. Conclusions

The fall-out from the economic crisis has resulted in serious employment difficulties leading to significant increases in poverty among those of working age. Moreover, past experience shows that while raising employment rates and tackling unemployment is important to reduce poverty, it is not sufficient in itself ([67]).

In this context, this chapter has sought to better understand the nature of working age poverty in general, and to assess how employment and social policies can best respond, based on Member States' comparative experiences, and drawing on the rich body of data available through the EU-SILC surveys. It also proposes a selection of key policy indicators that best describe the key dimensions of policy intervention needed to prevent and tackle working age poverty, along the principles of active inclusion.

Taking up a job helps with getting out of poverty, but only in half of the cases. The chances to get out of poverty when moving into employment depend on the type of job found (full time/part time, type of contract and pay level), but also on the household composition and labour market situation of the partner. Similarly,

([67]) See European Commission (2009).

moving to a better paid job is the most frequent way for the in-work poor to get out of poverty. But not all upward labour market transitions (part time to full time or temporary to permanent contract, higher pay) are associated with exits from poverty.

This chapter also highlights potential sources of inefficiencies of the systems, such as inadequate coverage of benefits. For instance, in some countries, significant shares of working age adults are not covered by standard safety nets (unemployment benefits, social assistance) and tend to rely more heavily on pensions, including elderly pensions received by other household members. Such situations are not supportive of returns to employment because they are not associated with any incentive structures (activation, conditionality, etc).

The chapter shows that adequate and widely available systems of income support do not prevent or discourage returns to employment if they are well-designed (for example, with reducing generosity over time) and accompanied by appropriate conditions (job search requirements). The analysis shows that, all other things being equal, people receiving unemployment benefits have greater chances to take-up a job than non recipients.

This analysis is wide-ranging, but leaves open several avenues for future research:

First, the enabling role of complementary policy tools, especially the provision of services (benefits in-kind), could be further explored. They represent a significant share of Member States' social spending, but their impact on poverty is not well captured by standard poverty measures ([68]).

Second, the relative role of in-work benefits and labour market transitions could be further investigated to better understand the dynamics of in-work poverty.

Third, exits from poverty that are unexplained by labour market transitions as identified in the chapter could be explored. The size of the 'black box' could be reduced by considering alternative labour market transitions (for example monthly labour market transitions), and the role of changes in the household composition.

([68]) Current work by the OECD proposes methods to quantify direct and indirect impact of in-kind benefits on poverty reduction, and shows that they are indeed significant in some countries.

Annex

Table A.1: Selected indicators and factors representing three pillars of active inclusion*

Final indicator/ factor	Underlying variables
First pillar: Adequate income support	
First level of safety nets (income replacement) – Mainly contributory	
Coverage of unemployment benefits – average	The average of sub-indicators: Pseudo-coverage rate of unemployment benefits after a) 3 months, b) 4 to 6 months, c) 6 to 12 months of unemployment (based on EU-SILC).
Coverage of some sort of benefits, including unemployment benefits – average	The average of the sub-indicators: Pseudo-coverage rates of some sort of benefits including unemployment benefits after a) 3 months, b) 4 to 6 months, c) 6 to 12 months of unemployment (based on EU-SILC).
Adequacy of unemployment benefits – average	The average of sub-indicators: Net replacement rates calculated in the case of persons in families that do not qualify for family, cash housing assistance or social assistance across – various types of household (single earner, one-earner couple, two-earner couple, each without and with two dependent children), – wage levels, (67 %, 100 % of the average wage), – unemployment spells (after two months, half a year and a year of unemployment) (theoretical indicators based on the OECD tax-benefit model).
Adequacy of unemployment, social, housing and family benefits – average	The average of the sub-indicators: Net replacement rates for families that qualify for family, cash housing assistance or social assistance across – various types of household (single earner, one-earner couple, two-earner couple, each without children and with two dependent children), – wage levels, (67 %, 100 % of the average wage), – unemployment spells (after two months, half a year and a year of unemployment) (theoretical indicators based on the OECD tax-benefit model).
Unemployment trap – average	The average of the sub-indicators: Unemployment trap across – various types of household (single earner, one-earner couple, two-earner couple, each without and with two dependent children), – wage levels, (67 %, 100 % of the average wage) (theoretical indicators based on the OECD tax-benefit model).
Second level of safety nets	
Non-coverage of benefits for those jobless and poor	Share of adults living in poor and jobless households in which benefits represent less than 10 % of equivalised household income (based on EU-SILC)
Net income of people on social assistance – average	The average of the sub-indicators: Net income of people on social assistance relative to the median income describes the financial situation of those on minimum income for a) single person b) single parent with 2 children c) second earner 3 months (theoretical indicators based on the OECD tax-benefit model).
Inactivity trap – average	The average of the sub-indicators: Inactivity trap across – various types of household (single earner, one-earner couple, two-earner couple, each without children and with two dependent children), – wage levels, (67 %, 100 % of the average wage) (theoretical indicators based on the OECD tax-benefit model).

Selected indicators and factors representing three pillars of active inclusion (cont.)

Final indicator/ factor	Underlying variables
Second pillar: Inclusive labour markets	
Activation	
Expenditure on activation policies – factor	The analysis resulted in one factor (Chronbach= 0.91) on: - Expenditure on ALMP categories 2–7 as % of GDP (Eurostat, LMP database) - Expenditure on ALMP categories 2–7 as % in PPS per person wanting to work (Eurostat, LMP database)
Participation in activation – factor	The analysis resulted in one factor (Chronbach=0.78) on: - Activation-Support (LMP participants per 100 persons wanting to work) (Eurostat, LMP database) - Participation in education and training of the unemployed (Eurostat, EU-LFS) - Participation in education and training of the inactive (Eurostat, EU-LFS)
Segmentation	
Segmentation by type of contract – factor	The analysis resulted in one factor (Chronbach= 0.63) on: - Share of employees working on involuntary part-time or temporary contracts (based on Eurostat, EU-LFS) - Transitions to permanent contracts (Eurostat, EU-SILC) - Wage penalty in relation to temporary work contracts as compared to permanent contracts (based on Eurostat, SES) - Employment protection legislation –regulation on dismissals of regular workers and on the use of temporary forms of employment (OECD, EPL database)
Gender segregation – factor	The analysis resulted in one factor (Chronbach= 0.69) on: - Gender pay gap (Eurostat, SES) - ISCO segregation (Eurostat, EU-LFS)
Wage rigidity	
Transition by pay level up	The share of workers in 4 lower income quintiles with higher pay level as in the previous year (based on EU-SILC)
Low wage trap – average	The average of the sub-indicators: Low wage trap across – increasing earnings (from 33 % to 67 %, 67 % to 100 %, – various types of household (single earner, one-earner couple, two-earner couple, each without children and with two dependent children) (theoretical indicators based on the OECD tax-benefit model).
Third pillar: Enabling services	
Labour market oriented services	
Childcare up until 3 years old – factor	The analysis resulted in one factor (Chronbach= 0.88) on: - Use of childcare for younger than 3 years old (Eurostat, EU-LFS) - Average hours spent in formal childcare (Eurostat, EU-LFS)
Life-long learning and education – average	The average of the sub-indicators: - Participation in education and training of low, medium and high educated aged 25–64 (Eurostat, EU-LFS)
Other services	
Lack of health care	Unmet demand for medical and dental care (18–44) (Eurostat, EU-SILC)
Lack of housing services – average	The average of the sub-indicators: - Housing cost overburden rate among the at-risk-of-poverty population (18–64) - Overcrowding rate among at-risk-of-poverty population (18–64) (Eurostat, EU-SILC)

* The table lists final indicators or factors that represent main aspects of active inclusion.
They are selected as:
- raw variables, i.e unmet demand for health care;
- average of sub-indicators - when they are of the same type and highly correlated;
- factors - constructed through the factor analysis.

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Chapter 3

The gender impact of the crisis and the gap in total hours worked[(1)]

1. Introduction

This chapter analyses the issues that contribute to differences between men and women in terms of their labour market participation and behaviour. It is divided into two main parts.

Part I reviews the most significant *labour market and social developments since the onset of the crisis from a gender perspective*. While women's labour market outcomes are generally poorer than those of men, the crisis has brought some changes, with gender gaps narrowing since the beginning of the recession. The aim was to see whether these changes resulted from an improvement in the labour market positions of women, or a relatively more intense deterioration in the situation of men on the labour market. It will be seen that, apart from some positive tendencies, such as increased employment among partnered women, most of the reductions in the various gender gaps have resulted from a relative more intense worsening in the position of men on the labour market.

Part II explores a fundamental gender-related labour market issue, namely the *gender gap in full-time equivalent employment rates*. While the employment rate of women is generally lower than that of men, this difference is seen to be even larger if employment is measured in terms of full-time equivalents, i.e. taking account of the average hours worked, and not just the number of people working. Though the gap in full-time equivalent employment rates narrowed during the crisis, which was partly due to an increase in the female employment rate, it seems to have occurred largely because of a relatively more intensive rate of job losses among men, and more men being obliged to accept part-time work.

The gender gap in terms of total hours has many causes and consequences (both positive and negative), which are reviewed in some detail in order to better understand how various factors influence the decision on worked hours, and why and how the volume of hours worked is a relevant factor from both a personal and economic point of view. While less total hours worked can reflect preferences and can be associated with positive implications, it can also have disadvantageous consequences. Moreover, it might stem from barriers and institutional constraints that are leading to disincentives to work more, and as such, gender equality implies that these barriers and constraints are dismantled.

The section presents an overview of the gender gap in full-time equivalent employment rates also from the perspectives of age cohorts and education levels. It then explores factors that are seen as contributors to the persistence of the gender gap in full-time equivalent employment rates such as the division of unpaid work, financial incentives and childcare, part-time work, and working-hours regimes. It will be seen that all of these factors correlate strongly with the gender gap in full-time equivalent employment rates and with female employment rate, albeit in some cases they have somewhat conflicting effects on these two variables, suggesting the existence of potential policy trade-offs between female hours worked and number of women in work.

Finally, in the Annex a more in-depth analysis of cross-country performance in gender gap in full-time equivalent employment rates is conducted. The Member States are grouped based on the combined outcome in the gender gap in full-time equivalent employment rates and in female employment rates. First a more detailed overview of these groups is presented from the perspectives of age cohorts and education levels. The section then identifies input variables for each of the five fields that have been covered as main contributors (part-time work, working-hours regimes, the division of unpaid work, financial incentives and childcare) and gives an overview of the different country groups' performances in these fields. The objective is to see whether or not similarly performing Member States have similar patterns, and whether and how Member State practices and policies correspond to a narrower or wider gap in the volume of hours worked between men and women. Moreover, it intends to examine whether any effective policy mix emerges that leads to an effective combination of a high female employment rate and low full-time equivalent employment rate gap.

(1) By Anna Marosi and Monika Velikonja

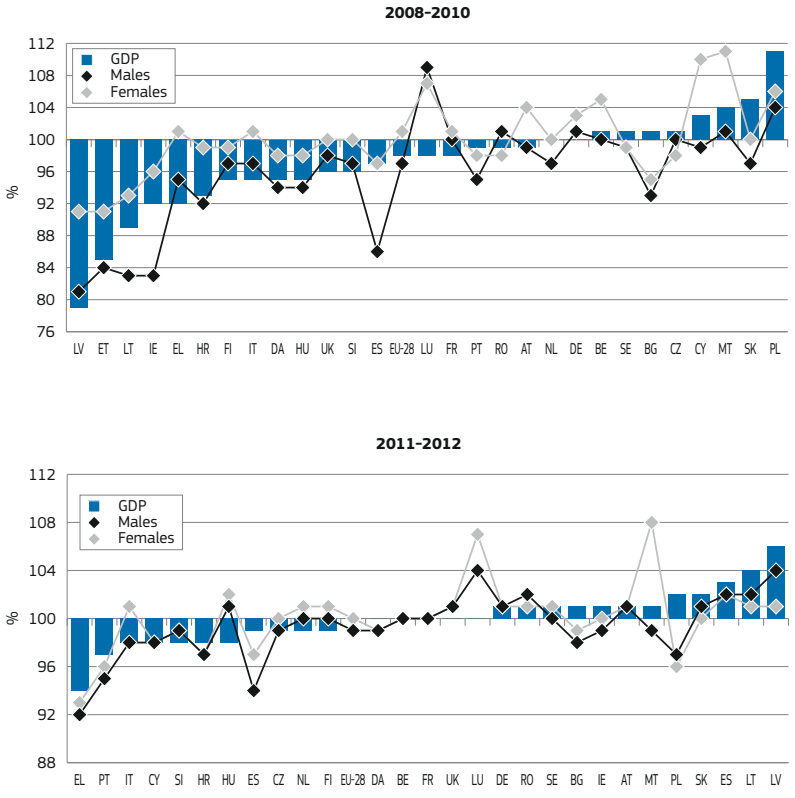
2. POST-CRISIS DEVELOPMENTS FROM A GENDER PERSPECTIVE

2.1. *Employment adjustment* affected men more strongly...

The employment of both men and women moved largely *in line with GDP developments* across the Member States in both phases of the economic crisis – between 2007 and 2010 and between 2011 and 2012, – with the employment of men and women generally decreasing more in Member States with strong GDP contractions, and increasing in some of the Member States that had experienced GDP growth, as seen in Chart 1.

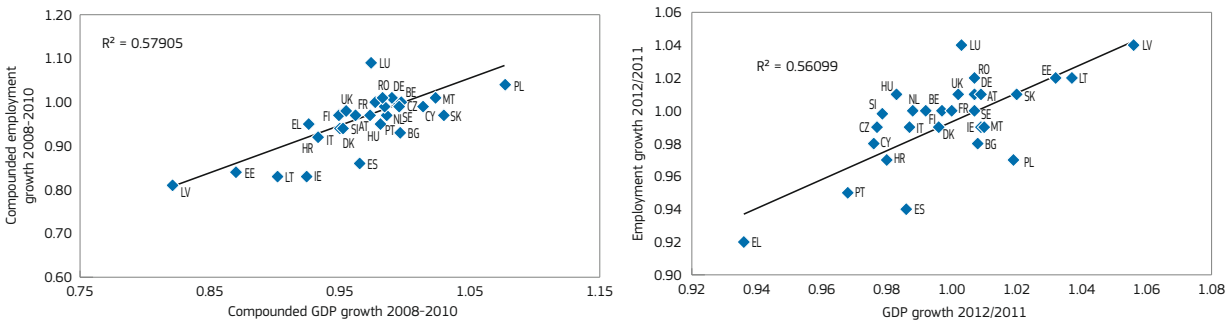
There are notable outliers in this pattern, however, reflecting different policy responses to the crisis, varying rates of economic contraction, and the various structures of Member State economies ([2]). For instance, the employment of men contracted markedly in Spain in both phases of the crisis, despite no major fall in aggregate GDP; with the losses being particularly notable in the construction and industry sectors, indicating the strong exposure of these sectors to the contraction, and stemming partly from the widespread use of involuntary, temporary contracts ([3]).

Chart 1: Compounded change of GDP and of the number of employed males and females between 2008 and 2010 (top chart) and the change between 2011 and 2012 (bottom chart)



Source: Eurostat GDP and main components - volumes [nama_gdp_k], Employment by sex, age and nationality (1 000) [lfsa_egan].

Chart 2: Correlation for GDP growth and employment growth for men between 2008–2010 (left chart) and 2011–2012 (right chart) across Member States



Source: DG EMPL calculation based on Eurostat: GDP and main components – volumes [nama_gdp_k], Employment by sex, age and nationality (1 000) [lfsa_egan].

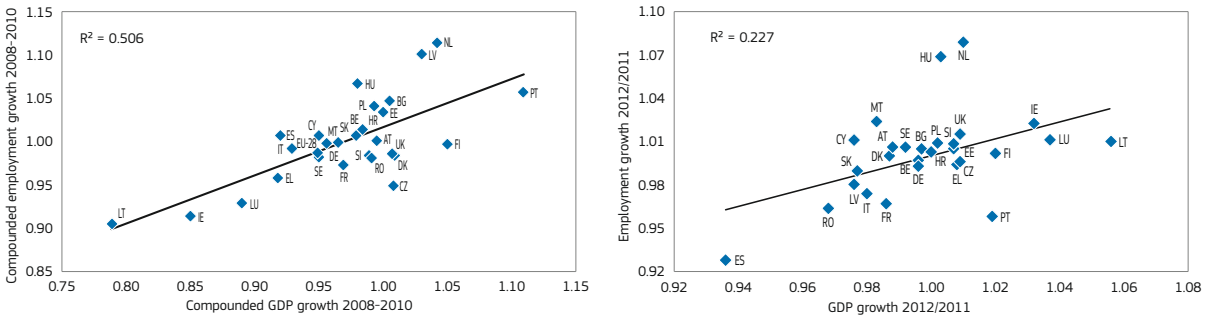
Note: Correlation coefficients ([1]): 0.76 (left chart) and 0.75 (right chart).

([1]) Correlation coefficient refers to Pearson product-moment correlation coefficient (Pearson's R), which is a measure of the linear correlation (dependence) between two variables X and Y. R^2 refers to the square of the Pearson product-moment correlation coefficient. The R^2 value can be interpreted as the proportion of the variance in Y attributable to the variance in X.

([2]) See also European Commission (2010).

([3]) See also European Commission (2013a).

Chart 3: Correlation for GDP growth and employment growth for women between 2008–2010 (left chart) and 2011–2012 (right chart) across Member States



Source: DG EMPL calculation based on Eurostat: GDP and main components – volumes [nama_gdp_k], Employment by sex, age and nationality (1 000) [lfsa_egan].

Note: Correlation coefficients: 0.71 (left chart) and 0.48 (right chart).

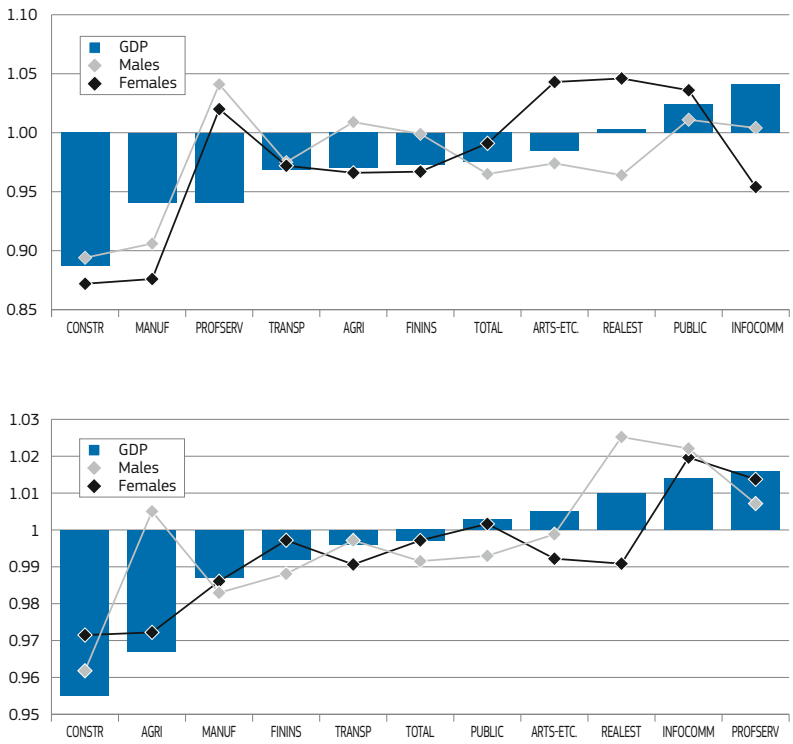
From a gender perspective, the employment of men took the brunt of the fallout of the first phase of the crisis in most Member States. In the second phase, the difference between changes in employment growth for men and women became much less pronounced, although the *employment of men still contracted more*, or grew by less, compared to that of women in most Member States, with the notable exceptions of Latvia, Lithuania and Romania. This resulted in an overall *decrease in the employment gender gap*, with the difference between the average EU *employment rates* of men and women falling from 14.5 percentage points in 2006 to 11.1 percentage points in 2012.

The employment of men thus reacted quite sensitively to the evolution of GDP in both stages of the crisis, while the employment-to-GDP elasticity of women has decreased since the first phase of the crisis and exhibited a weaker correlation with GDP between 2011 and 2012, compared to the period between 2008 and 2010, as seen in Chart 2 and Chart 3.

2.2. ...in line with the *sectoral* patterns of the crisis

The more intense employment adjustment for men is consistent with the fact that the crisis affected *male-dominated sectors* (see Chart 4). GDP contracted most strongly in construction, manufacturing and agriculture (in the latter case, especially in the second phase), all sectors in which men account for a much larger share

Chart 4: Compounded change of GDP and of the number of employed men and women in selected sectors between 2008 and 2010 (top chart) and the change between 2011 and 2012 (bottom chart)



Source: Eurostat National Accounts by 10 branches – volumes [nama_nace10_k] Employment by sex, age and economic activity (from 2008 onwards, NACE Rev. 2) – 1 000 [lfsa_egan2].

Note: CONSTR=Construction; AGRI= Agriculture, forestry and fishing; MANUF=Manufacturing; FININS= Financial and insurance activities; TRANSP= Trade, transport, accommodation, food service activities; (1) TOTAL= Total - All NACE activities; PUBLIC= Public admin, defence, education, health; ARTS-ETC.= Arts and other activities; household activities, etc.; REALEST=Real estate activities; INFOCOMM=Information and communication; PROFSERV=Professional services.

(1) This heading includes trade, transport, accommodation and food service activities. As to the transport sector itself, the proportion of women employed in the sector is very low, only 18.2% in 2012. However, in the accommodation and food service activities, the share of women was 54.5% in 2012. Source: Eurostat: Employment by sex, age and economic activity (from 2008 onward (NACE Rev. 2)) – 1 000 [lfsa_egan2].

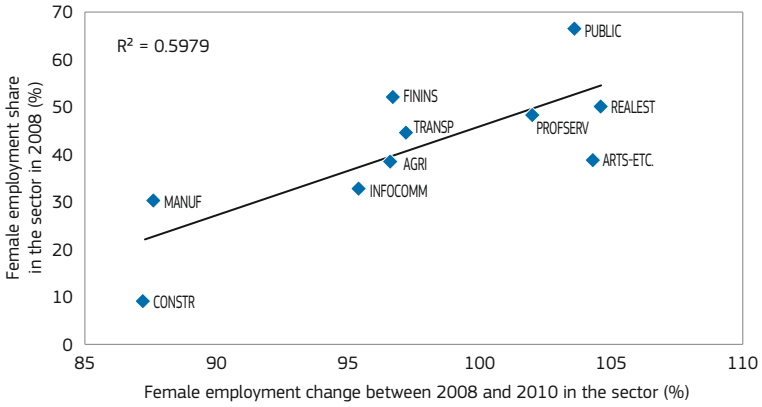
of the workforce than women. However, in all three of these male-dominated sectors, the contraction of employment of women was actually larger in *relative* terms compared to men in the first stage of the crisis (though much smaller in numerical terms). This implies that, while women *in general* have been relatively less affected over the economy, women *working in male-dominated sectors* have been strongly affected by contraction and exposed to layoffs (see also Chart 5).

2.3. The crisis had a distinct effect on *age* groups...

The impact of the crisis was relatively strongly biased regarding *age* as well as *gender*. As the chart below shows, the employment rates of young people – especially *young men* – declined most strongly from the pre-crisis levels, as reflected in the strong rise in their unemployment rates (bottom part of Chart 6). Meanwhile, the supply of labour from the senior age group increased, with employment rate increases being most noticeable for women. The employment rate of prime-age men decreased and their unemployment rates increased while the labour supply of prime-age women increased, probably partly due to partnered women entering the labour market as a result of their partners losing a job (on possible added worker effects see section 2.5).

This strong age bias as a result of the crisis is reflected in the employment to population ratios of those employed on different types of contracts. As seen in Chart 7, the *temporary employment to population* ratios decreased – especially for men – between 2006 and 2012. This can be partly explained by the strong fall in the employment rates of young people, who tended to be over-represented among temporary employees. The exposure of temporary employees to job loss is confirmed by the transition data indicating that, for EU-27, more employees with temporary contracts became unemployed during 2011 than had been the case in 2007, especially so for men ([4]). Meanwhile, the *part-time employment to population ratio* increased for both men and women (for men it meant an 18.7 % increase, while the number of part-time workers among women increased by 7.5 % between 2006 and 2012) as many companies sought to minimise layoffs by reducing working hours in various ways ([5]).

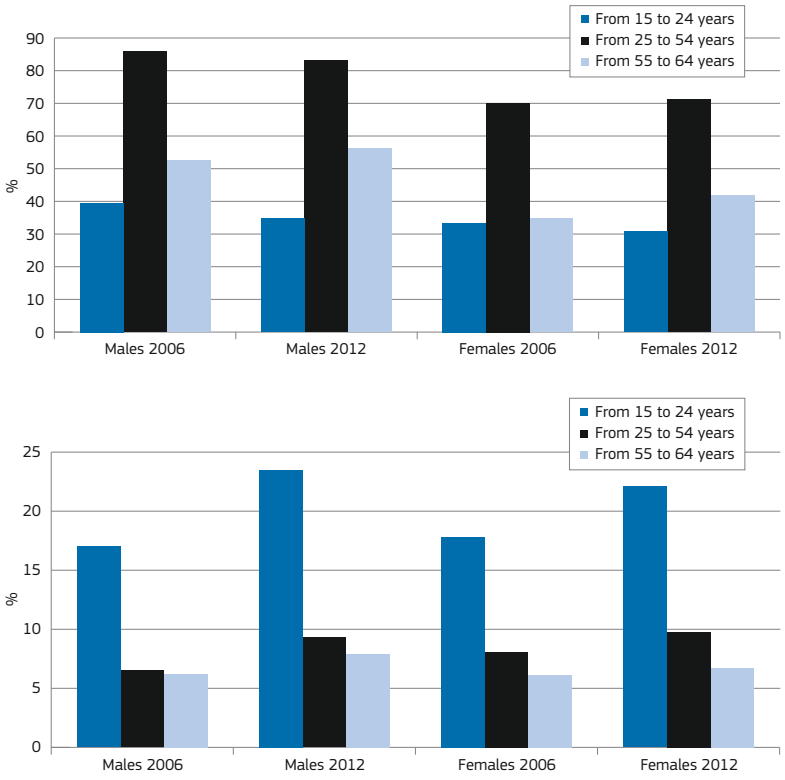
Chart 5: Correlation between female employment share in 2008 and female employment adjustment between 2008 and 2010 across sectors in the EU-28



Source: DG EMPL calculation based on Eurostat: Employment by sex, age and economic activity (from 2008 onwards, NACE Rev. 2) – 1 000 [lfsa_egan2].

Note: Correlation coefficient: 0.77; sector decoding: see above.

Chart 6: Employment rates (top chart) and unemployment rates (bottom chart) for different age groups in 2006 and 2012 for the EU-28

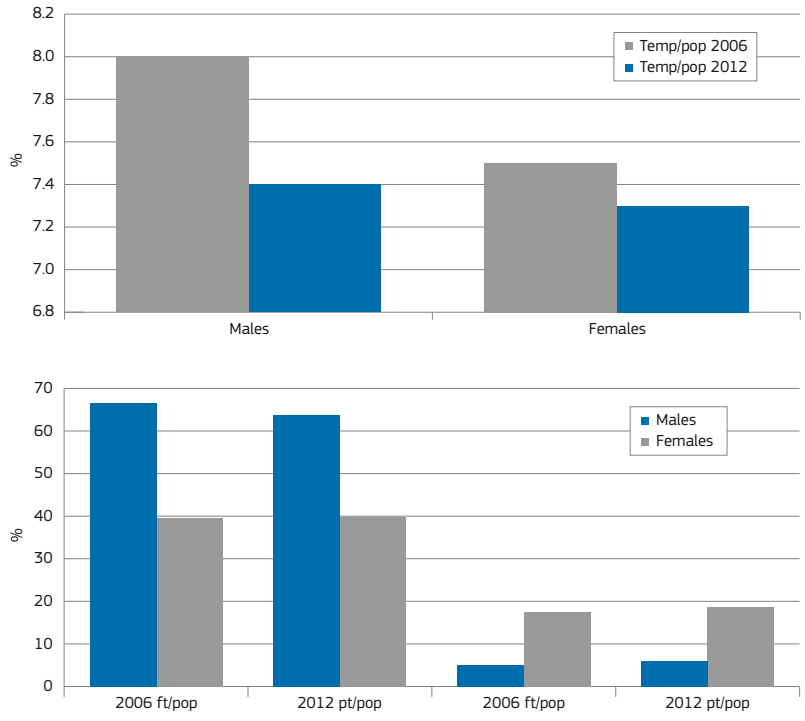


Source: Eurostat, Employment rates by sex, age and nationality (%) [lfsa_ergan], Unemployment rates by sex, age and nationality (%) [lfsa_urgan].

([4]) The corresponding share of temporary employees becoming unemployed has increased from 9.9 % to 11.1 % for women and 9.3 % to 15.5 % for men. Source: Eurostat, Labour transitions by type of contract [ilc_lvhl32].

([5]) See also European Commission (2012a).

Chart 7: Temporary employment to population (top chart), full-time employment to population and part-time employment to population ratios (bottom chart) in 2006 and 2012 for the EU-28



Source: Eurostat, Temporary employees by sex, age and highest level of education attained (1 000) [lfsa_etgaed], Full-time and part-time employment by sex, age and highest level of education attained (1 000) [lfsa_epgaed], Population by sex, age, nationality and labour status (1 000) [lfsa_pganws]

Notes: Age group 15-64. Temp/pop=number of temporary employees/total population; ft/pop=number of full-time employed/total population; pt/pop=number of part-time employed/total population (breakdown by sex).

2.4. ...and it also induced changes in *hours worked – more so for men*

As mentioned in the previous section, part-time employment increased among both men and women, although the increase was more pronounced for men. The *share of part-timers* among employed men increased from 6.9 % to 8.4 % between 2006 and 2012 (for women the rate of increase was smaller, though from a much higher base level, rising from 30.6 % in 2006 to 31.9 % in 2012). This had a marked effect on the gender gap in weekly average hours worked, and thus on the gap in full-time equivalent employment rates.

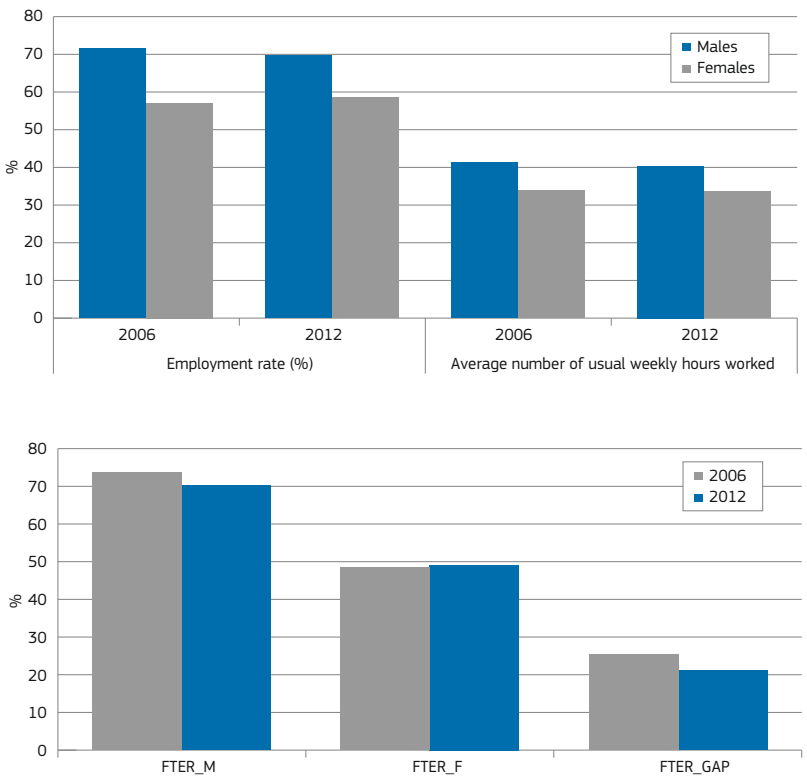
Since the employment rates of women are lower than those of men, and women work fewer hours on average, their employment rates are even lower when calculated in terms of full-time equivalents ([6]). Nevertheless, the crisis brought some adjustment to this gap as well, as can be seen in Chart 8.

The decrease in the full-time equivalent employment rate gap was due to several factors. First, the crisis resulted in relatively more men than women becoming jobless, leading to a decrease in the male employment rate as opposed to an increase in the female. This reflects not only the relatively more sheltered position of females based on sectoral aspects, but also a possible added worker effect (see the next section). Moreover, as mentioned above, more men have been accepting part-time work compared with pre-crisis levels with, at the same time, a decrease in the full-time employment to population ratio for men, as opposed to a very slight increase for women (see the right part of the chart in the previous section) leading to a relatively sharper decrease in average weekly hours for men.

However, the fact that part-time was seen as a sub-optimal choice by many is indicated by the growing share of *involuntary part-timers* among part-time workers between 2006 and 2012 (rising from 20.3 % to 24.4 % among women, and from 31 % to 38.8 % among men).

([6]) Full-time equivalent employment rates are calculated as the employment/population ratio, multiplied by the average usual hours worked per week per person in employment, then divided by 40. The method is based on (OECD (2012)).

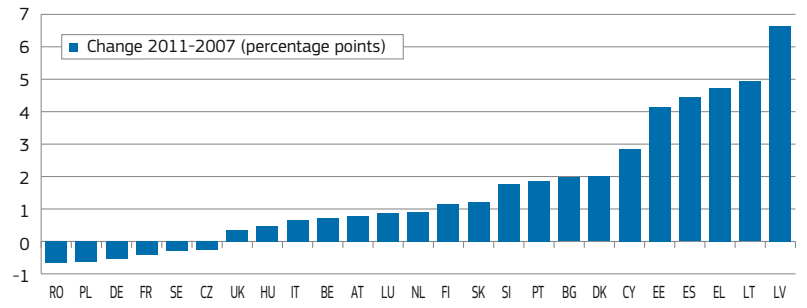
Chart 8: Employment rates and average number of usual weekly hours worked (top chart) full-time equivalent employment rates and gap in full-time equivalent employment rates (bottom chart) in the EU-28 for selected years (age group 15–64)



Source: Eurostat: Employment rates by sex, age and nationality (%) [lfsa_ergan]; Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (1983-2008, NACE Rev. 1.1) - hours [lfsa_ewhuna]; Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) - hours [lfsa_ewhun2].

Note: M=Males; F=Females; GAP= FTER_M – FTER_F; FTER=full-time equivalent employment rate. FTER is calculated as the employment/population ratio, multiplied by the average usual hours worked per week per person in employment, then divided by 40. Method is based on OECD (2012).

Chart 9: Change in the sample share of working females with a non-working male partner between 2007 and 2011 (percentage points)



Source: DG EMPL calculations using EU-SILC data for 2007 and 2011.

Note: Only partnered women are considered where both partners are between the ages of 18 and 59; as to work status, the self-defined current economic status is considered. The term working includes full-time and part-time employment, while non-working includes inactivity and unemployment; a more detailed breakdown is not feasible due to insufficient number of observations.

2.5. Change of *composition of employment* within couples, points to possible added worker effect…

While still lagging behind those of men, the activity rates of women have shown a clear increase since the onset of the crisis, with the activity rate for men in 2012 being no higher than it was in 2007. This resulted in a *decrease in the activity rate gap* from a 14.7 percentage point pre-crisis level in 2006 to 12.4 percentage points in 2012 ([7]).

Some studies ([8]) have suggested that this development may partly reflect an *'added worker'* effect with women increasing their labour supply in response to their spouses' job loss during the crisis. Chart 9 (based on SILC cross-sectional micro-data for 2007 and 2011) shows that, between 2007 and 2011, the share of *working female with a non-working male partner* increased in most Member States ([9]). The change was especially pronounced in the Baltic States and in Greece and Spain, reflecting the sharp drop in employment of men in those Member States ([10]).

The evidence in the graph should be treated with caution in that the comparisons do not indicate the behaviour of particular women as a result of a change in their partner's employment position. However, the cross-sectional data ([11]) points to an increased take-up rate of jobs by partnered women. Moreover, as is visible on Chart 10, the share of *non-working female with a working male partner* households has decreased in the majority

([7]) The activity rate of men (age 15–64) was 77.5% in 2006, with the same level in 2011 and only slightly higher, 77.9%, in 2012; meanwhile the activity rate of women (age 15–64) permanently increased from 62.8% to 65.5% between 2006 and 2012. Source: Eurostat, Activity rates by sex, age and nationality (%) [lfsa_argan].

([8]) See for instance OECD (2012), pp. 217-218.

([9]) Data was available for 25 Member States, but unavailable for Croatia, Malta and Ireland.

([10]) An issue that would merit further attention in the future is that if women took on employment after a spell of inactivity – once their partner became unemployed – what type and quality of jobs would they have access to.

([11]) Moreover, because of the small number of observations, the *non-working category* combines unemployed and inactive persons; therefore, part of the added worker effect stays hidden (as women could also enter the labour market, but not actually be in a job).

of Member States, providing another indication of a possible increase in the labour supply of women.

At the same time, the proportion of couples where *both partners are working* still fell strongly in some Member States – notably the Baltic States, Greece and Spain – during the crisis along with a strong increase in the number of couples where *neither partner is in work* (see Charts 11 and 12).

2.6. ...which could have contributed to changes in the *relative earnings structure* within couples

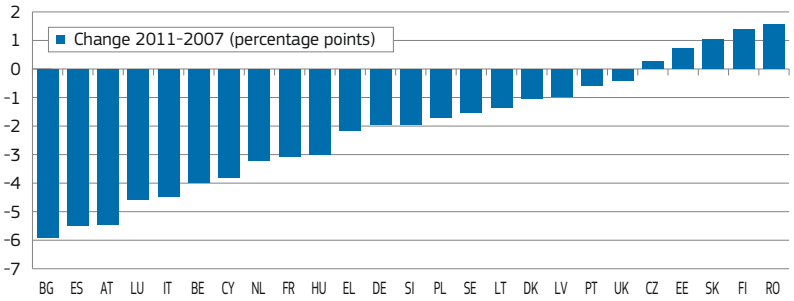
Given the changes in the employment circumstances of couples, similar changes might be expected in relative earnings. Indeed, as Chart 13 shows, the proportion of couples where a women had no earnings or earned less than her partner decreased in most Member States between 2007 and 2010, with the Baltic States, Spain and Greece all displaying quite sharp changes.

The *relative improvement in earnings of women within a couple* as a result of increased female labour supply was consequently reflected, to some degree, in a *decrease in* the *gender gap in earnings*. Chart 14 shows the mean hourly earnings for women expressed as a percentage of those for men. The figure shows a relatively large increase in women's earnings expressed in these terms between 2006 and 2010 for a number of Member States such as Estonia, Lithuania, Slovenia and Slovakia, as well as for the Netherlands and Ireland as well as Greece.

This increase in the hourly earnings of women relative to men cannot be interpreted entirely positively, however, since it could also reflect the worsening of the labour market situation of men as well other temporary post-crisis composition effects ([12]). Moreover, the relative earnings figure remains only somewhat above 80 % for EU-27, indicating that differences in earnings between men and women clearly still persist. Furthermore, in a number of Member States – Belgium, Bulgaria, Italy and Hungary – the hourly earn-

([12]) On the reasons behind the evolution of the gender pay gap see also European Commission (2012b).

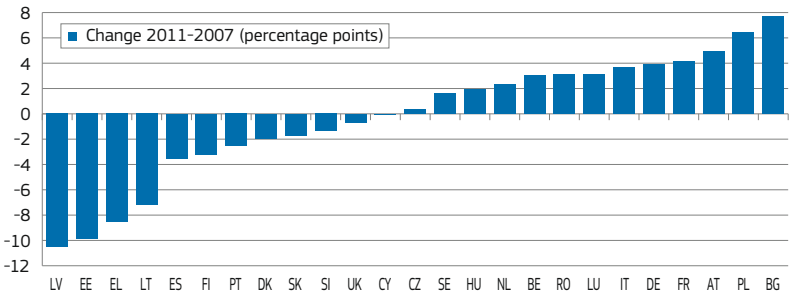
Chart 10: Change in the sample share of non-working females with a working male partner between 2007 and 2011 (percentage points)



Source: DG EMPL calculations using EU-SILC data for 2007 and 2011.

Note: Only partnered women are considered where both partners are between the ages of 18 and 59; as to work status, the self-defined current economic status is considered. The term working includes full-time and part-time employment, while non-working includes inactivity and unemployment; a more detailed breakdown is not feasible due to insufficient observations.

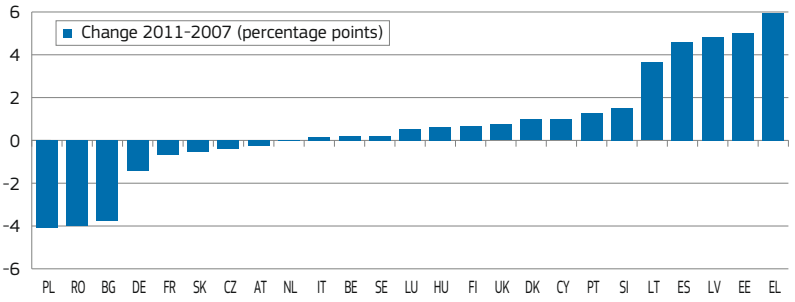
Chart 11: Change in the sample share of working females with a working male partner between 2007 and 2011 (percentage points)



Source: DG EMPL calculations using EU-SILC data for 2007 and 2011.

Note: Only partnered women are considered where both partners are between the ages of 18 and 59; as to work status, the self-defined current economic status is considered. The term working includes full-time and part-time employment, while non-working includes inactivity and unemployment; a more detailed breakdown is not feasible due to insufficient observations.

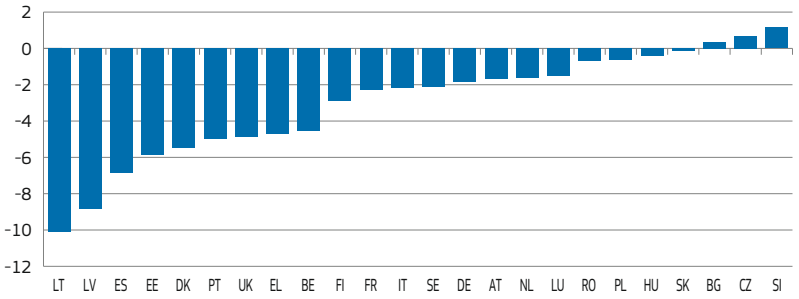
Chart 12: Change in the sample share of non-working females with a non-working male partner between 2007 and 2011 (percentage points)



Source: DG EMPL calculations using EU-SILC data for 2007 and 2011.

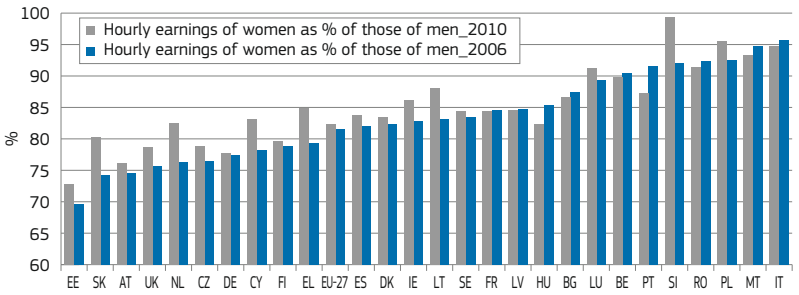
Note: Only partnered women are considered where both partners are between the ages of 18 and 59; as to work status, the self-defined current economic status is considered. The term working includes full-time and part-time employment, while non-working includes inactivity and unemployment; a more detailed breakdown is not feasible due to insufficient observations.

Chart 13: Change in the sample share of couples where a woman has no earnings/earns less than a man (percentage point change between 2007 and 2010)



Note: A woman earns less/more than a man if her income is below 45% / above 55% of the joint income of the couple. Only 2 adult households with at least one working partner are considered. Households where at least one partner is self-employed or retired are excluded. DG EMPL calculation using EU-SILC 2007, income data for 2006 and EU-SILC 2010, income data for 2009.

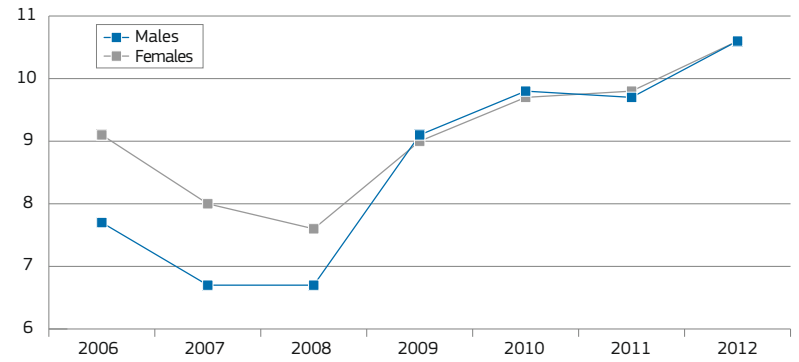
Chart 14: Hourly earnings of women as a percentage of those of men in 2006 and 2010



Source: Eurostat, Mean hourly earnings by sex, age and economic activity [earn_ses10_13], Mean hourly earnings by economic activity, sex, age [earn_ses06_13].

Note: No data was available for Croatia.

Chart 15: Unemployment rate in the age group 15–64 in the EU-28



Source: Eurostat, Unemployment rates by sex, age and nationality (%) [lfsa_urgan].

ings of women as a percentage of those of men actually decreased between 2006 and 2010.

Moreover, in Member States where women have relatively low employment rates, such as Italy or Malta, relatively high hourly earnings of women as a percentage of those of men cannot be necessarily taken positively because they can be partly explained by self-selection effects ([13]) whereby it is the more highly educated women who are in employment. Future increases in female employment in these countries may well be accompanied by falling relative hourly earnings of women, as women with relatively lower educational attainment join the labour force.

2.7. *Unemployment* rate gender gap closed but unemployment rates are moving upwards

As the relatively lower unemployment rate of men moved upwards in the face of falling employment rates, it led to a *closing of the gender unemployment rate gap* to the extent that both reached the same level of 10.6% in 2012 (see Chart 15).

However this aggregate EU statistic conceals many differences between the Member States. While the unemployment rates of men and women have been on the low side in 2012 in countries such as Austria, the Netherlands or Germany, they were relatively high in Croatia, Portugal and Spain. Moreover, while the unemployment rate of men exceeded that of women in Ireland, Cyprus or Lithuania, the rate of women was higher in the Czech Republic, Italy and especially in Greece (see Chart 16).

While the unemployment rate of the low skilled men exceeds that of women, the unemployment rate of women with medium and high levels of education exceeds that of men (see Chart 17).

([13]) See also section 4.4 and section on financial disincentives in Annex I.

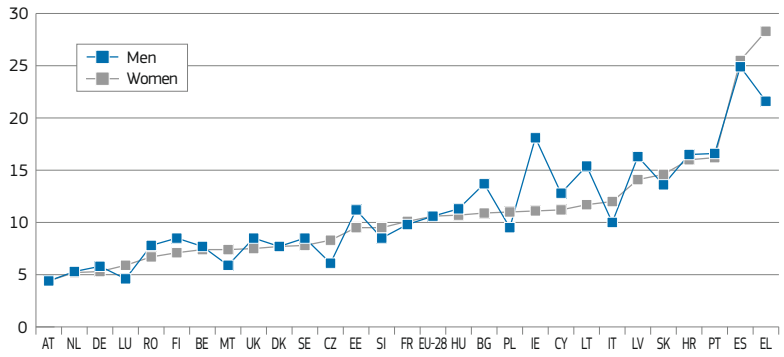
This is in line with the evidence presented in Chart 18, showing the composition of the unemployed based on their previous employment. It indicates that, while men had a higher probability of losing their employment compared to women in lower skill level occupations (craft, trade, plant and machine operators), relatively more women lost their jobs in services and sales, as well as among professionals and clerical support workers. While this may partly reflect the impact of the crisis on the unbalanced sectoral distribution of men and women, it may also indicate the possible effects of the austerity measures that have particularly affected public sector activities, where many professional and clerical women are employed.

While men tend to lose their jobs more frequently than women (the transition rate from employment to unemployment being 4.3% for men against 3.3% for women in 2011), they also tend to move back to work more easily (over 30% of men moved from unemployment to employment in the same year, compared to under 25% of women).

This evidence appears to be broadly consistent with the OECD finding that, while men tend to lose their jobs more easily than women at the beginning of a recession, they are also more able to find a job once recovery gets underway ([14]).

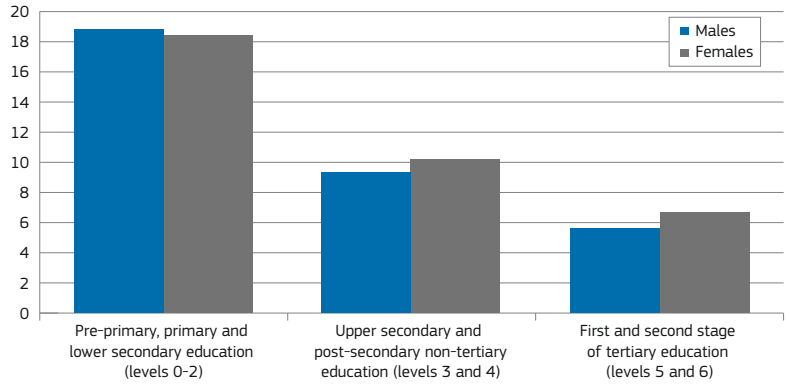
Moreover, women also get *discouraged* more easily, with a higher probability of choosing to give up searching for a job and leave the labour market ([15]) ([16]). In this respect the transition data seem to show corresponding movements: the transition rate from unemployment to inactivity has been 11.5% for men and 22.3% for women (see Chart 19).

Chart 16: Unemployment rate of men and women in EU Member States in 2012



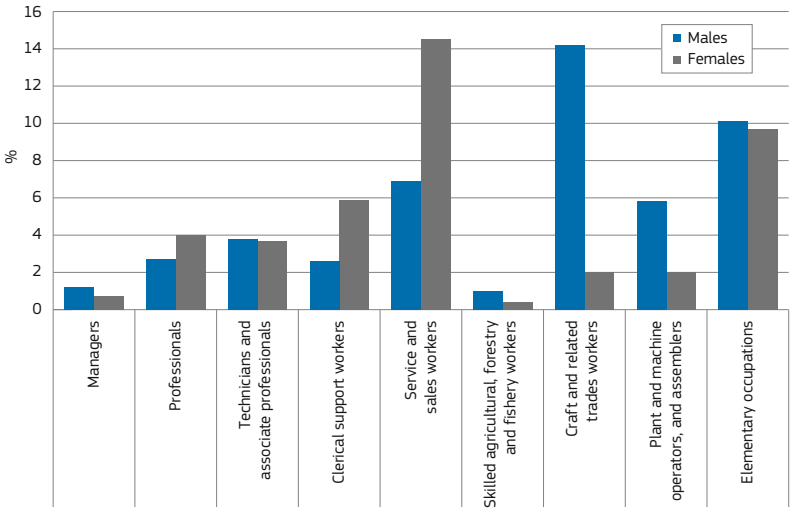
Source: Eurostat, Unemployment rates by sex, age and nationality (%) [lfsa_urgan].

Chart 17: Unemployment rates of education levels in the EU-28 in 2012



Source: Eurostat, Unemployment rates by sex, age and highest level of education attained (%) [lfsa_urgaed].

Chart 18: Share of the unemployed based on known previous employment in the EU-28 in 2012



Source: Eurostat, Previous occupations of the unemployed, by sex (1 000) [lfsa_ugpis].

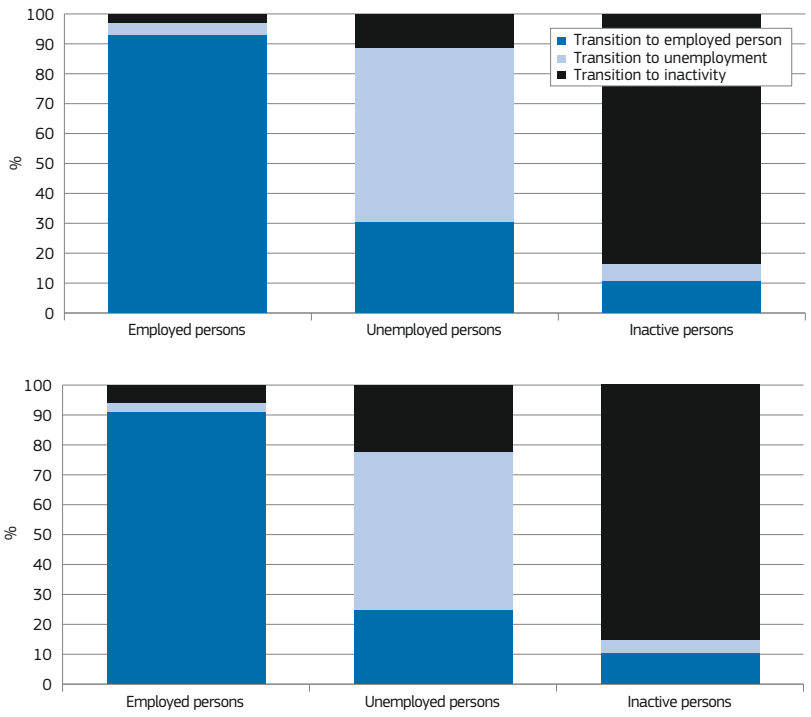
Note: Among respondents 44.8% of males and 50.8% of females have been indicated with 'unknown' previous occupation; thus the range of the dataset is limited.

([14]) See OECD (2012) p. 219.

([15]) Sabarwal *et al.* (2010) in idem p. 219.

([16]) An issue to be further explored could be the reasons behind discouragement and the possible links with labour market institutions. For instance one could hypothesise that a possible influencing factor behind opting for inactivity is that women with children and in need of childcare are in less of a position to comply with the rule that they should accept a job offer within a short timeframe, if they are not able to find appropriate childcare arrangements with short notice.

Chart 19: Labour transitions by employment status in 2011 for the EU-28 for men (top chart) and women (bottom chart)



Source: Eurostat, Labour transitions by employment status [ilc_lvhl30].

2.8. *Austerity measures* affect women heavily

Fiscal consolidation and austerity measures, especially those on expenditure side ([17]), pose a high risk for gender equality ([18]) ([19]).

Research has shown that, in countries where fiscal consolidation has been severe and protracted (e.g. Greece, Ireland and Spain), the impact has been severe for both men and women and may well be affecting women more heavily ([20]). However, fiscal consolidation does not appear to have worked systematically against women in all countries, given that it was comparatively smaller in some countries such as the Netherlands and Finland, or where public deficit issues were addressed early on in the crisis, as in Latvia. However, it is currently difficult to assess the possible medium and long-term impacts.

The expenditure measures likely to have the largest gender impact are those that affect employment and working conditions in the public sector, or which affect unemployment benefits and welfare assistance, pensions, or care and family-related benefits and services. On the revenue side, gender inequality could also be affected by taxation measures, VAT increases, and increases in charges for publicly subsidised services ([21]).

Given that the *public sector* employs a high proportion of women (see Chart 5), any wage freezes, wage cuts, staffing freezes or personnel cuts are highly likely to be disproportionally borne by women. Public sector changes are also important because gender equality policies are often implemented earlier and more strictly in this sector ([22]).

Women are usually more dependent on *welfare services* due to their lower incomes and their lower activity rates due to their caring responsibilities. In 2011, social transfers were a more important source of poverty reduction for women than for men in two thirds of Member States (Chart 20) ([23]). Thus women are more exposed than men to a tightening of eligibility criteria for unemployment and/or assistance benefits, or reductions in replacement rates ([24]).

The *gender pension gap* ([25]) may further increase due to pension reforms that favour occupational and private pensions over public pensions, or which make pensions more dependent on past employment history ([26]). Women have less access to occupational pensions due to their lower rates of activity, and to private pensions due to fewer financial resources. Strengthening

([17]) Consolidation of public finances has been strong over 2010–12 in the EU and was mainly based on reducing expenditures (European Commission (2013b)). This approach is expected to continue from 2013 to 2016 according to Stability and Convergence Programmes that Member States submitted in Spring 2013.

([18]) McCracken *et al.* 2013; EGGE (2013).

([19]) An assessment of 2011 National Reform Programmes showed that only one-tenth of the policy initiatives announced or implemented in response to the crisis took into account gender impact at all policy process stages (EGGE 2013). EGGE (2013) also quantified the fiscal consolidation measures that carry at least *some risks for gender equality* as a percentage of GDP. They amount to less than 1% of GDP in all consolidation years in Austria, the Czech Republic, France, the Netherlands, and Sweden, while the total consolidation plans over the period 2009–15 represented less than 2% of GDP in Austria and Sweden, close to 4% in France and the Netherlands, and more than 4% in the Czech Republic. In Germany and the UK, the gender-related share is little more than 1% in at least one consolidation year, with total consolidation plans over the entire 6 years represented around 3% and 6% respectively. However, in Greece, Hungary, Ireland, and Portugal, the same share is between 2% and 5%. Those countries have also much higher share of total consolidation needs, more than 15% in Greece and Ireland, and around 6% in Portugal and Hungary.

([20]) EGGE (2013).

([21]) See EGGE 2013 and McCracken *et al.* (2013).

([22]) EGGE (2013).

([23]) For more details on the effectiveness of social protection benefits in poverty reduction, see European Commission (2012c).

([24]) Data indeed show much lower and even negative growth in social protection expenditures, both of in-kind and cash benefits in 2011 and 2012 in comparison to the period 2001–05 (Bontout and Lokajickova 2013). Further to that, their findings indicate a permanent downward adjustment in social expenditure growth. Social expenditures deviated positively from its trend in 2009 and 2010 when the output gap in the EU was negative. But in 2011 and 2012 they deviated negatively and the expenditure gap turned negative although output gap remained negative.

([25]) The gender gap in pensions originates in inequalities in the employment histories of women and men and their interplay with the operation of pension systems. Two main disparities in the employment histories of women and men contribute to the gender gap in pensions: first, women earn less than men per hour, partly as a result of slower career progression and the career interruptions they experience during their working life; and second, women work fewer hours per week as they are more likely to work part-time, often due to care responsibilities, and also fewer years during their life: they have more frequent career interruptions to care for children or dependent adults and they tend to retire earlier, often to match the time of retirement with their partner. The shorter careers of women aged 65 and above, however, are mostly explained by interruptions before age 50 and by the share of women who have never entered the labour market, rather than by early retirement (ENEGE 2013a). Women therefore tend to have lower annual and working life earnings than men, and, accordingly, they build up fewer pension entitlements.

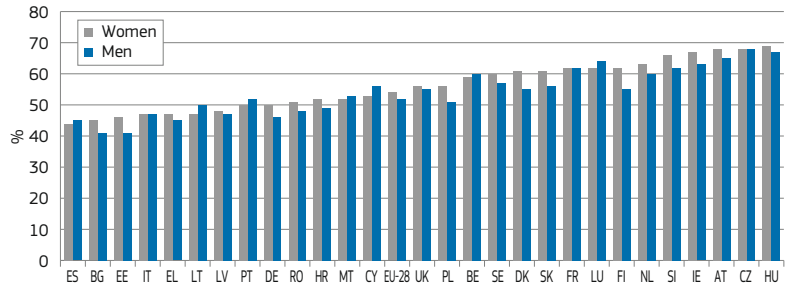
([26]) ENEGE (2013a).

the link between contributions and benefits would further disadvantage women because they have lower wages than men on average, and will normally have accumulated fewer years of work.

Cuts and restrictions in care-related benefits, allowances or facilities increase the *care burden* for children as well as for the elderly and reduce the ability to work, notably for women. In addition to that, staffing cuts in health and social care sector decrease employment opportunities, again mostly for women ([27]).

Reductions in housing or family benefits, or increases in taxes or fees, also have a more indirect impact on gender equality ([28]) in that they affect the poorest households, among which are often female-headed households.

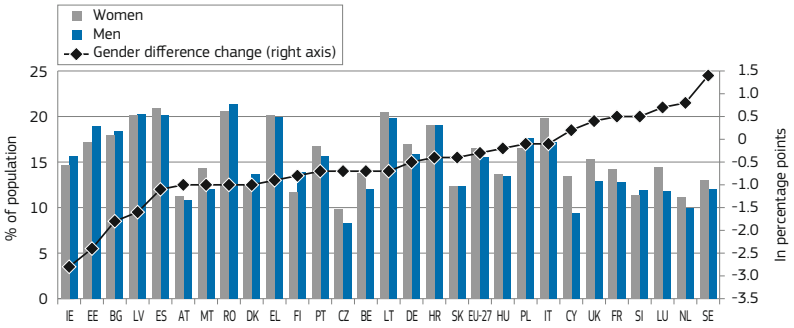
Chart 20: Relative reduction in the at-risk-of-poverty rate (AROP) due to social transfers in 2011, population aged 18-64 years, by gender



Source: EMPL calculations using EU-SILC data on the at-risk-of-poverty rate before social transfers (pensions included in social transfers) by poverty threshold, age and sex (source: EU-SILC) [ilc_li09] and at-risk-of-poverty rate by poverty threshold, age and sex (source: EU-SILC) [ilc_li02].

Notes: a) Countries are sorted according to ascending importance of social transfer in reducing the at-risk-of-poverty rate. b) Relative reduction (as a %) = ((AROP before social transfers- AROP)/AROP before social transfers)*100.

Chart 21: At-risk-of-poverty rate by gender in 2011 and changes in gender difference in the at-risk-of-poverty rate between 2008 and 2011, population aged 18–64 years



Source: DG EMPL calculations based on Eurostat, At-risk-of-poverty rate by poverty threshold, age and sex [ilc_li02].

Notes: a) a positive value of gender difference change indicates that the relative position of women has worsened, while negative values reflect a relative worsening of the position of men; b) AROP is measured at 60% of median equivalised income after social transfers; c) Pensions are included in social transfers.

2.9. Worsening situation of men during the crisis led to a decrease of the *at-risk-of-poverty rate gap* in most Member States ...yet still women are more exposed to poverty

Women have, on average, higher at-risk-of-poverty rates (AROP) in the EU than men, and this does not appear to have changed between 2008 and 2011 ([29]). However, the extent of the differences has become somewhat smaller because of the worsening position of men during the crisis, with the at-risk-of-poverty rate for men increasing from 14% to 15.5% between 2008 and 2011, with a corresponding increase for women from 15.3% to 16.5% ([30]) (Chart 21) ([31]).

In three quarters of the Member States, the situation of men worsened more than the situation of women, with the reduction in the gap being greatest in Ireland, Estonia, Bulgaria and Latvia. This was not the case in all the Member States, however, as in Sweden, the Netherlands, Slovenia, France, the UK and Cyprus the AROP increased more for women than for men, while in Luxembourg it fell for men and increased for women, causing an increase in the gap.

([27]) There is a danger that social services supporting women's entry in the labour are treated as luxuries and expenditures for them are cut especially if the 'male breadwinner model' is (implicitly) seen as the norm (EGGE 2013).

([28]) EGGE (2013).

([29]) Data refers to EU-27.

([30]) Age 18–64, percentage of total population. Source: Eurostat, the at-risk-of-poverty rate by poverty threshold, age and sex (source: SILC) (ilc_li02).

([31]) Monetary measures of poverty are calculated using household income, which restricts individual and gender comparisons of at-risk-of-poverty indicators since they assume an equal sharing of resources within households on the basis of the equivalised income. For example, a female spouse who works part-time and relies on her husband's earnings as the main source of household income will probably not in appear in the household statistics as being on a low (equivalised) income. The estimation of the gender risk of poverty is therefore only possible in the case of single adults or single parents. For more details see European Commission (2012d).

2.10. Overview – Gender gaps have been *narrowing*... but they remain significant and a large part of this phenomenon stems from men being more affected by the crisis

As seen in Table 1, gender gaps in activity rates, employment rates and unemployment rates have all reduced for the EU as a whole since the onset of the crisis, together with the gender pay gap, the at-risk-of-poverty rate gap, and the gap calculated for full-time equivalent employment rates.

However, this is mostly attributable to the sharper worsening of the situation of men as a result of the crisis, and much less because of any improvement in the labour market conditions of women. Since the crisis had a sharp sectoral focus, it mostly affected sectors where men were over-represented, and where more men lost their jobs relative to women. As such, it accompanied the decreasing male full-time employment rate and the sharp increase in the at-risk-of-poverty rates of men.

In addition, many more men have had to accept part-time, although often reluctantly, as indicated by the data on the growing share of involuntary part-time workers. These effects could also have contributed to the narrowing of the gender gap in hours worked and in full-time equivalent employment rates.

Some positive tendencies are, nevertheless, visible regarding women and the labour market. An example could be the increased female labour participation, as shown by the increase in female employment rates and by the higher share of working partnered women. It could also have contributed to better relative earnings position for women compared to pre-crisis.

Meanwhile, unemployment has been increasing for both men and women, which is a threat for all concerned in terms of negative personal, social and societal consequences, including the risk of poverty. In this respect, austerity measures are liable to have negatively affected women, as they predominantly impacted on public sectors (where women are concentrated) and public services (of which women are chief consumers). Furthermore, in so far as women are more at risk of becoming discouraged and leaving the labour market, it could add to the risk of marginalising women on the labour market.

3. Gender gap in total hours worked

3.1. Introduction

3.1.1. Gender gap in total hours worked narrowed but is still *persisting*...

As explained in the previous section, the crisis could have contributed to the narrowing of the gender gap in terms of total hours worked and full-time equivalent employment rates between men and women. Nevertheless, there remains a persistent gap in terms of total hours worked *over the lifecycle between men and women*, resulting notably from career pathways involving breaks, inactive periods and jobs associated with fewer hours. This is reflected both by the *lower average hours worked by women once employed* and by the *lower participation of women compared to men* over the life course ([32]).

Table 1: Gender gaps for selected variables between 2006 and 2012 for the EU-28

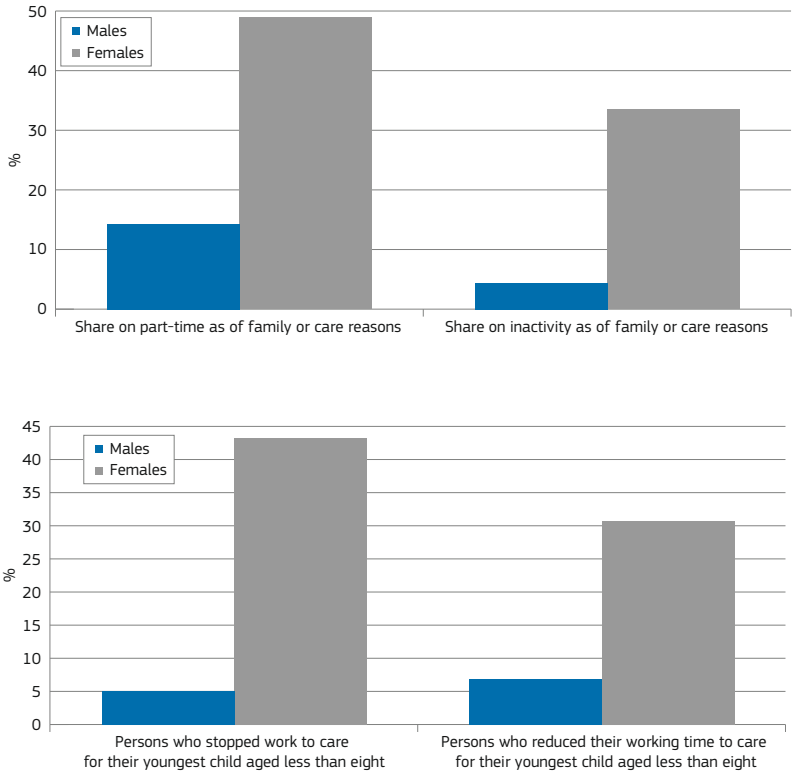
	2006	2012
GAP_Activity rate (age 15–64)	14.7	12.4
GAP_Employment rate (age 15–64)	14.5	11.1
GAP_Employment rate (age 15–24)	6.1	4
GAP_Employment rate (age 25–54)	15.9	11.9
GAP_Employment rate (age 55–64)	17.7	14.6
GAP_Part-time employment as a % of total employment	–23.7	–23.5
GAP_Unemployment rate (age 15–64)	–1.4	0
GAP_Unemployment rate (age 15–24)	–0.8	1.4
GAP_Unemployment rate (age 25–54)	–1.6	–0.5
GAP_Unemployment rate (age 55–64)	0.1	1.2
Gender pay gap	17.3*	16.2**
Full-time equivalent employment rate gap	25.4	21.2
At-risk-of-poverty rate (age 18–64) gap	–1.3*	–1**

Source: Eurostat, Activity rates by sex, age and nationality (%) [lfsa_argan]; Employment rates by sex, age and nationality (%) [lfsa_ergan]; Part-time employment as a percentage of the total employment, by sex, age and nationality (%) [lfsa_eppgan]; Unemployment rates by sex, age and nationality (%) [lfsa_urgan]; Gender pay gap in unadjusted form as a % - NACE Rev. 2 (structure of earnings survey methodology) B-S excluding O (earn_gr_gpgr2); Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (1983-2008, NACE Rev. 1.1) - hours [lfsa_ewhuna]; Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) - hours [lfsa_ewhun2].

Note: GAP = corresponding figure for MALES – corresponding figure for FEMALES; * *2008;* ** *2011.*

([32]) See Annex II Chart A.1.

Chart 22: Share of inactive and part-time workers on family or care-related reasons (top chart) and share of persons who stopped work or reduced their working hours to care for their youngest child aged less than eight (bottom chart)



Top chart: *Source:* Eurostat: Main reason for part-time employment - Distributions by sex and age (%) [lfsa_epgar]; Inactive population - Main reason for not seeking employment - Distributions by sex and age (%) [lfsa_igar].

Note: Share of those who denoted other family or personal responsibilities or looking after children or incapacitated adults. Data for the EU-28 average for 2012. Age group: 25–64.

Bottom chart: *Source:* Eurostat: Persons who stopped work to care for their youngest child aged less than eight, by duration of absence (1 000) [lfso_10lstopwo] Persons who reduced their working time to care for their youngest child aged less than eight (1 000) [lfso_10lredwor].

Note: Age group 15–64. Data for EU-27 average for 2010 ([1]).

([1]) Share of persons who stopped work to care for their youngest child aged less than eight = Number of persons who stopped work to care for minimum 1 month / (Number of persons who stopped work to care for minimum one month + Number of persons who stopped work for 0 months). Share of persons who reduced their working hours to care for their youngest child aged less than eight = Number of persons who reduced their working hours / (Number of persons who reduced their working hours + Number of persons who did not reduce their working hours).

3.1.2. ...with *reasons* behind less total hours worked being multiple...

While both men and women work fewer average hours when they are younger or older than they do in their prime age years, the gap in total hours worked over the lifecycle can be particularly strongly linked to *family and care activities,* which leads, in practice, to women decreasing their labour market activity. This is reflected in the fact that gender gaps for average hours worked and for activity rate both start to widen once prime childbearing age is reached. Moreover, the gaps widen further beyond age 55, suggesting irreversible labour market effects associated with career breaks or temporary withdrawals from the labour market.

The importance of family reasons can also be seen in the Chart 22, showing the main reasons for men and women working part-time or being inactive, with a much larger proportion of women reporting lower hours or non-participation due to family and care-related reasons (top chart). Moreover, it is mainly women who reduce their working hours or stop working in order to care for a small child (bottom chart). This means, parenthood has a greater influence on mothers' work outcomes than on fathers'.

The gender gap in total hours worked mirrors both *pre-determined gender roles* and *traditional gendered models* that see women more as care-givers and men more as main breadwinners, with women expected to cut down on their working hours or withdraw from the labour market once faced with family duties. This, in turn, contributes to the *reproduction* of these role-models that limit women's choices and create barriers to achieving long-run gender equality.

The gender gap in total hours worked can, nevertheless, be associated with numerous other factors as well, such as *structural barriers*, institutional constraints, sub-optimal public policies and *regulations* that push those with care responsibilities, or those who have lower earnings potential in the couple (typically women), towards inactivity or jobs that are associated with fewer hours. A lack of available, quality care facilities not meeting the needs of full-time working parents could lead to work-life reconciliation problems. Meanwhile, tax-benefit systems could also discourage participation or increased work efforts in so far as they penalise increased work efforts by imposing excessive tax burdens. At the same time, care costs can also induce women to stay at home by diminishing their prospective financial return from work.

Nonetheless, the motivations behind women *'voluntarily'* choosing not to work, or working fewer hours, are complex and the subject of much reflection and speculation by researchers. According to Hakim's preference theory, values and attitudes are important predictors of behaviour, and *personal lifestyle preferences* have a major impact on women's choices between family work and employment. It argues that, where options are open, women may choose different basic lifestyles that can be a predictor of work choices: home-centred (prefer not to work); adaptive (wants to work but not totally committed to a career); and work-centred (committed to work).

However, Grant *et al.* (2005). quote several researchers ([33]) who have argued that women make their 'choices' based on their circumstances, and this notion incorporates not only self-perceptions or within-family relations, but also economic and social conditions, all of which serve to *condition women's choice*.

Other researchers point to the risk of *reverse causation in preference formation.* For instance, according to Kitterod *et al.* (2011), 'it is difficult to distinguish between *"real"* preferences and *"accommodated"* preferences, i.e. between women who work part-time because that is what they really want and women who prefer part-time given the impossibility of balancing a full-time job with other obligations.' They point out the difficulties in deciding 'whether preferences determine women's labour market outcomes or whether preferences shift to reflect such outcomes' ([34]).

Moreover, the fact that it is mostly women who cut back on their working hours once faced with care considerations might also stem from the fact that *men may also be constrained* in their choices. Long and rigid work hours for instance might prevent them from engaging in family activities and unpaid work, which contributes to the reproduction of the 'one earner (male) – one carer (female)' model. Therefore, gender equality implies that work-life reconciliation policies target both sexes, not only women, so that a transition could be made towards a dual earner – dual carer model.

3.1.3. ...and numerous *implications*

Working fewer hours *reduces total earnings* because of the lower volume of work and *lower hourly earnings*. In 2010, part-time workers earned, on average, less per hour than full-time workers in the majority of EU countries. In this respect wage gaps could, in theory, be explained by the human capital theory, with a lower level of human capital investment found among part-time workers because they are more likely to experience depreciation of their skills and less likely to receive additional training ([35]).

Low work intensity households and households with dependent children are more at risk of poverty. Lower work intensity leads to lower total household income, while the presence of dependent children reduces a household's work intensity because it increases the likelihood of a career break or of part-time work among adult household members. Finally, the presence of children means that the household income is shared among a larger number of household members, which reduces the equivalised income of all concerned.

Part-time workers receive *less training provided by employers*. The Fifth European Working Condition Survey showed that, in 2010, training was received by 38% of employees working full-time and 34% of those working part-time ([36]). Moreover, the participation of part-time workers in all training activities, provided by employers or paid by them, is highly gender biased, with women tending to choose part-time when they have care duties, while men typically opt for part-time when undergoing some form of education.

The likelihood of *skill mismatch* ([37]), which often takes the form of over-qualification, increases with part-time work. This might be because part-time jobs are more often characterised by standardised tasks, being less demanding, having lower levels of autonomy, task complexity and problem-solving aspects, as well as higher levels of monotony ([38]).

Part-time work offers *fewer opportunities for career advancement*. According to the results of the 2009 European Company Survey, only one quarter of European companies offered part-time jobs in positions that need high qualifications or management experience ([39]). A study in the UK showed that women in higher management positions were exposed to downward mobility on moving from full-time to part-time work ([40]). Another study, also in the UK, found that women working in smaller-scale managerial positions and moving from full-time to part-time work were likely to be downgraded to an occupation with lower qualification level ([41]). At the same time though, part-time work can increase *companies' costs* because of the need to find, retain, train and coordinate employees' work ([42]).

Shorter working careers are associated with *larger gender pension gaps* ([43]). Women tend to receive less on a per hour basis, which creates a gender pay gap while working and contributes to a pension gap in retirement. Moreover, women tend to work fewer hours per year (e.g. part-time), accumulate fewer years of work due to career breaks (mainly for caring reasons), and retire earlier.

Fewer hours worked leads to the *underutilisation of human capital,* not just on a personal level, but in the economy as a whole. Convergence in the intensity of labour force participation between women and men could significantly increase the labour force size and GDP in the future, according to projections by OECD ([44]). A 50% reduction in the gender labour force participation gap could yield an additional gain in GDP in 21 EU

([33]) Grant *et al.* quoting for McRae (2003) or Fagan (2001): Idem page 4.

([34]) *Time spent in unpaid work* is also influencing the 'choices' made about paid work. Women tend to spend more hours than men in unpaid work (including care work) each day, regardless of the employment status of their spouses; while men tend to spend more time in paid employment. As a result, the gender difference in total working time – the sum of paid and unpaid work, including travel time – is close to zero in many countries. See OECD (2012). See also section 4.3.

([35]) See e.g. Roman (2006).

([36]) Eurofound (2012a).

([37]) Skill mismatch generates significant economic and social costs for individuals (e.g. lower earnings), companies (e.g. lower productivity) and societies (e.g. lower long-run growth). For more details see European Commission (2012a).

([38]) Eurofound (2007).

([39]) Eurofound (2011).

([40]) Connolly and Gregory (2008).

([41]) Lyonette *et al.* (2010).

([42]) Buddelmeyer *et al.* 2008 and Eurofound (2010a).

([43]) ENEGE (2013a).

([44]) Thevenon *et al.* (2012).

countries ([45]) amounting to 6.2 % by 2030, with a further 6.2 % gain (12.4 % in total) if complete convergence occurred ([46]). Bringing the labour market into full gender balance could therefore increase the unweighted GDP for EU-27 by a quarter, with increases in Member States varying between 14 % (Slovenia) to more than 40 % (Malta, Greece, the Netherlands) ([47]).

At the same time, working fewer hours can have a range of positive effects. Several studies confirm that the volume of working hours is the main dimension that determines the work-life balance ([48]), and that the *likelihood of work-life balance* problems decreases with lower average weekly working hours. Employed men and women who have established a positive work-life balance are found to have higher *life satisfaction levels* than those with problems in reconciling family and private life ([49]). Nevertheless, it is important to underline that establishing a satisfactory work-life balance involves more than issues of time. Satisfaction with the work-life balance tends to be higher in countries with more developed opportunities for the *reconciliation* of work and private life, such as available and affordable full-time care services ([50]).

In this respect part-time employees are more likely to have *control over their working time* than full-time employees. They are less likely to work at anti-social times or work excessive hours in a day. Part-time employees are also *less likely* than full-time employees to report that their jobs are *stressful* or present a risk to their health and safety ([51]).

For employers, the main advantages of part-time and other atypical (flexible) working time arrangements are improved *adaptability and flexibility* in relation to both regular and predictable fluctuations in customer demand and changes in the economic cycle ([52]). Part-time work can help employers meet customer demand without the cost and inconvenience of under-employment in off-peak times, overtime payment in busy periods, to allow extended opening hours on evenings or weekends. Moreover some studies find that, in addition to the better management of peaks and troughs in demand and changes in operating hours, standard part-time *increases motivation and reduces absenteeism* ([53]). Likewise, companies with higher flexibility profiles tend to perform better financially and have higher *labour productivity through less fatigue,* higher job satisfaction and organisational commitment, and thus higher work effort intensity per hour ([54]).

Some employers may also use part-time jobs to *screen workers* for full-time positions, given their difficulty in assessing likely performance before recruitment ([55]). Such screening is potentially more relevant in economic downturns when the risks for companies may be higher ([56]), while in growth periods a company might offer part-time workers full-time positions (known as 'tap effects'). On the other hand, employers may also introduce part-time and flexible time arrangements to meet *employees' preferences* and to respond to their requests (i.e. voluntary part-time).

Part-time work can contribute to a *better utilisation of the workforce* and be a viable alternative to inactivity if appropriate incentives are in place. The main reasons for inactivity and part-time work are closely aligned, but they may vary over the life cycle and by sex: study periods for young people, caring responsibilities for prime-age women, and sickness or retirement for older workers. Thus, fewer hours of work, such as part-time work, may provide opportunities for groups who could not work otherwise and thus helps *mobilise labour*.

3.2. Cross-national comparison of full-time equivalent employment rate gaps

3.2.1. Member States' *overall* performance varies, yet some countries share similar outcomes

The gap in total hours worked between males and females can best be seen in terms of the *employment rate (ER)*, which is lower for women than men in all the Member States ([57]) and even lower if employment is measured in terms of *full-time equivalents (FTER)* ([58]) since, even when in employment, women tend to work *fewer hours* on average than men. This gap is very wide even in some Member States where the female employment rate is relative high, for instance the Netherlands, Ireland, Germany and the UK (see Chart 23).

Overall, when comparing the full-time equivalent employment rate gaps across the Member States, the *female employment rate* should also be taken into account since the full-time equivalent employment rate gap can also be low if both male and female employment rates are low. Hence a low gap does not *per se* indicate favourable female labour market outcomes. In that sense, the best outcome is when a *high female employment rate is achieved alongside a low full-time equivalent employment rate gap*.

- The Chart 24, based on the situation in 2012 for the total working age population of 15–64 years, suggests that the *relative best performing* Member States in this respect have been the Nordic States (Finland, Sweden, Denmark) and the Baltic States (Estonia, Latvia and Lithuania) with full-time equivalent employment rate gaps below the EU average, but employment rates of women above the EU average. Slovenia, Portugal, Cyprus, France are also to be found in this group, although their performance is more average in terms of the employment rate of women, while they perform somewhat better than average in terms of the FTER gap.

([45]) The EU-21 countries include Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Poland, Portugal, the Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom.

([46]) Analysis of the growth potential did not consider the impacts of increased female labour intensity, i.e. women working more hours. According to authors, changes in working hours have potential effects on multi-factorial productivity which they could not properly account for in their model.

([47]) Lofstrom (2009).

([48]) Plantenga and Remery (2009) quote Burchell *et al.* (2007).

([49]) Eurofound 2010b and Eurofound (2012b).

([50]) Eurofound (2013).

([51]) OECD (2010).

([52]) Eurofound (2011), Buddelmeyer *et al.* (2008), Kohler and Spitznagel (1995), Nelen *et al.* (2011).

([53]) Hagemann *et al.* (1994) in Cataldi *et al.*

([54]) Brewster *et al.* (1994) in Cataldi *et al.*; Eurofound (2010a); Kelliher and Anderson (2010); Golden (2011).

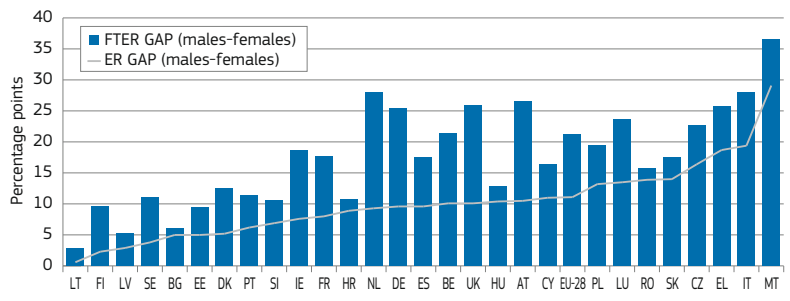
([55]) Houseman (2001) in Buddelmeyer *et al.* (2008).

([56]) Job-seekers (suppliers) have some amount of private information about their abilities while employers (demand side) are less informed.

([57]) See Annex II Chart A.2.

([58]) FTER is calculated as the employment/population ratio, multiplied by the average usual hours worked per week per person in employment, then divided by 40. Method is based on OECD (2012).

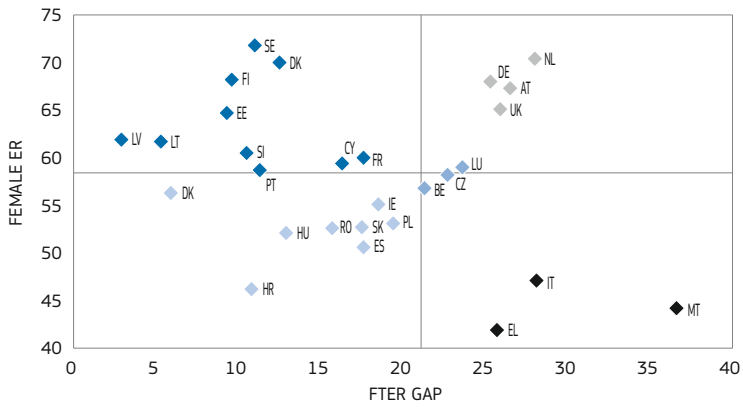
Chart 23: Gaps between male and female full-time equivalent employment rates (FTER) and employment rates (ER) in 2012



Source: Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2], Employment rates by sex, age and nationality (%) [lfsa_ergan].

Note: Age group 15–64.

Chart 24: Full-time equivalent employment rate gap (percentage points) and female employment rate (%) in the EU Member States in 2012



Source: Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2], Employment rates by sex, age and nationality (%) [lfsa_ergan].

Note: Age group 15–64; Axes cross at the EU-28 average. Horizontal axis: full-time equivalent employment rate gap (males-females); vertical axis: female employment rate.

- The second group could be called *'higher than average female employment with shorter working hours'* group, comprising Germany, Netherlands, Austria and the UK. All have high levels of female employment, but the higher than average full-time equivalent employment rate gap suggests that lower total hours are generally worked by women compared to men.

- Mostly Central Eastern European countries (Bulgaria, Hungary, Romania, Slovakia, Poland and Croatia) together with Spain and Ireland form the group of *'longer work hours combined with smaller female employment' group.* Here female employment is lower than average but, if women work, they tend to work longer hours and/or the employment of men is also lower.

- Luxemburg, Czech Republic and Belgium are *average performers*, being very close to the crossing point of the two axes.

- The *relative worst outcomes* are in Italy, Malta and Greece with the lowest employment rates for females and the highest full-time equivalent employment rate gaps. This indicates that relatively fewer women work and, even if they do, they work shorter hours and/or there is a large gap between the employment rates of men and women.

3.2.2. Hours worked gap is highest in *prime and senior age...*

When the gender gap is considered in terms of the average number of weekly hours usually worked by different age cohorts ([59]), the gap is highest in most countries for the *prime age group and even higher for the older age cohort* (for instance Belgium, Ireland, Austria, Germany, the UK and the Netherlands). In a few cases, however, it is highest for the young (in the case of Slovenia, Finland, Sweden, Denmark and also Lithuania and Estonia, although the latter two display rather low hours worked gaps in general) ([60]).

When the cohorts are viewed separately, for the *young* there are no extreme gender gaps either in the hours worked or in the employment rates, although in some Member States young men work considerably longer hours than women (the case in Denmark, Sweden, Finland and Slovenia) while there is a rather pronounced gap between the employment rates of men and women in others (such as Slovakia, Poland, the Czech Republic and Austria) ([61]).

Irrespective of the gaps, however, the countries with the higher employment rates in the youth cohort (such as Netherlands or Denmark) seem to have the shortest hours worked. The Chart 25 demonstrates a quite strong negative correlation between hours worked and the employment rate of young people, corresponding to the view that shorter work hours might be helpful for the participation of young people on the labour market (see also at part 4.1. on part-time work).

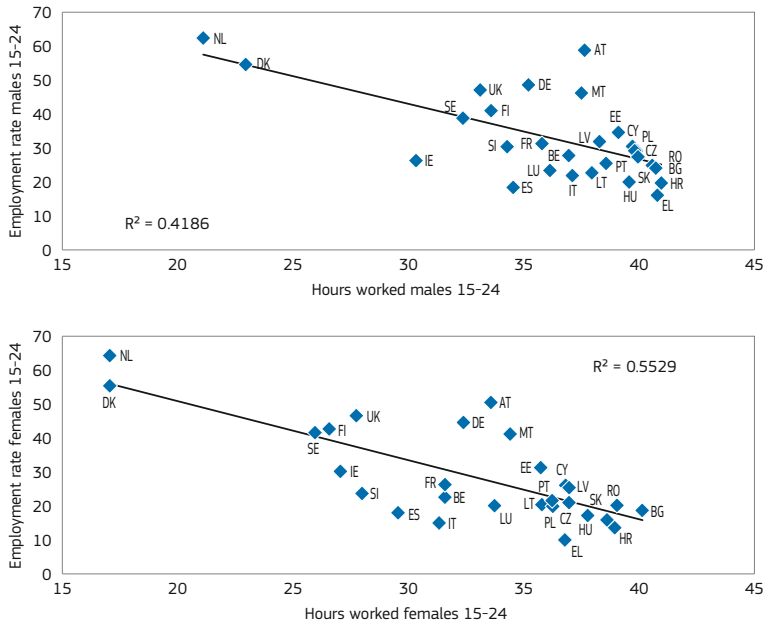
For the *prime age cohort* there are some striking gaps both between the hours worked and the employment rates of men and women. While the hours worked gap is most marked in the Netherlands, Germany, the United Kingdom and Austria, the employment rate gaps are highest in Malta, followed by Italy and Greece (see Chart 26). Some Member States have a lower than average employment rate gap, since both female and male employment rates are relative low, as in Spain and Croatia.

([59]) Age group 15–24; 25–54; and 55–64.

([60]) See Annex II, Chart A.3.

([61]) See Annex II, Chart A.4.

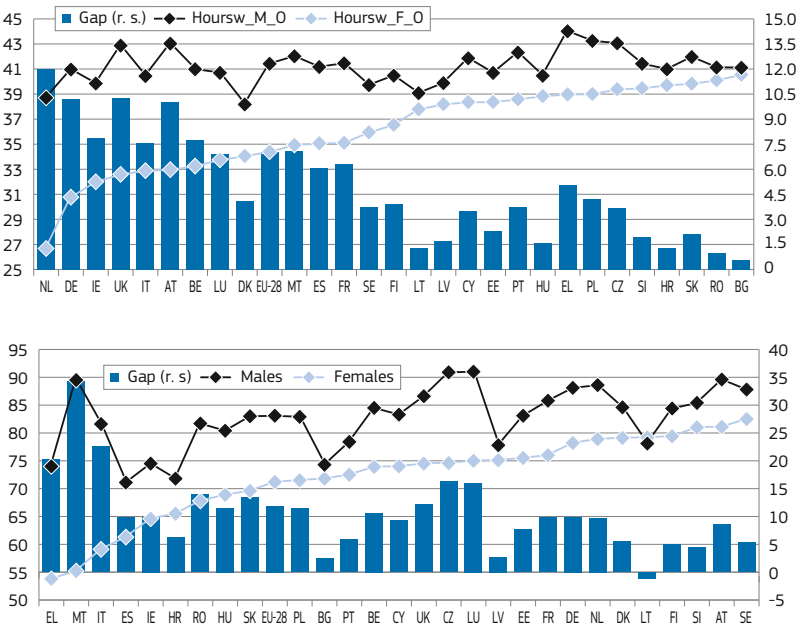
Chart 25: Correlation between hours worked and employment rate for young males (top chart) and young females (bottom chart)



Source: DG EMPL calculations based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2); Eurostat, Employment rates by sex, age and nationality (%) [lfsa_ergan].

Note: Correlation coefficient males: –0.65; correlation coefficient females: – 0.74.

Chart 26: Average number of usual weekly hours of work for the prime age male and female (age 25–54) cohort and gap (top chart) and corresponding employment rates of males and females and gap (bottom chart) in EU Member States in 2012



Source: DG EMPL calculations based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2); Eurostat, Employment rates by sex, age and nationality (%) [lfsa_ergan]; HOURS_M_P stands for usual average weekly hours worked for prime-age males

Note: HOURS_F_P stands for usual average weekly hours worked for prime-age females.

The generally strong negative correlation between the hours worked and the employment rate of the young does not hold for prime age men ([62]), and becomes much weaker for prime age women as well.

Regarding the size of the gaps, a somewhat similar pattern seems to hold for the *older age cohort* as for the prime age cohort both in terms of hours worked and the employment rates ([63]). Chart 27 shows a very strong positive correlation between the gender gap in average weekly hours worked for prime age and older age cohorts, as well as a positive (albeit somewhat weaker) correlation between the gender gap in employment rates for prime age and older age cohorts. This suggests that the hours worked gap and the employment rate gap both tend to carry over from prime age into the older age group.

Moreover, there seems to be a strong 'stability' with respect to hours worked, which suggests that similar working hours patterns are affecting both age groups across the Member States (either shorter or longer working hours over the career cycle, starting from prime age). Nevertheless, the fact that most Member States lie above the theoretical 45^0 line (which represents the state where the prime age employment gender gap equals the older age employment gender gap) suggests that the gender employment rate gap widens from prime age onwards.

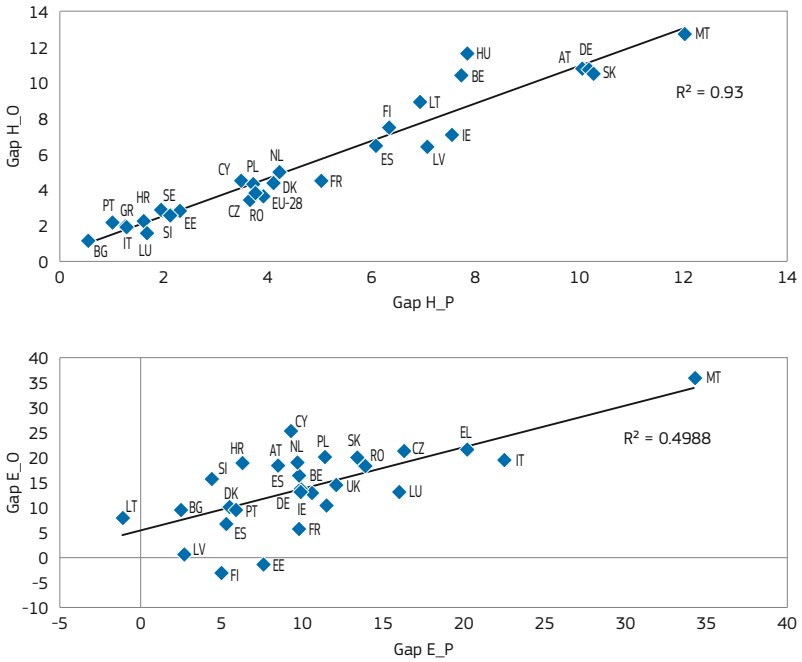
3.2.3. ...and on *lowest education levels*

Two patterns emerge concerning the gender gap in terms of the average number of weekly hours usually worked by groups with high, medium and low levels of educational attainment (see Chart 28). First, compared to other Member States, they are generally, but not always, *parallel* with each other in that all gaps are on the lower end in Bulgaria, Lithuania, Latvia, Hungary or Slovakia, and all are found at the higher end in Germany, Belgium, Ireland, UK and the Netherlands. Second, the hours worked gender gap is generally highest for the *lowest education* levels (with the

([62]) *0.05 for males, –0.14 for females.*

([63]) See Annex II, Chart A.5.

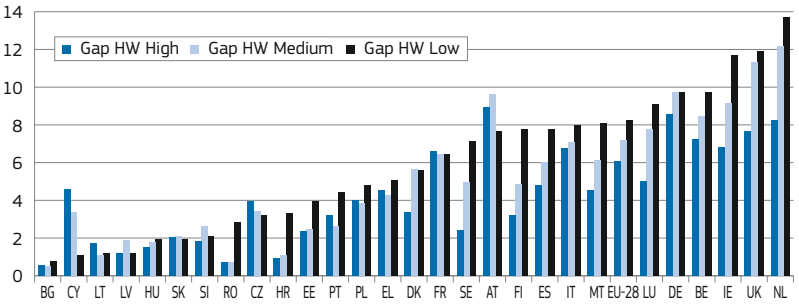
Chart 27: Correlations between the hours worked gender gap for the prime age and older cohorts (top chart) and between the gender employment rate gap for the prime age and older cohorts (bottom chart)



Source: DG EMPL calculation based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2).

Note: Correlation: 0.96 (top chart) and 0.71 (bottom chart) Gap H_O stands for the gap in usual average weekly hours worked between males and females in the older (55–64) age cohort; Gap H_P stands for the gap in usual average weekly hours worked between males and females in the prime age (25–54) age cohort; gap E_P stands for the gap between male and female employment rates for the prime age cohort, gap E_O stands for the gap between male and female employment rates for the older age cohort.

Chart 28: Gender gaps in average number of usual weekly hours worked (males-females) on various education levels in the Member States in 2012



Source: DG EMPL calculation based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2).

Note: 'Gap HW' stands for the gender gap (males-females) in average number of usual weekly hours worked; 'High' stands for high education (ISCED 5-6); 'Medium' stands for medium education (ISCED 3-4) and 'Low' stands for low levels of education (ISCED 0-2). Age group: 15–64. Gap=corresponding figure for males – corresponding figure for females.

notable exception of Cyprus and Austria and to a lesser extent Lithuania, Latvia, the Czech Republic and France) ([64]).

4. POLICY DRIVERS OF THE FULL-TIME EQUIVALENT EMPLOYMENT RATE GAP ARE VARIOUS...

The following section describes the main factors that could be driving the gender gap in total hours worked, and covers issues of part-time work, working time regimes (volume of working hours and working time arrangements), divisions between paid and unpaid work within a family, financial incentives, and child-care. Each factor is assessed in terms of its influence on the full-time equivalent employment rate (FTER) gap and on the female employment rate.

4.1. ...with *part-time work* clearly being one of the main factors leading to lower full-time equivalent employment rates for women compared with men

As Chart 29 shows, the lower employment to population ratio for women becomes even lower if part-time employment rates are transformed into full-time equivalents ([65]). Meanwhile, for men the gap is much narrower.

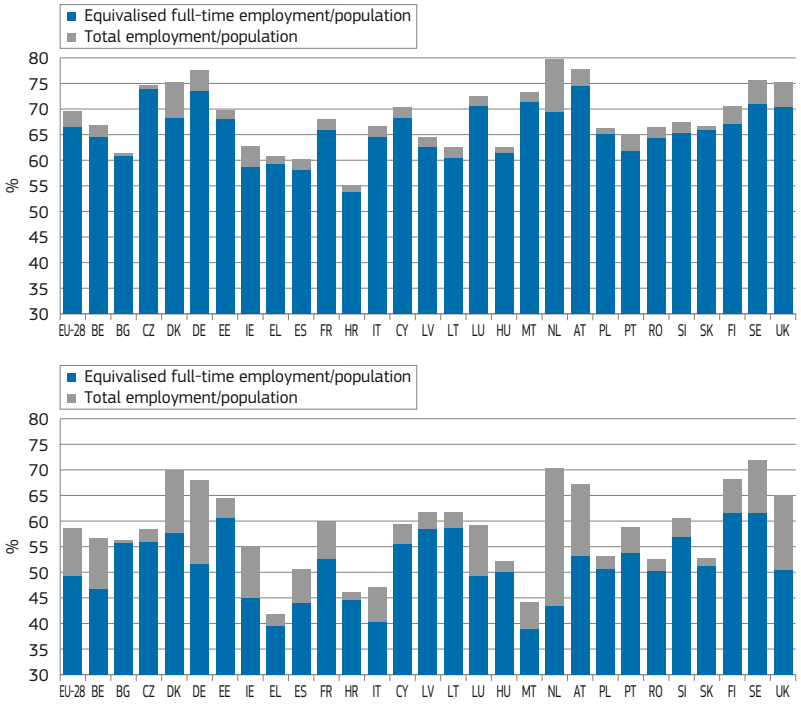
Personal characteristics, gender, jobs and labour market characteristics and policy measures can all affect the probability of working part-time ([66]). The *presence of*

([64]) This exacerbates the problem that not only is employability of and/or willingness to work among low educated women much lower than that of high educated women – in 2012, for the age group 15–64 on the EU-28 average, employment rate of women has been 36.9% for ISCED level 0-2 compared to 78.3% for ISCED level 5-6. But even when working, low educated women are more likely to be found in low hours jobs (for instance the share of part-time workers to total workers among low educated women was 40.8%, compared to 24.8% for high educated women on average in the EU in 2012). At the same time, the share of part-time work among low educated men was 11.3% compared to around 7% for high educated men (meaning a much narrower gap in part-time shares based on education for men).

([65]) By taking the number of full-time employed and adding to that the number of part-time employed multiplied by average number of weekly hours on part-time employment, divided by 40 hours.

([66]) In terms of personal characteristics, according to Jaumotte (2004), part-time is most preferred by married women, mothers of young children, and those with husbands who have a high income.

Chart 29: Employment to population ratio and equivalised full-time employment to population ratio for men (top chart) and women (bottom chart) in 2012 (age group 15–64)



Source: DG EMPL calculations based on Eurostat, Population by sex, age, nationality and labour status (1 000) [lfsa_pganws]; Full-time and part-time employment by sex, age and highest level of education attained (1 000) [lfsa_epgaed]; Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2] Data for NL for 2011.

Note: Equivalised full-time employment/population = [number of full-time employed + (number of part-time employed * average number of usual weekly hours worked in part-time job)/40]/population.

children tends to increase the possibility of *women* working reduced hours in most Member States ([67]). Part-time work is more prevalent among the *young and/or older cohorts*, which might also reflect parallel activities such as participation in education ([68]) or preparation for retirement ([69]). In terms of job and labour market characteristics, the more '*feminine*' a sector, the more widespread is part-time employment among females ([70]); which may reflect sector specificities (since women are more concentrated in the service sector) ([71]) but also a possibly stronger demand for skilled women ([72]).

Public policies are also influential, with, for example, tax regimes or incentives influencing the choice between inactivity and part-time work, and between part-time and full-time work. Likewise, the availability and affordability of childcare affects not only the decision between inactivity and activity, but also that between full-time and part-time employment ([73]).

Part-time work has a dual role, however. While it may mean fewer total hours per week compared to full-time work, it can contribute to increased *labour market participation* in certain stages of a person's life when faced with parallel duties. A relative short period of part-time work can, for example, be helpful in terms of work-life balance for those with *care responsibilities,* as it offers the possibility of having an uninterrupted professional career at the same time as it facilitates the combination of paid work and caregiving work ([74]).

Young people who are studying, or elderly people gradually moving out from the labour market, can also benefit from part-time work. Thus, insofar as it helps maintain continued activity, *part-time work may actually decrease the FTER gap*. This can be seen in the Chart 30, which show that the part-time to population ratio correlates negatively with inactivity rates among the female population, and positively with respect to the female employment to population ratio ([75]).

([67]) See Annex II, Chart A.6. Again, it needs to be underlined that gender equality would imply that *both sexes* are able to take on part-time work once caring for a small child, not only women. See also section 4.3. on paid and unpaid work division between sexes.

([68]) However, labour market segmentation, especially in the case of young cohorts, (ENEGE 2013b) can also add to the likelihood of women working part-time. Some research shows, for example, that women who enter the labour market after spell of inactivity are often competing for the same jobs as young people.

([69]) See Annex II, Chart A.7.

([70]) See Annex II, Chart A.8.

([71]) It can also be argued that women might self-select themselves into occupations where they know it will be easier to reconcile work with family life, in particular to work part-time. This search for shorter hours may considerably restrict their choice of occupation, see for instance EGGE (2009a).

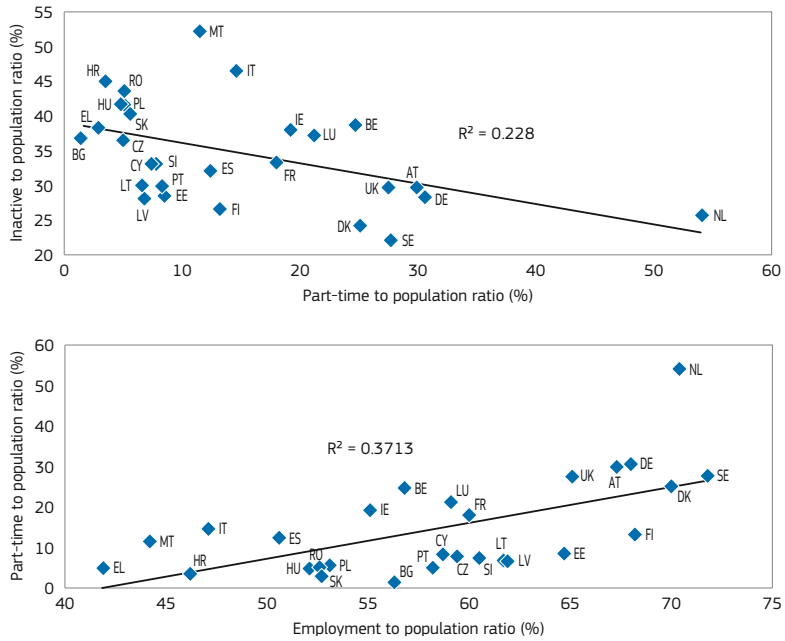
([72]) Buddelmeyer *et al.* (2005) for instance point out that, for EU-15, the part-time employment share is highest for elementary occupations and is mainly concentrated in the service sector, which may reflect peaks in demand at certain times of the day or week. Other theoretical arguments include, for instance, Kjeldstad and Nymoen (2012) referring to Tijdens (2002) and finding that increased female part-time employment in female-dominated occupations could reflect a desire to attract and retain productive female workers when they have family responsibilities.

([73]) See Jaumotte (2004). Gash (2007) uses event history analysis of part-time workers' transitions, and also finds evidence that inadequate childcare is a constraint for full-time participation for worker-carers.

([74]) See Plantenga (1996). Booth and Van Ours (2013) also indicate that, without the existence of part-time jobs, female labour market participation would be substantially lower if, when confronted with a choice between full-time job and zero working hours, women opt for the latter.

([75]) See also OECD (2010), table 4.3 on p. 238.

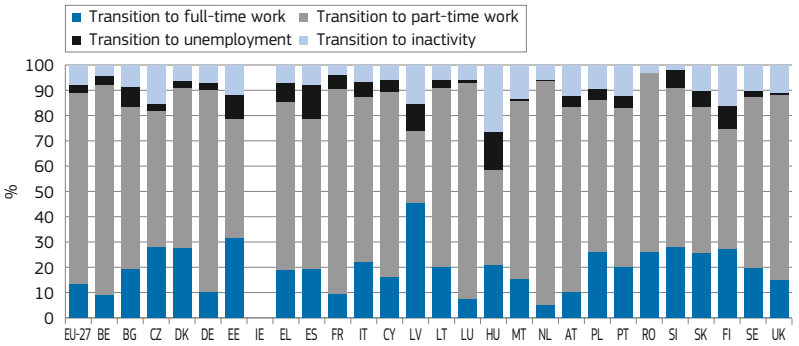
Chart 30: Correlation between part-time employment to population and inactivity rate, and employment to population ratio among females in 2012



Source: Eurostat, Full-time and part-time employment by sex, age and highest level of education attained (1 000) [lfsa_epgaed]; Population by sex, age, nationality and labour status (1 000) [lfsa_pganws].

Note: Correlation coefficients: – 0.48 (top chart) and 0.61 (bottom chart) Age group: 15–64.

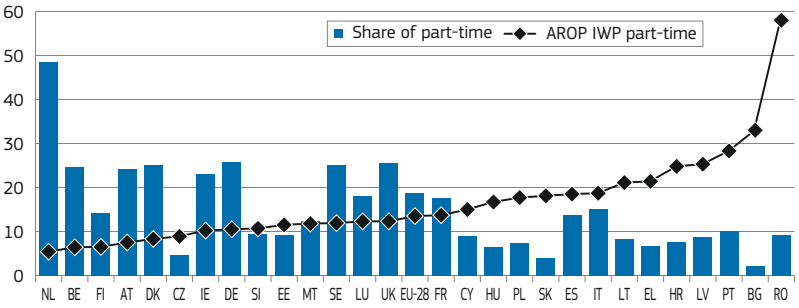
Chart 31: Transition rates from part-time work to various labour market states for women



Source: Eurostat, Labour transitions by employment status [ilc_lvhl30].

Note: Age group: 15–64; Year: 2010

Chart 32: Share of part-time in total employment and in-work at-risk-of-poverty rate across Member States in 2011



Source: Eurostat, In-work at-risk-of-poverty rate by full-/part-time work (source: EU-SILC) [ilc_iw07]; Part-time employment as a percentage of the total employment, by sex and age (%) [lfsa_eppga].

Nevertheless, *part-time work may also increase the FTER gap* as it leads to *lower workforce utilisation* for groups not affected by life transitions, and if the people concerned become trapped in part-time work, either because employers are reluctant to hire them full-time, or because public policies (such as lack of adequate care facilities) or other disincentives (such as tax arrangements etc.) effectively restrict them to part-time jobs.

The contribution of part-time work to the persistence of the FTER gap can also be seen in the data on *transition rates from part-time to full-time employment* (see Chart 31). This shows that, in many Member States, part-time work rarely serves as a stepping stone to full-time work ([76]), and this appears to be especially the case in countries with high female part-time employment rates, such as the Netherlands, Germany and Austria. Data for these countries indicate that transition rates for females out of part-time into full-time are very low**.** In some other countries, notably those where part-time is relative less common, such transition rates are higher than average. A notable exception is Denmark, where part-time work is widespread, but the transition rates from part-time to full-time are also amongst the highest in the EU.

Even when women want to increase their working hours, they may be unable to do so. For example, among women aged 25–49, the share of *involuntary part-time* (those who are unable to find a full-time job) can be considerable in some Member States, whether due to

([76]) Buddelmeyer *et al.* (2005) showed that part-time work served as a stepping stone into full-time employment only for a small proportion of individuals (less than 5%). (Stepping stone effect was captured by the rate of transition from non-employment into part-time and then into full-time work). Blank (1989) finds on US data that out of the 3802 women in the 9 year sample only 256 demonstrate a pattern of moving from inactivity to part-time and then to full-time; 77% of the sample spend six or more years out of nine in the same labour market state. This 'stability' for part-time can be partially explained by managers' reluctance towards transition of employees from part-time to full-time in Europe. On average, only 27% of managers in the 21 countries that were included in the Establishment Survey on Working Time (ESWT), said that part-time employees could easily get a full-time job: 43% said that this could happen only exceptionally, while 27% said there is 'no chance' of such a change (Eurofound (2011)).

labour market constraints and/or transition problems ([77]).

The decision to take up part-time work can also be influenced by *financial considerations*. Chart 32 shows the share of part-time workers in total employment and the at-risk of in-work poverty rate for part-time workers ([78]). The negative relationship between the two ([79]) suggests that a decision not to take up part-time jobs may be determined not just by the availability of jobs, but also by the low rates of pay.

4.2. *Working hours regimes* are important for work-life balance...

The search for work-life balance is an important factor influencing work choices and hence the gender FTER gap. Since the time spent at work and the particular working hours arrangements will both affect a person's overall work-life balance, the importance of the two factors needs to be taken into account when analysing the FTER gap.

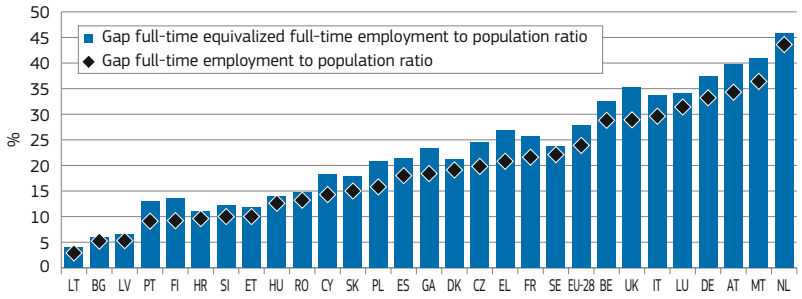
4.2.1. ...with the *volume* of working time having a natural influence on full-time equivalent employment rate...

The lower the number of usual weekly hours worked, the lower is the rate of full-time equivalent employment. Apart from the prevalence of part-time employment among the female workforce, as discussed above, part of the FTER gap stems from the fact that, in several Member States, even when on *full-time work*, women work fewer average hours than full-time working men ([80]). This leads to a lower equivalised full-time employment ratio for females compared to males, and thus a higher gap between males and females compared to that calculated in terms of simple full-time employment to population ratios (see Chart 33 and Chart 34).

While men tend to work longer hours, *overtime* can also account for a considerable part of the gap. According to Eurostat, in 2004 in the EU-27, the average number of overtime hours was 1.4 for men compared to 0.8 for women, with 13.4% of men working overtime compared to 8.7% of women ([81]) (see Chart 34, bottom one).

Working longer hours (defined here as over 40 hours) might be assumed to be a pattern typical for men. However, in

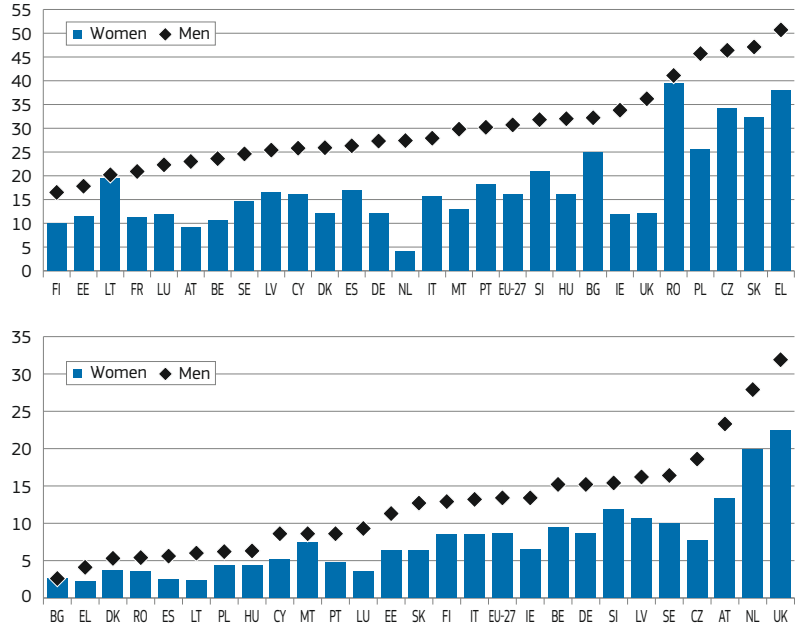
Chart 33: Gap in full-time employment to population ratio and in full-time equivalised full-time employment to population ratio (males-females) in 2012



Source: Eurostat: Population by sex, age, nationality and labour status (1 000) [lfsa_pganws]; Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2].

Note: Data for Netherlands were available for 2011; Full-time equivalised full-time employment to population ratio = full-time employment to population ratio * average number of hours worked in full-time job/40; Age group: 15–64.

Chart 34: Share of respondents working more than 40 hours in 2010 (top chart); Percentage of employees (aged 15–64) working overtime in 2004 (bottom chart)



Source: EWCS 2010: How many hours do you usually work per week in your main paid job? (q18); Eurostat: Percentage of employees working overtime, by sex, age and occupation [lfso_04peovisco].

([77]) Kjeldstad and Nymoen (2012) find, for instance, that female-dominated, low-skilled service and care occupations are very much exposed to involuntary part-time work. Moreover, OECD (2010) warns that the definition of involuntary part-time fails to incorporate the satisfaction of women with their situation, and also those women who would like to work more hours (but not necessarily full-time); thus the *actual* rate of involuntary part-time could be much higher. See Annex II, Chart A.9.

([78]) Both figures show the situation for both sexes in general, as the in-work poverty rate breakdown for sex is not available. However, since part-time jobs are mostly filled by women, it can still reflect and proxy the female situation.

([79]) With a correlation coefficient of –0.49.

([80]) See Annex II, Chart A.10.

([81]) Source: Eurostat, LFS Ad-Hoc modules: Average number of overtime hours of employees, by sex, age and occupation (lfso_04avovisco); Percentage of employees working overtime, by sex, age and occupation (lfso_04peovisco).

most Member States the larger share of men on long hours is strongly and positively correlated with a larger share of women on long hours (see Chart 35). The same pattern is visible for overtime work, which suggests the presence of a *'long working hours culture'* in some Member States.

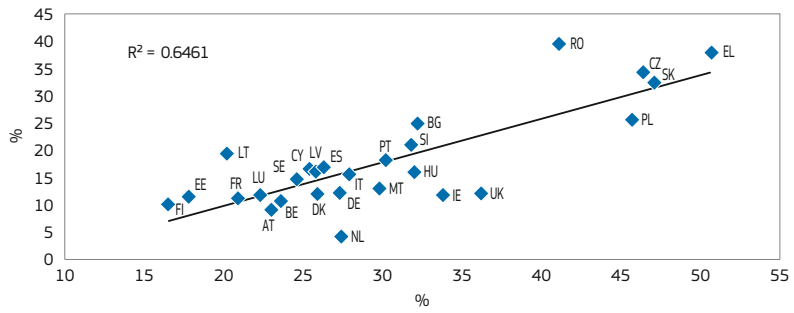
While the share of women working long hours correlates negatively, albeit weakly, with the FTER gap ([82]), it correlates positively and more strongly with female inactivity (see Chart 36). This suggests that there could be a *trade-off* between the existence of a long working hours culture and female participation, which follows logically from the assumption that work-life balance aspirations influence work choices.

This suggests that a long working hours culture can be a *barrier* and prevent women entering the labour market – especially where relatively little part-time work is available – although, once working, such long female hours can contribute to a smaller gender FTER gap ([83]).

This means that moving away from rigid *long working hours* regimes could be beneficial for participation where other (mostly family) commitments are present. On the other hand, even when working *non-full-time hours*, there can be large differences in whether relative *shorter or relative longer weekly hours* are prevalent among the female workforce. In several Member States most women work longer hours – either longer part-time or shorter full-time (30–39 hours) while in some others a significant proportion work very short weekly hours (1–19 hours) ([84]), which correlates positively with a wider FTER gender gap (see Chart 37).

According to the data (available for EU-21 only), it is clear that short weekly hours are more typically worked by young women and/or senior women, compared to those of prime age (25–54) ([85]). Moreover, there is a rather strong negative correlation between female inactivity and the proportion of women working very short (1–19) hours, suggesting that this type of work can act as a bridge between inactivity and work where there are other

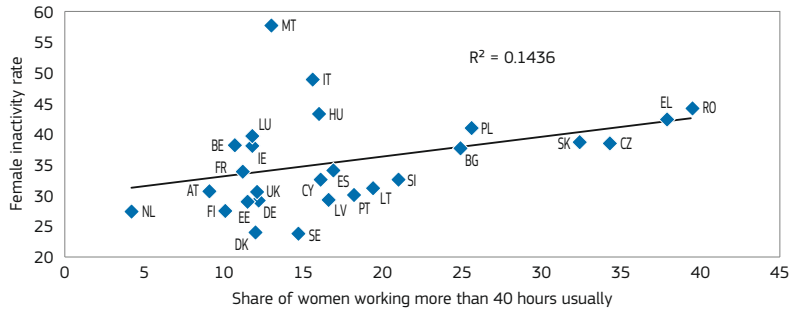
Chart 35: Correlation between share of men and women usually working more than 40 hours (2010)



Source: EWCS 2010: How many hours do you usually work per week in your main paid job? (q18).

Note: Correlation coefficient: 0.80. Horizontal axis: share of men; vertical axis: share of women.

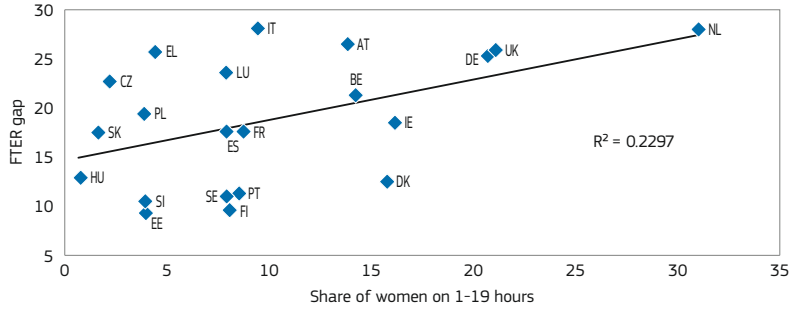
Chart 36: Correlation between the share of women usually working more than 40 hours and female inactivity rate (2010)



Source: EWCS 2010: How many hours do you usually work per week in your main paid job? (q18); Eurostat: Inactive population as a percentage of the total population, by sex and age (%) (lfsa_ipga).

Note: Correlation coefficient: 0.38.

Chart 37: Correlation between share of women on 1–19 hours and the FTER gap



Source: OECD, Incidence of employment by usual weekly hours worked in 2011; DG EMPL calculations based on Eurostat, average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2], Employment rates by sex, age and nationality (%) [lfsa_ergan], all Eurostat data for 2012.

Note: Correlation coefficient 0.48; data for EU-21.

([82]) Correlation coefficient: –0.11.

([83]) OECD (2011) quotes (Luci and Thévenon, 2011) pointing out that workplace practices, such as long working hours and working weeks make it harder to match work and care commitments. Gash (2007) also underlines, that countries with a long working hours culture are more likely to have worker-carers working part-time, through long working hours acting as a constraint to moving to full-time.

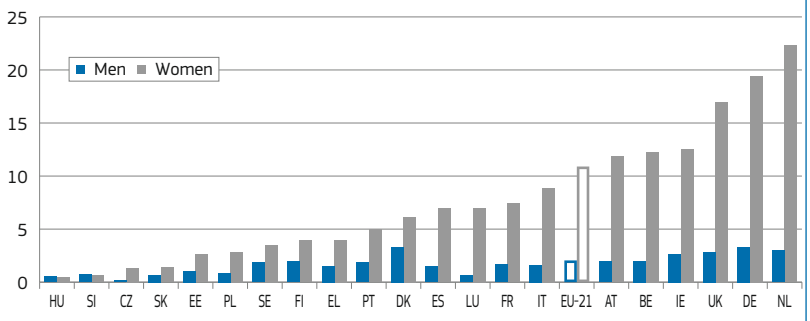
([84]) In the Netherlands over 30% of total female workers work below 20 hours a week, while in the UK and in Germany the ratio exceeds 20%: see Annex II, Chart A.11.

([85]) According to Kjeldstad and Nymoen (2012), work with short hours attracts both men and women when they are young or older. They conclude that this type of contract provides a rational and flexible solution for both employers (matching labour input to changing workload) and employees (enabling young people, who are mostly not solely dependent on income from own work, to build a stepping stone to a career, while for older workers it may provide a gradual transition to retirement). See Annex II, Chart A.12.

commitments ([86]). However, in some Member States, a relatively larger proportion of *prime age females* (25–54) work 1–19 hours (especially compared to men) ([87]) (see Chart 38).

This suggests that, while *moving away from a long working hours culture* could help improve the work-life balance for women with care activities, and therefore be beneficial for female participation decisions, *minimising* the share of *prime-age female workers* without parallel commitments *on very short non-full-time hours* could help diminishing the gender FTER gap further. Moving away from a long working hours culture could also be beneficial in terms of a *father's work-life balance,* and thus contribute to the involvement of fathers in care activities ([88]).

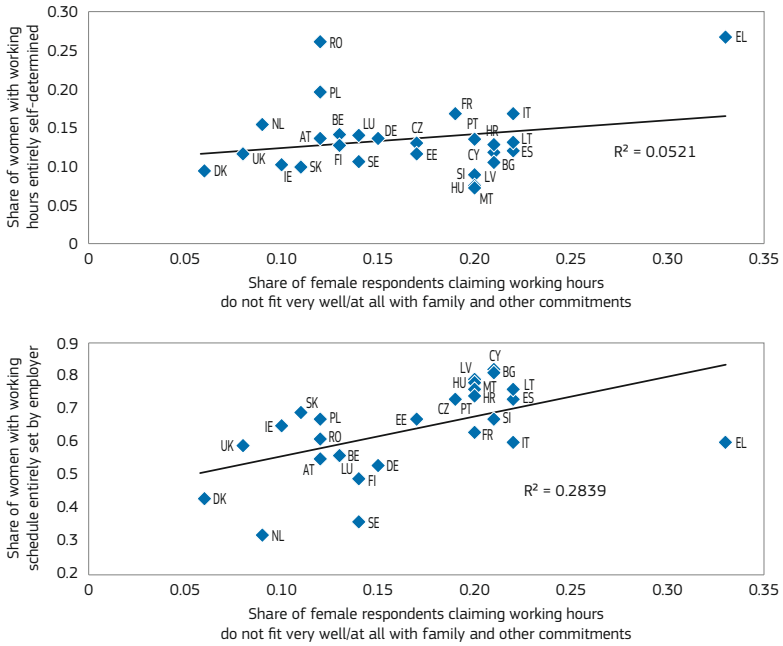
Chart 38: Share of women and men on 1–19 hours usual weekly hour bands in 2011



Source: OECD, Incidence of employment by usual weekly hours worked.

Note: Age group: 25–54.

Chart 39: Correlation between flexibility of working schedules and work-life stress (top chart) and between the rigidity of working schedules and work-life stress (bottom chart) for women



Source: EWCS 2010, Q39 How are your working time arrangements set? Q41 In general, do your working hours fit in with your family or social commitments outside work very well, well, not very well or not at all well?

Note: Correlation coefficients: top chart: 0.23; bottom chart: 0.53.

4.2.2. ...but *flexibility* of work arrangements is also influential on work-hour choices

As addressed in the previous section, it is not just the volume of working time but also the perceived flexibility regarding work arrangements that influences work-life balance, and thus choices regarding work, to the extent that it makes it possible to *adjust* work schedules to non-work commitments.

Rigid work schedule arrangements – measured by the share of workers on work schedules entirely set by the employer – tend to affect the female workforce to a greater extent in most Member States (with a few exceptions, such as Romania, Portugal, Germany, Sweden, Luxembourg and the Netherlands), adding to the potential work-life balance reconciliation constraints that the female workforce faces ([89]).

It should be noted, however, that there is some positive, albeit weak, correlation between flexibility and work-life stress. This might be explained by the fact that flexibility can increase work-life stress if it leads to unclear boundaries between work and private life, as already underlined in section 2. Nevertheless, the much stronger positive correlation between the *rigidity of working schedules* and *work-life stress* (Chart 39, bottom chart) suggests that flexible scheduling still leads, in general, to more strongly perceived work-life balance.

As with the volume of working time, flexibility appears to have a *twofold consequence.* On the one hand, rigidity

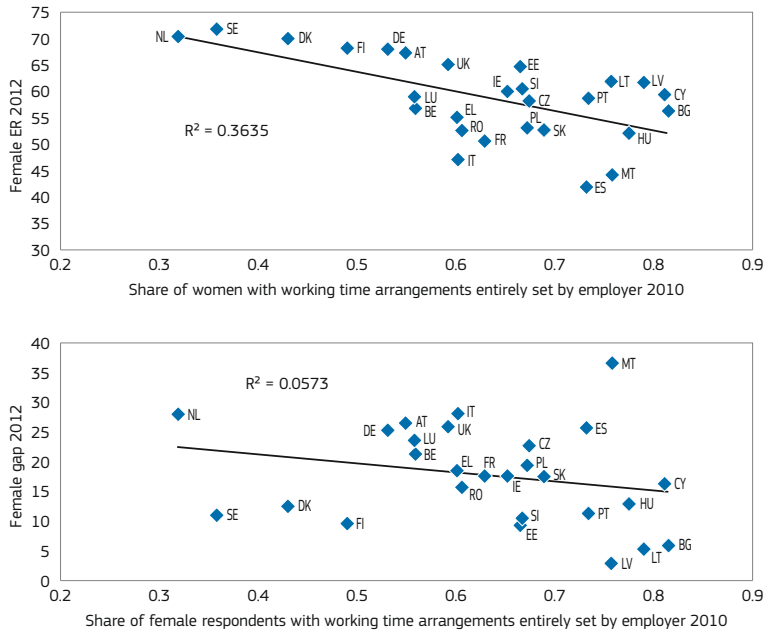
([86]) Correlation coefficient: –0.44 (data was available only for EU-21).

([87]) While non-full-time longer weekly hours worked may be seen as preferential compared to non-full-time short weekly hours in terms of addressing the FTER gap, they may also be preferential from a productivity point of view, as suggested by Cataldi *et al.* (forthcoming), who find that long part-time workers are significantly more productive than short part-time and full-time workers.

([88]) In this respect Kitterod & Pettersen (2006) point to the over-representation of men in professions with long working hours that may limit men's possibilities for more active fathering. This finding, together with a finding of Kitterod *et al.* (2011) implying that 'a prerequisite for more full-time involvement among mothers of young children may be a greater household involvement of fathers' point to the importance of influence of long hours on fathers' involvement (see the next section for more details on the division of paid and unpaid work).

([89]) See Annex II, Chart A.13.

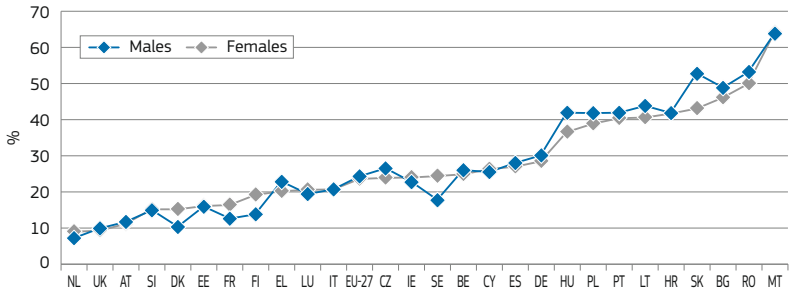
Chart 40: Correlation between the rigidity of working schedules for women and female ER (top chart) and the rigidity of working schedules for women and FTER gap (bottom chart)



Source: EWCS 2010: Q39 How are your working time arrangements set? DG EMPL calculation based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2], Employment rates by sex, age and nationality (%) [lfsa_ergan].

Note: Correlation coefficients: –0.60 (top chart); –0.24 (bottom chart). HR excluded.

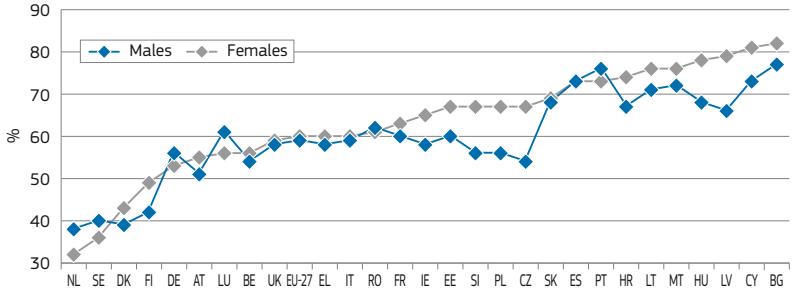
Chart 41: Share of respondents who do not have any kind of possibility to vary start and/or stop of their working day for family reason in 2010



Source: Eurostat, Employees by their perceived possibility to vary start and/or stop of the working day for family reasons (1 000) [lfso_10fposste]; 2010 Ad Hoc module.

Note: No data available for Latvia.

Chart 42: Share of respondents whose working time arrangements are set entirely by the employer



Source: EWCS 2010; Q39 How are your working time arrangements set?

is negatively correlated with the FTER gap, albeit weakly, while there also seems to be a stronger, negative correlation with the female employment rate (see Chart 40). This suggests that rigid work organisational systems and the absence of control by employees over their work schedules can have a negative impact on female participation.

This, again, suggests that, for females who are facing reconciliation issues, flexible workplace practices can be helpful when making decisions about participation. Based on the strength of correlation, potential gains (in terms of participation) could outweigh losses (in terms of hours). The importance of flexibility in terms of working hours related to family reasons is underlined also by the negative correlation between the possibility of varying start or stop times to match family requirements and work-life stress ([90]).

While this flexibility is strongly positively correlated with the share of part-time work ([91]) – suggesting that it is more widespread in those countries where other types of flexibility are more common – and thus positively correlated with the FTER gap ([92]), it is also quite strongly positively correlated with female employment ([93]) and negatively with female inactivity ([94]), suggesting that it could be an influential factor in terms of female participation decisions.

The evidence from Charts 41 and 42 suggests that, in most Member States, flexibility is either an option for both sexes or for neither, suggesting that different *flexibility 'cultures'* and/or

([90]) Source: Eurostat: Employees by their perceived possibility to vary start and/or stop of the working day for family reasons (1 000) [lfso_10fposste]; EWCS 2010 Q41 In general, do your working hours fit in with your family or social commitments outside work very well, well, not very well or not at all well? Note: Correlation coefficient: –0.44.

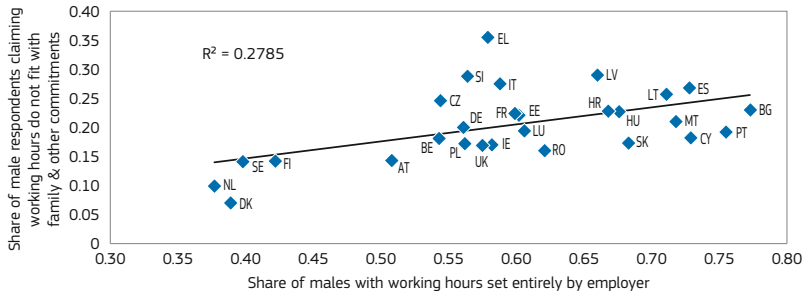
([91]) The correlation coefficient between the share of females claiming that varying start and/or stop working day as of family reasons is generally possible for them and the share of female part-timers in female employment is 0.74. Source: DG EMPL calculation based on Eurostat Ad Hoc module 2010: Reconciliation between work and family life (lfso_10); Employees by their perceived possibility to vary start and/or stop of the working day for family reasons (1 000) [lfso_10fposste]; Part-time employment as percentage of the total employment, by sex, age and nationality (%) (lfsa_eppgan)
Note: HR excluded.

([92]) Correlation coefficient is 0.30.

([93]) Correlation coefficient 0.52.

([94]) Correlation coefficient –0.44.

Chart 43: Respondents with working hours entirely set by employer and respondents claiming their work hours do not fit their family and other commitments among men



Source: EWCS 2010, Q39 How are your working time arrangements set? Q41 In general, do your working hours fit in with your family or social commitments outside work very well, well, not very well or not at all well?

Note: Correlation coefficient: 0.53.

typical organisational norms, appear to exist across countries, similarly to the existence of typical 'working hours cultures' as described in the previous section.

Rigidity can hamper *male work-life balance* as well as female participation, as reflected by Chart 43, which shows a positive correlation between the share of employer-set schedules and work-life stress levels of males, all of which could adversely affect out of work activities (such as care-related activities), act as an obstacle to role sharing, and contribute to re-enforcing existing gender roles.

4.3. *Division of unpaid work* within a couple is significantly influencing female paid working hour choices

Compared to men, women devote a significantly larger part of their time to unpaid household work, including caring for children, for sick household members, and for the elderly ([95]), all of which contributes to fewer female hours of paid work. Chart 44 shows that, for all the Member States, the share of males in *total* unpaid working time is below 50%, while the share in *total* paid working time is above 50%.

Nevertheless, some Member States have a more gender-equal sharing of paid and unpaid work than others. Slovenia, the Baltic States and the Nordic States show the highest male involvement in unpaid work, while the male share in paid working time is not much above 50%. In some Member States, however, the relative higher share of male unpaid working time goes together with a relatively high share of male paid working time, which may reflect the fact that a large share of females work part-time, as in the United Kingdom and the Netherlands.

Many factors influence the allocation of time between paid and unpaid work, being partly driven by individual preferences, cultural and societal attitudes towards *traditional gender roles* (men as breadwinners and women as carers) ([96]). Nonetheless, it can be argued that it is the presence or absence of *adequate policy measures* such as affordable childcare and/or the possibility for flexible employment opportunities that can ultimately determine outcomes, whatever the nature of the preferences.

Family models are important in determining individual preference formation and the gender division of paid and unpaid work ([97]), but this division between couple households is also likely to be influenced by the practical issue of the *relative wage* that each partner can command and the perceived longer-term cost of taking time out of work to care for children ([98]). In so far as women are second earners in a household, it is therefore more likely that they will reduce their working hours or temporarily withdraw from the labour market in such cases.

Beside issues of traditional gender roles, public policies and relative wage considerations, there are others that can influence or distort the division of paid and unpaid work, such as *occupations* ([99]) and *organizational cultures* ([100]).

Veerle (2011) found a strong negative correlation between a country's female employment rate and the average unpaid working time of women when seen from a cross-country perspective across OECD countries. At the same time, there is some substitution between female paid work and male unpaid work: the higher the female employment rate, the more men are engaged in unpaid work. According to the available data, this finding is confirmed for the EU Member States, as indicated on Chart 45.

This evidence suggests that policies that contribute to a *more equal intra-household sharing of unpaid work can facilitate better female employment*

([95]) See, for instance, OECD (2012).

([96]) The 'hegemonic masculinity' concept, for instance, is seen as a cultural norm that connects men to power and economic achievements European Commission (2012f). The gender identity hypothesis by Akerlof and Kranton (2000) points to the presence of traditional societal prescriptions forming individual choices, while the preference theory of Hakim (2004) argues for the existence of pre-existing home-centred preferences for some women (as opposed to a carrier-preferences for others).

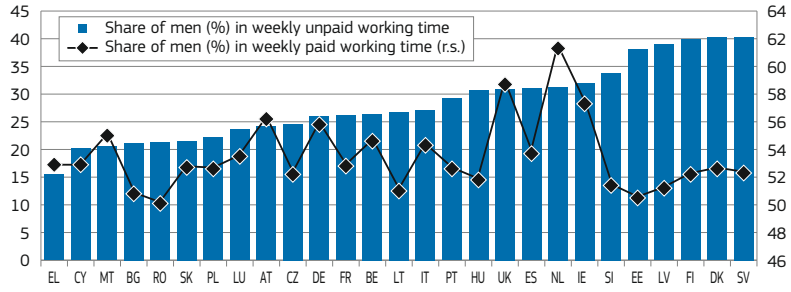
([97]) Fernandez *et al.* (2002) point out that those men who have experienced family life with a working mother will have a more positive attitude towards working women and be more inclined to marry women who themselves were skilled or who worked. They argue that this evolution of male preferences has contributed to the dramatic increase in the proportion of working and educated women in the population over time. Moreover, working mothers can positively affect the future labour supply of any daughters through their attitudes towards work (Del Boca *et al.* (2000)).

([98]) OECD (2010).

([99]) Kjeldstad and Nymoen (2012) quoting Abrahamsen (2002) concluding that while female-dominated workplaces in Norway are often characterised by a great variety of working-time norms and practices, many male-dominated occupations are characterised by predominantly negative attitudes towards part-time work.

([100]) Plantenga *et al.* (1999) quotes Gregory and Milner (2006, 2008) who point to 'organisational career cultures' that prevent men from overtly choosing a work-life balance that might harm their career, thereby reinforcing the traditional separation of gender roles. According to European Commission (2012f). The care-giving role of men is more associated with a downwards social mobility, compared to the upwards social mobility associated with women's increased presence in professional work. Lack of social recognition by employers, work pressure (culture of overtime) and a fear of adverse effects on the career could all act contrary to increased male engagement.

Chart 44: Share of men (%) in total weekly unpaid and paid working time

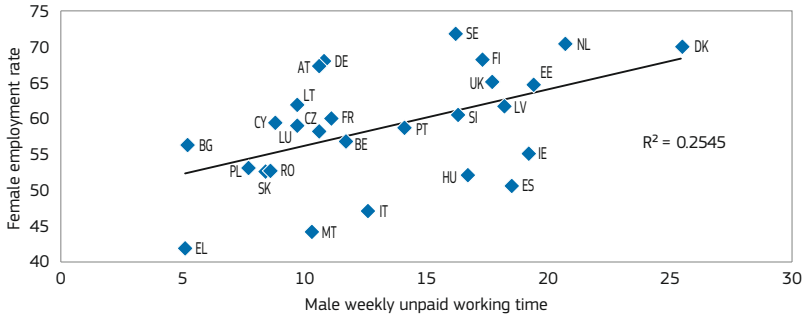


Source: European Commission (2012f), Annex 4.1 Average weekly paid and unpaid working time by gender, by country, 2010 ([1]).

Note: No data were available for Croatia.

([1]) European Commission (2012f), p. 200.

Chart 45: Correlation between the employment rate (%) of women and male weekly unpaid working time (hours)

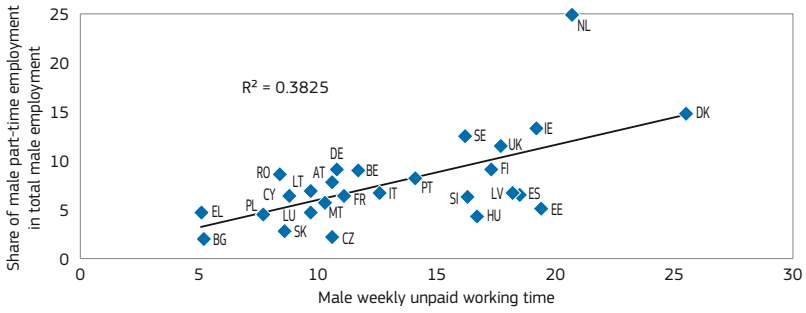


Source: European Commission (2012f), Annex 4.1 Average weekly paid and unpaid working time by gender, by country, 2010.

Note: No data was available for Croatia. Eurostat: Employment rates by sex, age and nationality (%) [lfsa_ergan].

Note: Correlation coefficient: 0.50.

Chart 46: Correlation between male engagement in unpaid work and the share of male part-time employment



Source: European Commission (2012f), Annex 4.1 Average weekly paid and unpaid working time by gender, by country, 2010, Eurostat, Part-time employment as a percentage of the total employment, by sex, age and nationality (%) (lfsa_eppgan).

Note: No data for Croatia were available; data for part-time male employment are for 2012; Correlation coefficient: 0.62.

outcomes ([101]). This could be helped, for instance, through a more *gender balanced parental leave system*, including parts available for fathers, which could be expected to encourage engagement in care-related activities ([102]). In several Member States paternity leave already exists for the exclusive use of fathers, ranging from just a few days up to 90 days in Slovenia and, in most Member States, a part of the parental leave is transferable between parents ([103]) In spite of this, it is still mostly the mothers who take the leave, while the take-up rate of fathers is still low in most Member States.

At the same time, part-time work/ reduced work hours and flexible working arrangements could also be provided *for those men who face care-related duties,* and it could contribute to a more equal sharing of paid and unpaid work between partners. In this respect the Chart 46 shows a rather strong positive correlation between male engagement in unpaid work and the share of male part-time employment.

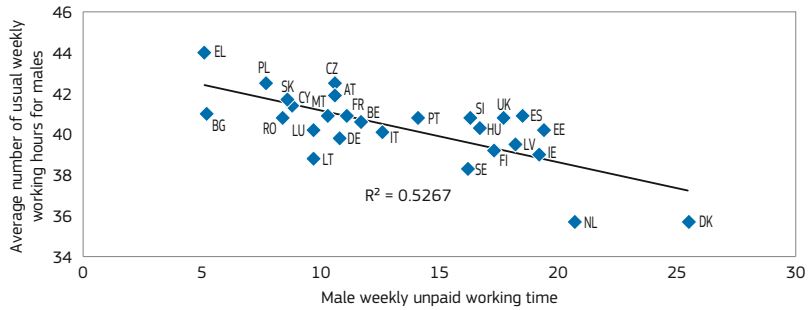
At the same time, and recognising that correlation does not necessarily imply causality, it does appear that a long work hours culture seems likely to prevent fathers engaging in unpaid work, given the negative correlation between average male weekly working hours and male engagement in unpaid work, as well as the further negative correlation between the rigidity of working time arrangements and engagement in unpaid work, as shown in Charts 47-48.

([101]) OECD (2011), for instance, quotes Dex (2010), who suggests that such policies are likely to be most effective if they intervene at points in time when men are most open to changing their behaviour – for example when they become fathers. DG JUST (2012) points to improved contact with children, satisfaction with life, relationship satisfaction, and other positive effects for men through their participation in care tasks and domestic work at home. This participation in domestic tasks is also strongly associated with women's relationship satisfaction, general well-being, and happiness. (They quote Bauer, (2007); Holter, Svare & Egeland, (2009); Scott, Dex & Plagnol, (2012)).

([102]) OECD (2011) underlines that 'A strategy combining various elements, possibly including greater opportunities for flexible use of leave, increased payment rates for shorter duration, and an increase in the non-transferable paternal entitlement to paid leave will increase the chances of more equal leave sharing between mothers and fathers' (idem, p. 131).

([103]) See European Commission (2012f), Annex 9 for an extensive overview of parental leave systems in the Member States: pp 216-268.

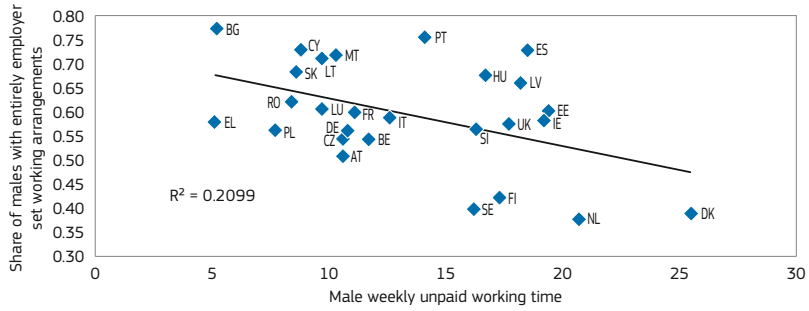
Chart 47: Correlation between the weekly unpaid working time (hours) of men and the average number of usual working hours of men



Source: European Commission (2012f), Annex 4.1 Average weekly paid and unpaid working time by gender, by country, 2010, Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2].

Note: Weekly hours are for 2012 except for the Netherlands (2011); no data were available for Croatia on weekly male unpaid working time, Correlation coefficient: –0.73.

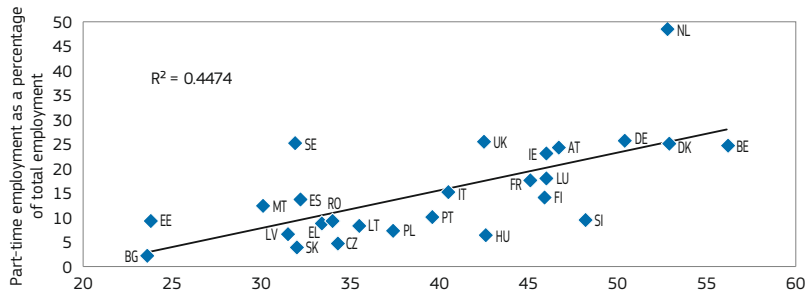
Chart 48: Correlation between the weekly unpaid working time (hours) of men and the share of men who have working arrangements entirely set by their employer



Source: European Commission (2012f), Annex 4.1 Average weekly paid and unpaid working time by gender, by country, 2010; EWCS 2010, Q39 How are your working time arrangements set?

Note: No data were available for Croatia; Correlation coefficient: –0.46.

Chart 49: Correlation between marginal effective tax rate when increasing 50% of AW to 100% of AW and share of part-timers in 2011



Source: OECD tax benefit model.

Note: no data were available for CY and HR; Correlation coefficient: 0.67.

4.4. Financial disincentives can contribute to second earners working less hours

Empirical studies generally find that partnered women have a more elastic labour supply, meaning that they are more likely to react to financial incentives or disincentives than men ([104]) (or single women).

Two factors help to explain this. First, the labour supply decision of married women is likely to be partly a *conditional* decision related to that of their spouse. A further explanation may be that women often enter or exit the work force in order to *adjust* family income to overall needs. Moreover, women arbitrate between leisure, labour and the *home production of goods and services* (including caring for their children). In effect, children increase the elasticity of the female labour supply to the market wage in as far as they provide both the demand and opportunities for home production ([105]).

Work by OECD (2008) has pointed out that the marginal tax burden *on working longer hours* can trap people in shorter working hours jobs as increases in tax rates, or losses of benefits can increase the marginal effective tax rate (METR) of second earners when increasing their working hours ([106]).

Available data indicates that when second earners increase their working hours – for example moving from part-time to full-time work, proxied by moving from 50% of the average wage to 100% – the marginal effective tax rates can exceed 40% in some Member States (for instance in Austria, Netherlands, Slovenia, Germany, Belgium) although in some it is lower, at around 30% ([107]).

([104]) See Evers *et al.* (2008).

([105]) See Jaumotte (2004).

([106]) Moreover, OECD (2010) notes that, for low wage part-timers, the tax and benefit system can substantially reduce the payoff from taking up a full-time job in so far as the increase in total gross earnings is offset by increased social contributions or income taxes and reduced social transfers. If means tested benefits are withdrawn at higher rates as earnings increase it can also severely reduce the financial return from working longer hours.

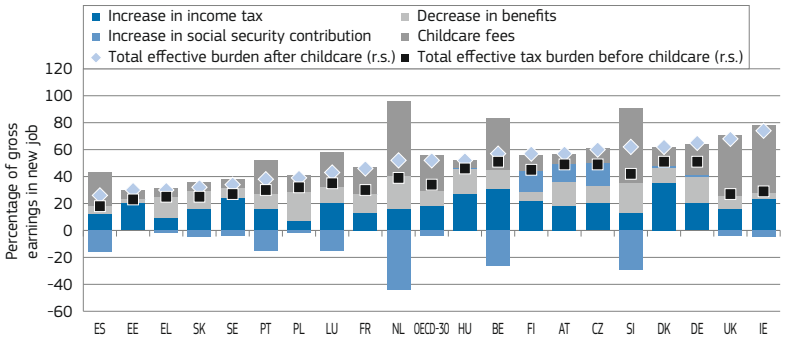
([107]) See Annex II, Chart A.14.

The data nevertheless confirm some positive correlation between the share of part-time workers and the average METR when moving from part-time to full-time jobs (see Chart 49).

Although the elasticity with respect to the decision to *participate* ([108]) exceeds the elasticity of the decision regarding hours worked ([109]), based on available data, the average effective tax rate (AETR) is around 30% for most Member States, exceeding 40% only in four cases (Slovenia, Germany, Denmark, Belgium) ([110]).

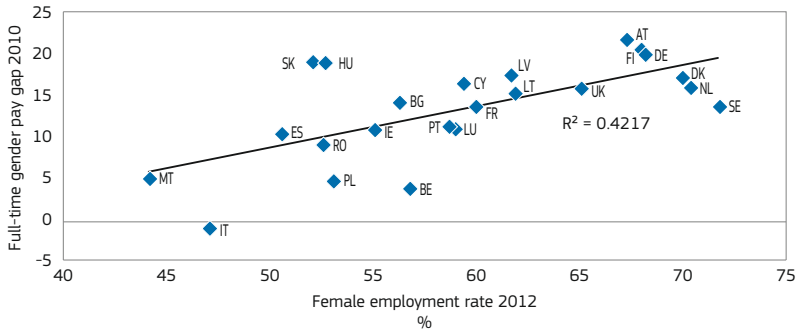
Childcare costs also have a negative influence on both full-time and part-time female employment by increasing the total effective financial burden on mothers ([111]) EGGE (2009b) ([112]). Several studies on the relationship between childcare costs and availability and labour force participation indicate that, when costs go down, labour force participation goes up, especially among mothers. OECD (2011) has also suggested that high childcare costs are often the reason for high AETRs and limited financial incentives to work. According to Chart 50, based on their data for 2008, childcare costs can raise the otherwise relative low total effective tax burden quite considerably, or add to the already high tax burden of parents. The former situation was found to exist in the UK and Ireland, while the latter was the case in Denmark and Germany.

Chart 50: Net transfers to government (percentage of gross household earnings) and childcare fees, for couples with two children aged 2 and 3, in 2008 - Families where both parents earn 100% of the average worker earnings



Source: OECD (2011), Chapter 4.

Chart 51: Correlation between full-time gender pay gap and the employment rate of women



Source: Eurostat Gender pay gap in unadjusted form by working time in% – NACE Rev. 2, B-S excluding O (Structure of Earnings Survey methodology) [earn_gr_gpgr2wt].

Note: No data was available for CZ, EE, SI, EL; Correlation coefficient: 0.65.

Finally, the existence of the *gender pay gap* also needs to be recognised as a disincentive for female work. While there is a part of the pay gap that can, in theory, be accounted for by differing objective characteristics of women and men in the labour market, such as their shorter lengths of service, more frequent career breaks, etc., much remains that cannot be explained in this way ([113]). Some argue, moreover, that the pay gap can lead to inefficiency in as far as women's labour is misallocated because it is not valued the same as equivalent male labour, resulting in women being less likely to devote time to paid employment ([114]).

Furthermore, lower relative wages of women create a vicious circle in which the wage gap encourages more women to perform unpaid work in a couple, resulting in more absences from the labour market, which lead, in turn, to lower pay ([115]) making the pay gap both a consequence and a cause of the lower hours worked by women.

The gender pay gap differs between the Member States and between full-time and part-time jobs. While the gap with respect to part-time work is highest in Spain, Portugal and Croatia, for

([108]) That is the elasticity on the extensive margin.

([109]) That is the elasticity on the intensive margin. Evers *et al.* (2008) p. 26.

([110]) See Annex II, Chart A.15.

([111]) Jaumotte (2004), for instance, refers to a number of micro-econometric studies that found a negative elasticity of female labour force participation (or employment) to childcare costs, such as for instance Blau (2000) or Anderson and Levine (2000).

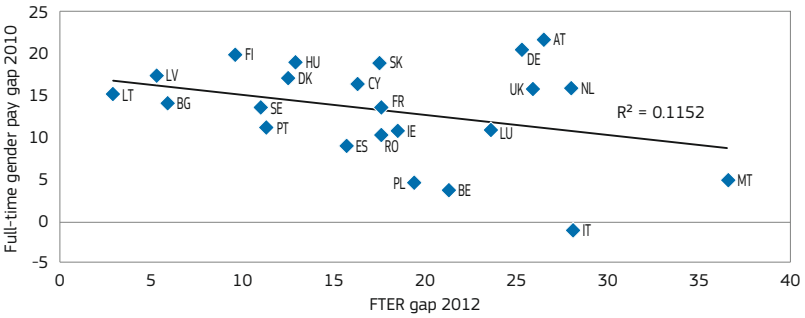
([112]) For Germany, they quote Büchel and Spieß (2002a, 2002b) who, for example, show that extensive childcare possibilities intensify the labour market participation rate of mothers, above all in the former West Germany. For the Netherlands, they refer to Euwals *et al.* (2007) who show that, between 1992 and 2004, the participation of women in the labour market became less reliant on the presence of children which the authors attribute to an increase in the affordability and availability of childcare.

([113]) For example, part can be accounted for by the undervaluation of the jobs typically done by women, or by traditions and gender stereotypes that influence self-perception, educational and professional choices (and/or preferences) made by young and adult females. In practice, research studies suggest that, even with all characteristics being equal (same length of service, same age, working in the same sector, same occupation and same level of education, etc.), women generally earn less than men – the so-called unexplained part in the pay gap which does not result from identifiable differences in characteristics observed, see Andersons *et al.* (2001) and Belgian Presidency Report (2010).

([114]) See Anderson *et al.* (2001).

([115]) See Belgian Presidency report (2010).

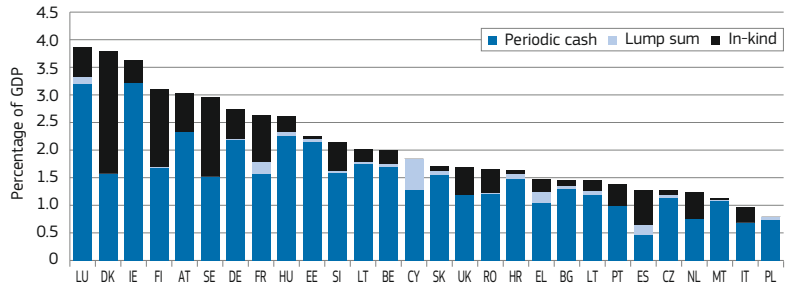
Chart 52: Correlation between the full-time gender pay gap and FTER



Source: Eurostat Gender pay gap in unadjusted form by working time in % – NACE Rev. 2, B-S excluding O (Structure of Earnings Survey methodology) [earn_gr_gpgr2wt].

Note: No data was available for CZ, EE, SI, EL; Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2], Employment rates by sex, age and nationality (%) [lfsa_ergan]; Correlation coefficient: –0.34.

Chart 53: Social protection expenditure in the Member States in 2010



Source: Eurostat; Tables by benefits – family/children function [spr_exp_ffa].

Note: Periodic cash benefit = Income maintenance benefit in the event of childbirth + Periodic parental leave benefit + Family or child allowance + Other periodic cash benefits.

Lump sum benefit = lump sum cash benefits.

In-kind benefit = Child day care + accommodation + home help + other benefits in kind.

most Member States the gender pay gap for full-time positions exceeds that for part-time, with the highest gaps found in Finland, Germany and Austria ([116]).

No strong correlation can be seen between the part-time gap and the part-time/full-time share or between the full-time pay gap and part-time/full-time shares. However, the full-time pay gap correlates negatively with inactivity, and positively with the employment rate (see Chart 51), which may suggest a 'selection effect' whereby the low proportion of women working is made up mainly of more highly educated women with strong attachments to the labour market ([117]).

4.5. Appropriate *childcare* contributes to maternal employment

It is clear that various types of *public expenditure* related to families and children can influence female labour market activity. According to Jaumotte (2004), childcare subsidies and public spending on childcare can increase the female labour supply since they reduce the relative price of childcare and increase the relative return of paid work. Child benefits (lump-sum transfers) have a strong income effect, thereby decreasing family labour supply, although they may well have important positive social benefits. Paid parental leave also has a positive impact on female participation, though other researchers have found ([118]) that the marginal effect becomes negative after very long periods of parental leave.

The Member States maintain different systems and different levels and combinations of social spending with respect to family and child support. As the Chart 53 shows, for most Member States, periodic cash benefits constitute the bulk of spending, while some place more emphasis on benefits in kind such as child day-care (for instance Denmark, Finland or Sweden). Lump sum cash benefits are generally of less importance, except in a few Member States (Cyprus, France, Greece or Spain).

Lump-sum cash benefit expenditures correlate negatively with part-time employment ([119]) (suggesting the income effect might be stronger for part-time work) while there is almost no correlation with the employment rate of women with children. Periodic cash benefits (such as periodic parental leave benefit and family or child allowance) correlate positively, but weakly, with both the employment rate and the part-time employment rate ([120]). However, in-kind benefits (mostly incorporating child day care) seem to show a *strong correlation with the employment rates of mothers* ([121]) (even stronger than with the share of part-time employment ([122]) adding to the view that appropriate child day care could contribute effectively to both work-life reconciliation and the transition to full-time work (see Chart 54).

According to OECD (2008 and 2010) ([123]), it is not just the availability of childcare but its *quality and flexibility* that is likely to influence the employment participation decisions of parents, with widely available full day and after-school care making it easier for parents in the Nordic countries and France to work

([116]) See Annex II, Chart A.16.

([117]) See for instance: Smith (2010).

([118]) See OECD (2011) pp. 139–140.

([119]) Correlation coefficient: –0.21 *Source:* Eurostat, Tables by benefits - family/children function [spr_exp_ffa], Employment rate by sex, age groups, highest level of education attained and household composition (%) [lfst_hheredty]; Percentage of part-time employment by sex, age groups and household composition [lfst_hhptety]; Data is for 2010.

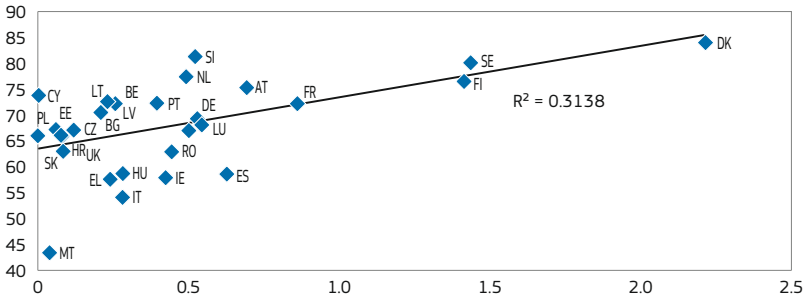
([120]) Correlation coefficients are 0.1 and 0.18 respectively. Source as above.

([121]) Correlation coefficient: 0.56. Source as above.

([122]) Correlation coefficient: 0.24. Source as above.

([123]) OECD (2008) and (2010) refer to several further empirical studies that underline this point. For example, they mention Del Boca and Vuri (2007) who show that rationing in the Italian market for child care is a more important limitation on women's labour force participation than cost, or Wrohlich (2009) who finds similar results for Germany and estimates that a reform to increase the availability of child care places at the existing price would increase the labour supply by more than one that reduced parents' child care fees for existing places.

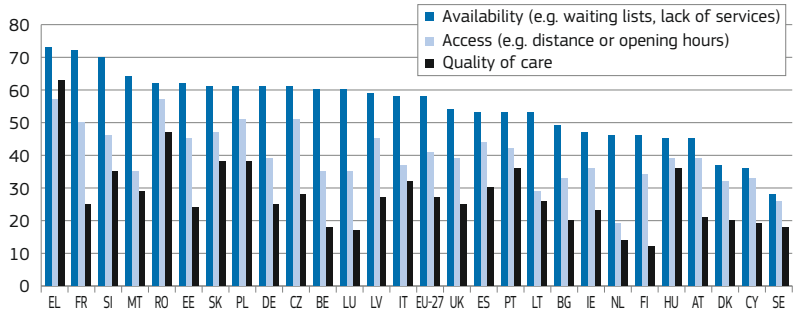
Chart 54: Correlation between spending on in-kind benefits (% of GDP) and the employment rate of adult women with children (2010)



Source: Eurostat, Tables by benefits – family/children function [spr_exp_ffa], Employment rate by sex, age groups, highest level of education attained and household composition (%) [lfst_hheredty].

Note: Correlation coefficient: 0.56.

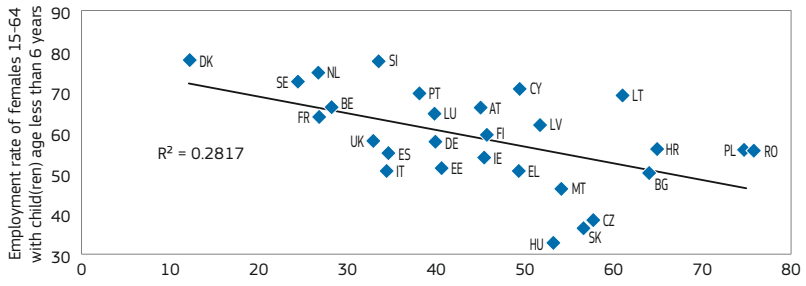
Chart 55: Reasons for difficulties concerning the usage of childcare (%)



Source: EQLS 2012, Based on Q55: To what extent did each of the following factors make it difficult or not for you, or someone close to you, to use childcare services? The proportion of people reporting difficulties in accessing childcare services on various reasons.

Note: No data were available for HR.

Chart 56: Correlation between the non-enrolment rate of age group below 6 years and the employment rate of women with children less than 6 years old in 2011



Source: DG EMPL calculation based on Eurostat, Formal childcare by age group and duration – % over the population of each age group (source: EU-SILC) [ilc_caindformal]; Employment rate of adults by sex, age groups, highest level of education attained, number of children and age of youngest child (%) [lfst_hheredch], Population on 1 January by age and sex [demo_pjan].

Note: Enrolment rates were broken down for age groups 0–3 and 3–minimum compulsory education. We proxied the corresponding population with ages less than 1 year old – 6 years old. Correlation coefficient: – 0.53.

full-time, whereas in Austria, Germany or Luxembourg, kindergartens typically operate short days or have long breaks that may not be compatible with full-time work.

Availability and affordability is crucial according to EGGE (2009b) as well, which also quotes several national studies confirming the relation between childcare availability and maternal employment ([124]).

Many users of childcare services report problems (see Chart 55). Based on EQLS 2012 data ([125]), as the chart shows, availability problems were particularly widely reported in Greece, France and Slovenia, while issues of access or the quality of care are widely reported in Greece, Romania, Poland and the Czech Republic.

The availability, access and quality of childcare are all negatively correlated with the employment rate of females with small children ([126]) (and thus show a positive correlation with the FTER gap).

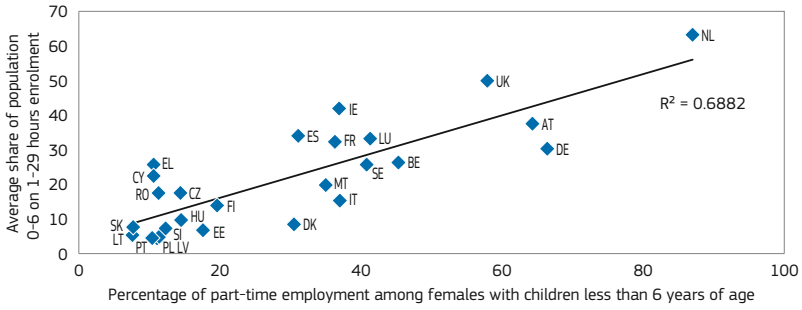
Enrolment rates into formal childcare vary greatly among the EU Member States. Children below 3 years of age tend not to be enrolled in formal care in several Member States (Malta, Lithuania,

([124]) For Hungary, they refer to a study (Frey 2002) where 80% of the respondents mentioned the lack of available childcare services as a major explanatory factor for their inactivity. In the United Kingdom, an estimated half of all non-working parents said they would take up employment if they could obtain good-quality, affordable and reliable childcare (EGGE quoting Bryson *et al.*, 2006). Likewise, a study in Spain showed that increases in the price of paid care services reduced the likelihood of labour participation of the mother (EGGE quoting Borra, 2006). A Polish study shows that, among such variables as education, age structure, maternity leave, institutionalised childcare, public transport, level of urbanisation and socio-cultural traits, the most important factor affecting women's professional activity rates was the availability of childcare. (EGGE quoting Mickiewicz and Bell, (2000)).

([125]) See 3rd European Quality of Life Survey (2012) p. 124.

([126]) Correlation coefficients are –0.32 –0.50 and –0.47 respectively. Source: EQLS 2012, Based on Q55: To what extent did each of the following factors make it difficult or not for you, or someone close to you, to use childcare services? The proportion of people reporting difficulties in accessing childcare services on various reasons. Eurostat, Employment rate of adults by sex, age groups, highest level of education attained, number of children and age of youngest child (%) [lfst_hheredch]; Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2], Employment rates by sex, age and nationality (%) [lfsa_ergan], Note: No data were available for HR for childcare difficulties.

Chart 57: Correlation between the short-enrolment rate of age group below 6 years and the part-time employment rate of women with children less than 6 years old in 2011



Source: DG EMPL calculation based on Eurostat, Formal childcare by age group and duration – % over the population of each age group (source: EU-SILC) [ilc_caindformal]; Percentage of part-time employment of adults by sex, age groups, number of children and age of youngest child [lfst_hhptechi], Population on 1 January by age and sex [demo_pjan].

Note: Enrolment rates were broken down for age groups 0–3 and 3–minimum compulsory education. We proxied the corresponding population with ages of less than 1 year old – 6 years old. Correlation coefficient: 0.83. No data were available for HR and BG.

Hungary, Bulgaria, the Czech Republic, Slovakia, Poland, and Romania). However, children above 3 years of age are much more likely and thus the share of non-enrolment is very low in most Member States; (with the exceptions of Croatia, Poland and Romania, where non-enrolment is around 50%) ([127]).

While it is not clear whether this evidence reflects a low preference for childcare and/or institutional constraints, there is a negative relationship between the average share of children aged 0–6 who are not enrolled in formal care, and the employment rate of women with children below 6 years old ([128]) (see Chart 56).

Enrolment hours can also have implications for female participation intensity. On the one hand, there is a positive correlation between the part-time employment of women with children aged less than 6 years old, and the average proportion of children less than 6 years old in formal care of 1–29 hours (see Chart 57). This indicates that, in those Member States where more women work shorter part-time hours, the offer of a formal care system is also lower, which may suggest that women end up working in jobs with fewer hours as a result of only shorter hours of formal care being available. Nevertheless, as enrolment can contribute to the achievement of a work-life balance and overcome the trade-off between inactivity and part-time employment, it can still be seen as preferential to no enrolment at all from a labour market perspective.

Nonetheless, there is a negative correlation between the share of 1–29 hours formal care and the *full-time employment* to the population ratio of females with children (less than 6 years old) ([129]). This compares with a positive correlation between 30 hours or more formal care enrolment and the full-time employment to population ratio for females with children ([130]). This suggests that longer enrolment hours of care tend to be matched in practice with longer working hours of females. This is also reflected by the negative correlation between the share of children on more than 30 hours enrolment in formal care and the FTER gap ([131]).

5. Conclusions

Women have generally worse labour market outcomes than men, which are reflected by the existence of gender gaps in most labour market variables. Though these gaps have shown certain narrowing tendencies during recent years, it has been mainly as a result of men being hit more by the crisis.

Even though there was a slight increase in the female activity rate during the crisis, the participation of women is still lower than that of men: the well-known employment rate gap. Moreover, this gap becomes even wider if one calculates the employment rate for full-time equivalents, as even when they are in employment, women tend to work less hours. The gender full-time equivalent employment rate (FTER) gap saw some reduction during the crisis, but the major part persists.

Though it can arise from women's own choices and preferences, the FTER gap can still be associated with societal obstacles and labour market barriers (not to mention the risk of reverse causation in preference formation). Further to narrowing the gender gap in employment rates, gender equality implies that the gap in full-time equivalent employment rates should also be narrowed through dismantling these obstacles and barriers.

The main influencing factors seen as driving the FTER gap are part-time work, working-time regimes, the division of unpaid work, financial incentives and childcare. Some of these factors have a somewhat complex and even contradictory impact on female work. Part-time opportunities, for instance, are important in helping women onto the labour market, but in some cases they can lead to unfilled workforce potentials among women who do not face, or face less care obligations. Once in a job, longer female working hours can contribute to a smaller gender FTER gap; nevertheless a rigid, long working hours culture and the absence of flexible workplace opportunities can be barriers preventing women to enter the labour market.

A long working hours culture and the absence of flexible and/or reduced working hours opportunities however might also prevent fathers to engage in unpaid work and thus they inhibit a more equal share of unpaid activities within households. Financial disincentives stemming either from the tax-benefit systems or from the high cost of childcare still might act as a disincentive to increase working hours or enter work for the second earner in a couple (who are still women in most cases). Appropriate childcare seems to be very beneficial for maternal employment; nevertheless quality, access and availability seem

([127]) See also European Commission (2013c). See Annex II, Charts A.17-A.18.

([128]) We proxied the minimum compulsory school age with the age of 6.

([129]) *Correlation coefficient: – 0.69.*

([130]) *Correlation coefficient: 0.45*

([131]) *Correlation coefficient: – 0.44.*

still to be posing a challenge to most Member States ([132]).

Some countries, typically the Nordics, generally perform better – at least compared to the rest of the EU – in most of the above fields (see the Annex I for details), and they correspondingly show better outcomes for the FTER gap and female employment rates.

This suggests that a more effective policy mix can be achieved that contributes to both a higher female employment rate and more total female hours worked; pointing to a gender equal labour market regime ([133]). Such a policy mix includes relatively gender equal working time regimes with an availability of long part-time positions for women; the presence of relatively flexible working arrangements; a labour market and/or legislative environment that makes the division of unpaid work possible within a couple, with more men on voluntary part-time positions and a less typical long work hours culture; and employment-friendly childcare with longer enrolment hours.

Nevertheless, some Member States can be associated with the combination of high female employment and low working hours, while some have shown strong patterns of low female employment combined with long working hours. Both outcomes can be associated with a particular policy mix. For example, the latter outcome reflects a relative long working hours culture, a lack of part-time work, inflexible and rigid working time arrangements, and less employment friendly childcare, all of which may make it harder for women to enter the labour market (and thus they might contribute to higher female inactivity), though once entered, women seem to work longer hours. In the countries with high female employment but low working hours, more part-time work appears to be available, but it is biased towards short part-time work, with a high marginal financial burden of working increased hours and only short hours of formal childcare enrolment available. This suggests some further scope of analysis on the potential importance of the interactions of the influential factors overviewed in the chapter.

([132]) It should be underlined that this analysis marks only the first step in understanding the influencing factors of the gender FTER gap. However, women as a group are not homogeneous, and analysing sub-group specific outcomes related to the various influential variables could be a scope for further analysis. As Steiber and Haas (2012) underline, for instance, recent literature suggests non-negligible effects of heterogeneity. They quote Del Boca *et al.* (2009), who show that 'employment decisions of less educated women are more strongly affected by parental leave provisions and family allowances, the availability of part-time work and public childcare than is the employment of highly educated women.' This means, as they indicate, that 'neither incentive/support structures for continuous female employment nor sets or constraints to female employment work in the same way for all women'.

([133]) On the measurement of gender equality in general, the Gender Equality Index created by the EIGE (European Institute for Gender Equality) needs to be mentioned. The Gender Equality Index is a unique measurement tool that synthesises the complexity of gender equality as a multi-dimensional concept into a user-friendly and easily interpretable measure. It is formed by combining gender indicators, according to a conceptual framework, into a single summary measure. It consists of six core domains (work, money, knowledge, time, power and health) and two satellite domains (intersecting inequalities and violence). http://eige.europa.eu/content/activities/gender-equality-index.

Annex I: In-depth presentation of cross country performance regarding the gap in full-time equivalent employment rates

The following section provides a thorough cross-country comparison of the influencing factors of the FTER gap. It is based on the country groups identified in section 3.2.1., based on the outcomes of the gender gap in FTER and the female employment rate in 2012.

The section first presents a detailed overview of the Member States' performance in terms of the hours worked gap, the employment rate gap and the female employment rate based on age cohorts and education. It then identifies input variables for each of the five fields that have been covered above (part-time work, working-hours regimes, the division of unpaid work, financial incentives and childcare) and will systematically overview the different country groups' performances on these fields. The objective is to see whether or not similarly performing Member States have similar patterns and whether any effective policy mix emerges that leads to an effective combination of high female employment rate and low full-time equivalent employment rate gap.

Hours worked gap, employment rate gap and female employment rate based on age cohorts and education

Table A.1 shows that, compared to the EU average, the Baltic States have had generally better outcomes for almost all age cohorts, with better than average outcomes also visible for the Nordic countries, apart from the below EU average hours worked by young women. The average performers in the *best performer group* perform better than the EU average for all categories for the prime age group. Nevertheless, for the older and young female cohorts, they show relative less favourable outcomes compared to other EU Member States.

The group of countries generally associated with *higher female employment and shorter working hours* have relatively favourable outcomes in terms of employment rate gaps and the employment rates of women, especially for the young and prime age groups, but they do have above EU average working-hours gaps, especially for the prime age and older age cohorts.

The group of countries associated with a *lower employment rate of females and longer hours* have smaller hours worked gaps for all age cohorts (Ireland and Spain are somewhat exceptions here), but almost all the countries perform worse than the EU average in terms of the employment rate of all female age cohorts (the Czech Republic shows similarities with this group). Moreover, the smaller than average employment rate gaps for prime age women employed in Ireland, Spain, Hungary and Croatia are partly explained by the relatively low male employment rates in these countries.

The *average outcomes* do better than the EU average employment rate for the prime age female group; but all of them perform below the EU average in terms of young and older female employment rates. Concerning the hours worked gap, Belgium shows relatively less favourable outcomes for all age groups, while Luxembourg also has a higher than average gap for older workers.

The *worst performer* group generally has lower female employment rates in all three age cohorts (with the exception of young females in Malta) and higher than average employment rate gaps (especially for prime age and older women). Hours worked gaps are generally lower than the EU average for older age women and for all three cohorts in Greece. However, Italy and Malta both show a larger than average hours worked gap in the prime age cohort, suggesting that, even when working, prime age women work less than prime age men in these countries.

Table A.2 shows that, in the *best performer* group, the Baltic States have lower gender gaps than the EU average in terms of hours worked, and lower gender gaps in the employment rates at all educational levels (only Latvia has a higher than average low education employment rate gap). Nevertheless, they show less favourable outcomes for low and medium educated female employment rates compared to the EU average. The Nordic countries, meanwhile, perform better than average on all criteria.

The other countries in this group generally show more favourable outcomes regarding the gender gaps in hours worked and the gender gaps in employment rates (with the notable exception of Cyprus), although the situation is less positive in these Member States in terms of female employment rates, especially for those with the medium level education.

The group associated with *'high female participation, lower working hours'* performs better than the EU average in terms of female employment rates for all education levels, with generally higher than EU-average gender gaps in hours worked, and high gender gaps in employment rates, especially for the low and high education levels.

Meanwhile the group associated with '*low female participation, higher working hours'* shows the opposite outcome: the hours worked gaps are generally lower (with the exception of Ireland) but the female employment rates are also generally lower, in some cases coupled with higher than average employment rate gaps for the medium or high education levels. The Czech Republic again shows similarities with this group in terms of lower than average hours worked gender gaps.

The group with *average outcomes* shows a rather mixed picture, with Belgium and Luxembourg showing relatively larger than average gender gaps in hours worked, and all three countries having larger than average employment rate gaps, and lower than average female employment rates for some education levels.

The *worst outcome* Member States are associated with generally lower than average female employment rates (except in Malta, where highly educated women perform well) and higher than average employment rate gaps at all education levels. However, the hours worked gender gaps are generally lower than average in this group.

Table A.1: Overview table on the hours worked gap, the employment rate gap and the female employment rate for three age cohorts across Member States

Grouping			gap_H_Y	gap_H_P	gap_H_O	gap_ER_Y	gap_ER_P	gap_ER_O	TOTAL GAP FTER	ER_Y_F	ER_P_F	ER_O_F
Relative best outcomes	Baltics	Estonia	3.4	2.3	2.8	3.3	7.6	-1.4	9.4	31.3	75.5	61.2
		Latvia	1.3	1.7	1.6	**6.5**	2.7	0.6	5.3	**25.4**	75.1	52.5
		Lithuania	2.2	1.3	1.9	2.3	-1.1	7.9	2.9	**20.4**	79.2	48.3
	Nordics	Denmark	**5.9**	4.1	4.4	-0.8	5.5	10.1	12.5	55.4	79.1	55.8
		Finland	**7.0**	3.9	3.6	-1.7	5	-3.1	9.6	42.7	79.4	59.7
		Sweden	**6.4**	3.8	3.8	-2.8	5.3	6.7	11.0	41.6	82.5	69.6
	Average performers	France	4.2	6.3	7.5	**5**	9.8	5.7	17.6	**26.3**	76	**41.7**
		Cyprus	2.9	3.5	4.5	**4.4**	9.3	**25.3**	16.3	**26.1**	74	**38.2**
		Portugal	2.4	3.7	4.3	3.9	5.9	9.5	11.3	**21.6**	72.5	42
		Slovenia	**6.3**	1.9	2.9	**6.7**	4.4	**15.7**	10.5	**23.7**	81	**25**
High female employment - shorter hours		Germany	2.8	**10.2**	**10.8**	4	9.9	13.7	**25.4**	44.6	78.2	54.8
		Netherlands	4.0	**12.0**	**12.7**	-1.9	9.7	**19**	**28.0**	64.3	78.9	49.1
		Austria	4.1	**10.1**	**10.8**	**8.3**	8.5	**18.4**	**26.5**	50.5	81.1	**34.1**
		United Kingdom	**5.4**	**10.3**	**10.5**	0.5	**12.1**	14.5	**25.9**	46.6	74.5	51
Low female employment -longer hours		Bulgaria	0.4	0.5	1.2	**6.2**	2.5	9.5	6.0	**18.7**	71.8	**41.3**
		Ireland	3.3	**7.8**	**11.7**	-3.9	9.9	13.1	18.6	**30.2**	**64.6**	42.7
		Spain	**5.0**	6.1	6.5	0.4	9.8	**16.4**	17.5	**18**	**61.3**	**36**
		Hungary	1.8	1.6	2.3	2.8	11.5	10.4	12.8	**17.2**	**68.9**	**32.2**
		Poland	3.6	4.2	5.0	**9.3**	11.4	**20.1**	19.5	**19.9**	71.5	**29.2**
		Romania	0.9	1.0	2.2	**7.2**	**13.9**	**18.3**	15.8	**20.2**	**67.8**	**32.9**
		Slovakia	2.1	2.1	2.6	**8.2**	**13.4**	**20**	17.5	**15.9**	**69.6**	**33.6**
		Croatia	2.0	1.3	2.0	**6.1**	6.3	**18.9**	10.8	**13.6**	**65.5**	**27.8**
Average outcomes		Belgium	**5.4**	**7.7**	**10.4**	**5.2**	10.6	12.9	**21.3**	**22.6**	73.9	**33.1**
		Czech Republic	2.9	3.7	3.4	**8.2**	**16.3**	**21.3**	**22.7**	**21**	74.6	**39**
		Luxembourg	2.4	6.9	**8.9**	3.3	**16**	13.1	**23.6**	**20.1**	75	**34.3**
Relative worst outcomes		Greece	4.0	5.0	4.5	**6.1**	**20.2**	**21.6**	**25.7**	**10**	**53.8**	**26**
		Italy	**5.8**	**7.5**	7.1	**6.9**	**22.5**	**19.5**	**28.0**	**15**	**59.1**	**30.9**
		Malta	3.1	**7.1**	6.4	**5**	**34.3**	**35.9**	**36.6**	41.2	**55.2**	**15.8**
EU-28 average			4.6	7.0	7.8	4	11.9	14.6	21.2	30.7	71.2	41.7

Source: DG EMPL calculation based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2); Employment rates by sex, age and nationality (%) [lfsa_ergan];

Note: gap H: the gap between average usual weekly hours worked between males and females; Y stands for young people (aged 15–24); P and O stand for prime age (25–54) and older age (55–64) respectively; gap ER stands for the gap in employment rates between males and females; GAP FTER stands for the full-time equivalent employment rate gap between males and females on the total working age population (aged 15–64); F stands for Female. The figures in bold show a less favourable outcome compared to the EU average; all data are for 2012.

Table A.2: Overview table on the hours worked gap, the employment rate gap and the female employment rate for education levels across the Member States

Grouping			gap H L	gap H M	gap H H	gap_ER_L	gap_ER_M	gap_ER_H	ER_F_L	ER_F_M	ER_F_H	TOTAL GAP FTER
Relative best outcomes	Baltics	Estonia	4.0	2.5	2.4	11.3	10.6	6.6	**25.5**	64.3	78.9	9.4
		Latvia	1.2	1.9	1.2	**16.5**	8.9	2	**22**	**58.3**	84.7	5.3
		Lithuania	1.2	1.1	1.7	5.7	8	-0.7	**12.8**	**57.5**	87.4	2.9
	Nordics	Denmark	5.6	5.6	3.4	6.8	6.1	4.6	51.9	73.4	84	12.5
		Finland	7.8	4.9	3.2	6.4	4.9	4.6	37.5	69.6	82.3	9.6
		Sweden	7.2	5.0	2.4	7.3	6.1	1.3	42.5	76.3	86.4	11.0
	Average performers	France	6.4	6.4	**6.6**	10.4	8.9	5.5	39.4	62.1	**78.3**	17.6
		Cyprus	1.1	3.4	4.6	10.8	**13.8**	**10**	38.6	**59**	**74.4**	16.3
		Portugal	4.4	2.6	3.2	10.6	4.4	0.7	51.1	**61.2**	**78.2**	11.3
		Slovenia	2.1	2.6	1.8	10.8	9.3	3.6	**29.2**	**60.6**	82.7	10.5
High female employment - shorter hours		Germany	**9.7**	**9.7**	**8.5**	10.5	8.1	**7.4**	41.4	72.1	83.6	**25.4**
		Netherlands	**13.7**	**12.2**	**8.3**	**16.6**	6.9	4.2	51.5	74.9	84.9	**28.0**
		Austria	7.7	**9.6**	**8.9**	10.5	7.9	**7.5**	44.9	72.9	82.8	**26.5**
		United Kingdom	**11.9**	**11.3**	**7.6**	**16.1**	9.2	**8**	45.5	66.7	79.2	**25.9**
Low female employment -longer hours		Bulgaria	0.8	0.5	0.5	7.6	7.7	2.9	**23.6**	**59.2**	80	6.0
		Ireland	**11.7**	**9.1**	**6.8**	14.4	10.4	6.8	**26**	**54.3**	**75.9**	18.6
		Spain	7.8	6.0	4.8	14.1	9.4	7.1	36.7	**51.9**	**71.5**	17.5
		Hungary	1.9	1.8	1.5	7.8	10.8	**11.2**	**23**	**56.8**	**74**	12.8
		Poland	4.8	3.8	4.0	11.3	**18.9**	**8.2**	**17.5**	**51.8**	78.8	19.5
		Romania	2.8	0.7	0.7	11.6	**15.8**	4.4	36.6	**54.8**	79.3	15.8
		Slovakia	2.0	2.1	2.0	1.2	**16.6**	**10.4**	**14.4**	**57**	**70.3**	17.5
		Croatia	3.3	1.1	0.9	5.8	10.6	0.5	**25.3**	**47.7**	**75.3**	10.8
Average outcomes		Belgium	**9.7**	**8.5**	**7.2**	**15.9**	**13.9**	4.8	**29.8**	**57.9**	79.5	**21.3**
		Czech Republic	3.2	3.4	4.0	0.1	**17.3**	**14.9**	**21.1**	62.7	**73.8**	**22.7**
		Luxembourg	**9.1**	**7.8**	5.0	11	**13.4**	**11.7**	39.4	**59.2**	**77.3**	**23.6**
Relative worst outcomes		Greece	5.1	4.3	4.5	**23.4**	**20.6**	**10.7**	**28.6**	**39.6**	**65.1**	**25.7**
		Italy	8.0	7.1	**6.8**	**27.3**	**17.1**	**9.8**	**29.4**	**55.7**	**72.3**	**28.0**
		Malta	8.1	6.1	4.5	**40.2**	**16.3**	**8.5**	**27.9**	**58.5**	82.6	**36.6**
EU-28 average			8.3	7.2	6.1	15	11.7	7.2	36.4	61.9	78.3	21.2

Source: DG EMPL calculation based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2); Employment rates by sex, age and highest level of education attained (%) (lfsa_ergaed).

Note: Gap H: gap between average usual weekly hours between males and females; L stands for low education levels (ISCED 0-2); M stands for medium education (ISCED 3-4); H stands for high education (ISCED 5-6); gap ER stands for gap in employment rates between males and females; GAP FTER stands for full-time equivalent employment rate gap between males and females on the total working age population (aged 15–64); F stands for Female. The figures in bold show a less favourable outcome compared to the EU average; all data are for 2012.

Part-time work

As seen in the sub-section covering part-time work, there is considerable complexity in the way part-time work relates to the full-time equivalent employment rate (FTER) gap and to the female employment rate (ER). To reflect this, *two groups of input variables* were identified and used to present the situation in the various Member States compared to the EU average (see Table A.3).

First, under the issue of *fulfilling the prime age female workforce potential,* we sought to capture those groups who could serve as untapped workforce potential among women in so far as they did not appear to face care and work-life reconciliation issues. This group was proxied by the share of part-time among prime age women (25–49) without children, and among women (25–54) with older children. In this context, if the share of these part-timers is less than EU average, it is seen to contribute to lowering the FTER gender gap.

To reflect the *role of part-time work in helping women onto the labour market,* we present the share of inactive women and the share of part-time women as the main variables as there is strong negative correlation between the two, and because part-time can be helpful in general in helping women move from inactivity into participation, and thereby raise the female employment rate. Part-time is considered as unfavourable if its share is lower than EU average as this might indicate that the scarcity of part-time is an obstacle to female participation. Lower than average inactivity of women is also considered to be favourable. Moreover, in order to reflect on the role of social barriers to women entering the labour market, we look also at the at-risk-of-poverty rate when working part-time, since this might tip the balance towards part-time instead of inactivity ([134]).

Some similar *patterns* emerge across Member States concerning the dual role of part-time work if they are grouped based on the two output variables identified above (FTER gap and female ER).

In the *best performing group*, part-time work does not seem to play an important role in helping women into the labour market in the Baltic States, with a part-time employment share below the EU average. However, the inactivity rate of females is also below the EU average, which suggests that other policy measures are helping women onto the labour market. A low share of part-time could also reflect financial pressures, since the in-work poverty risk for part-timers is higher than the EU average in both Lithuania and Latvia.

Among the Nordic countries, part-time work clearly seems to have a role in helping women into the labour market in Sweden and Denmark, as above average part-time employment is associated with lower than average inactivity in the female working age population generally; though untapped workforce potential remains in both Member States. In this region, part-time work is less associated with in-work at-risk-of-poverty than in the EU as a whole, although Finland is something of an outlier in this group, with part-time generally playing a less important role, and with female inactivity still below EU average.

Part-time work is less important in France, Cyprus, Portugal and Slovenia – all countries that perform better than average in terms of female inactivity and with a lower than average share of females on part-time. In this group, part-time working is also more associated with a risk of in-work poverty compared to the EU average (with the exception of Slovenia), reflecting potential financial barriers to take up part-time positions.

In the '*high female employment rate – lower hours' group* of Member States it is clear that part-time work contributes to helping women into the labour market (reflected by the higher than average share of part-time working females, the lower than average share of inactive females, and the low risk of in-work poverty among part-timers). Nevertheless, the higher than average share of part-time work among childless females and/or among those with older children reflects some untapped and underutilised workforce potential among prime age females.

In the '*low female employment – longer hours'* group of Member States, a lack of part-time opportunities and/or social barriers is reflected in the generally higher share of inactive females in the population, combined with a lower share of part-time employment (except in Spain), and a high risk of in-work poverty among part-timers (except in Ireland). The low share of part-time among females in general also means limited part-time work among childless females and among those with older children. This suggests that, in these Member States, a lack of appropriately rewarded paid part-time opportunities could drive women into inactivity. In so far as they do enter the labour market though, it is likely that they will work full-time.

The *average outcomes* are characterised by higher than average rates of female inactivity. In the case of Belgium and Luxemboug this goes in parallel with a higher than average share of part-time work, suggesting that part-time work is failing to help women into the labour market, although on the positive side the in-work at-risk-of-poverty rates are lower than EU average. The Czech Republic is closer to the other Central Eastern European Member States that are in the 'low female employment – longer hours' group, with a low share of part-time and a high share of female inactivity.

The relatively *worst performing* Member States mainly demonstrate lower shares of part-time female employment combined with higher shares of female inactivity and higher than average in-work at-risk-of-poverty, suggesting that the scarcity of part-time work and the financial barriers to doing it, is keeping women in inactivity.

([134]) At-risk-of-poverty is presented for the total population, as breakdown was not available.

Table A.3: Part-time work – Member States' state of play compared to the EU average, with grouping based on output variables

Grouping			Fulfilling prime age female workforce potential		Helping women onto the labour market		
			Percentage of part-time employment among females age 25-49 with no children, 2012	Percentage of part-time employment among females age 25-54 with 1 child 12yrs or over, 2012	Inactive population as a percentage of the total population, females 15-64, 2012	Part-time employment as percentage of the total employment, females 15-64, 2012	In-work at-risk-of-poverty rate for part-time work (both sexes) in 2011
Relative best outcomes	Baltics	Estonia	--	--	-	--	-
		Latvia	--	-	-	--	++
		Lithuania	-	--	-	--	+
	Nordics	Denmark	+	-	--	+	-
		Finland	-	--	--	-	-
		Sweden	+	-	--	+	-
	Average performers	France	-	-	-	-	+
		Cyprus	--	-	-	--	+
		Portugal	-	-	-	--	++
		Slovenia	--	--	-	--	-
High female employment - shorter hours		Germany	+	++	-	+	-
		Netherlands	++	++	--	++	-
		Austria	+	++	-	+	-
		United Kingdom	-	+	-	+	-
Low female employment -longer hours		Bulgaria	--	--	+	--	++
		Ireland	-	+	+	+	-
		Spain	-	-	-	-	+
		Hungary	--	--	+	--	+
		Poland	--	--	+	--	+
		Romania	--	--	++	--	++
		Slovakia	--	--	+	--	+
		Croatia	--	--	++	--	++
Average outcomes		Belgium	+	+	+	+	-
		Czech Republic	--	--	+	--	-
		Luxembourg	-	+	+	+	-
Relative worst outcomes		Greece	-	-	+	--	+
		Italy	+	+	++	-	+
		Malta	-	-	++	-	+

Explanation: if the variable is above EU-28 average plus the standard deviation of the variable across the Member States : '++'; if the variable is above EU-28 average: '+'; if the variable is below EU-28 average minus the standard deviation: '- -'; if the variable is below EU 28 average '-'; Colour code: white cell refers to a relative more favourable outcome, blue cell refers to a relative less favourable outcome compared to EU average.

Source: Eurostat, Part-time employment as percentage of the total employment, by sex and age (%) (lfsa_eppga), Inactive population as a percentage of the total population, by sex and age (%) (lfsa_ipga), In-work at-risk-of-poverty rate by full-/part-time work (source: EU-SILC) [ilc_iw07], Percentage of part-time employment of adults by sex, age groups, number of children and age of youngest child [lfst_hhptechi].

Working-time regimes

The policy variables for presenting the Member States' state of play regarding working time volume (see Table A.4) are built on the framework established by Plantenga *et al.* (1999) who quote Rubery *et al.* (1998) who identified aspects that are relatively favourable for *gender equal working-time regimes,* such as the following: *small gender gap in average full-time hours*; *low shares of both men and women on very long hours* (we proxy it with share of jobholders on more than 40 hours); *opportunities for women to work long part-time or short full-time jobs* (we proxy it with the share of women on 30–39 hours jobs); *low shares of women on short-hours jobs* (*we proxy it with share of* prime age women on 1–19 hours jobs, as in the case of young or older women, it can be beneficial in parallel with other activities) ([135]).

The '*relative best performers*' mostly display relatively gender equal working-time regimes, especially the *Nordic* Member States. Nevertheless, in some Member States, there is a relative large share of females working long (over 40) hours, while the share of females working 30–39 hours is relative lower than the EU average.

The *'high female employment-shorter hours'* group of Member States displays a different pattern in that, while the long hours culture is not typical, (except in the UK, where males tend to work longer than average hours), the part-time work structure is more *biased towards short part-time working hours* for women (1–19 hours), while longer part-time working hours are less typical than average (except in the UK). All of this could explain the relative higher FTER gap compared to the first group.

The '*low female employment-longer hours*' group clearly displays a *long working hour culture* pattern whereby larger share of both males and/or females tend to work more than 40 hours. This could be contributing to the relative lower female employment, insofar as long hours are not reconcilable with care or other obligations, or long part-time work is not available for females, which is reflected by the low share of females on long part-time work in Spain, Hungary, Poland and Slovakia.

The *average performer* group is quite fragmented, with the Czech Republic again being more similar to the other CEE countries (long working hours being rather prevalent, together with very limited long part-time work for females). Belgium and Luxembourg, on the contrary, do not seem to have longer working hour cultures.

The *relative worst outcome* group displays the relative unavailability of longer part-time work for females in Greece and Italy (data for Malta are not available). This is coupled with the presence of a relatively long working hours culture in Greece, while in both Italy and Malta the full-time working time gender gap is higher than average.

([135]) They also mention a low rate of unsocial hours, working for both men and women; a relatively equal use of men and women on unsocial hours work, and no particular tendency to use female part-time work to cover unsocial hours; these issues are not going to be covered here in the comparison.

Table A.4: Working time regimes – Member States' state of play compared to the EU average, with grouping based on outcome variables

Grouping			Share of female employed (2011) age 25-54 on 1-19 usual weekly hours worked	Share of female employed (2011) age 15-74 on 30-39 usual weekly hours worked	Gap between males and females average number on full-time weekly work hours (2012) (males-females)	Share of males on more than 40 hours (2010)	Share of females on more than 40 hours (2010)
Relative best outcomes	Baltics	Estonia	--	--	--	--	-
		Latvia			--	-	+
		Lithuania			--	--	+
	Nordics	Denmark	-	++	-	-	-
		Finland	--	++	+	--	-
		Sweden	--	+	--	-	-
	Average performers	France	-	++	+	--	-
		Cyprus			-	-	-
		Portugal	-	-	-	-	+
		Slovenia	--	--	--	+	+
High female employment - shorter hours		Germany	++	-	-	-	-
		Netherlands	++	-	-	-	--
		Austria	+	-	-	-	-
		United Kingdom	+	+	++	+	-
Low female employment -longer hours		Bulgaria			--	+	+
		Ireland	+	+	++	+	-
		Spain	-	-	-	-	+
		Hungary	--	--	--	+	-
		Poland	--	--	+	++	++
		Romania			--	++	++
		Slovakia	--	-	-	++	++
		Croatia			--	+	++
Average outcomes		Belgium	+	++	+	-	-
		Czech Republic	--	-	-	++	++
		Luxembourg	-	-	-	-	-
Relative worst outcomes		Greece	--	-	+	++	++
		Italy	-	-	++	-	-
		Malta			+	-	-

Explanation: if the variable is above EU-28 average plus the standard deviation of the variable across the Member States: '++'; if the variable is above EU-28 average: '+'; if the variable is below EU-28 average minus the standard deviation: '- -'; if the variable is below EU-28 average '-'; Colour code: white refers to a relatively more favourable outcome, blue refers to a relatively less favourable outcome compared to the EU average, gray cell: no data were available.

Sources: OECD, Incidence of employment by usual weekly hours worked; EWCS 2010: How many hours do you usually work per week in your main paid job? (q18); Eurostat: Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2].

Working time arrangements

To proxy the general *rigidity of working time regimes,* we present those variables that show how large a share of males and females have *entirely employer set* working schedules, with the gender gap between them also shown in order to see whether this type of rigidity is affecting men or women more (see Table A.5). Another form of rigidity that has been taken into consideration as a proxy variable is the rigidity of working time when *having family duties*, as with care duties flexibility becomes even more important. This is proxied by the share of no possibility to stop/vary working time for family reasons for both genders.

The Nordic States generally exhibit very flexible working time arrangements (almost all variables chosen to proxy rigidity are well below the EU average ([136]), together with the '*higher female employment rates and lower hours worked*' group. However, the rest of the countries in the best performing group generally have rather inflexible systems with generally unobtainable flexible working arrangements (with the exception of France).

The Member States generally associated with *lower female employment and longer hours worked* all seem to have rather rigid working time arrangements, with higher than average employer-set working time regimes, and more difficulties concerning flexibility for family reasons.

Meanwhile, while the *average outcomes* and *worst performing* Member States all have rather flexible working time arrangement systems (except Malta), these do not seem to translate into better outcomes in terms of the FTER gap and female employment rates, at least in the case of the worst performers.

([136]) '(--)'

Table A.5: Working time arrangements – Member States' state of play compared to the EU average, with grouping based on outcome variables

Grouping			Share of men with working time arrangements entirely set by employer 2010	Share of women with working time arrangements entirely set by employer 2010	Gender gap in the possibility of some individual adaptability of working time arrangements (men-women) 2010	Share of men with no possibility to vary start and/ or stop of the working day for family reasons 2010	Share of women with no possibility to vary start and/ or stop of the working day for family reasons 2010
Relative best outcomes	Baltics	Estonia	+	+	+	-	-
		Latvia	+	++	++	++	++
		Lithuania	++	+	+	+	+
	Nordics	Denmark	--	--	+	--	-
		Finland	--	--	+	-	-
		Sweden	--	--	--	-	-
	Average performers	France	+	-	-	--	-
		Cyprus	++	++	+	-	-
		Portugal	++	+	--	+	+
		Slovenia	-	+	++	-	-
High female employment - shorter hours		Germany	-	-	--	+	+
		Netherlands	--	--	--	--	--
		Austria	-	-	+	--	--
		United Kingdom	-	-	-	--	--
Low female employment -longer hours		Bulgaria	++	++	+	++	++
		Ireland	-	+	+	-	-
		Spain	++	+	-	-	-
		Hungary	+	++	++	+	+
		Poland	-	+	++	+	+
		Romania	+	-	-	++	++
		Slovakia	+	+	-	++	++
		Croatia	++	++	++	++	++
Average outcomes		Belgium	-	-	-	-	-
		Czech Republic	-	+	++	-	-
		Luxembourg	+	-	--	-	-
Relative worst outcomes		Greece	-	-	-	-	-
		Italy	-	-	-	-	-
		Malta	++	+	+	++	++

Explanation: if the variable is above the EU-28 average plus the standard deviation of the variable across the Member States: '++'; if the variable is above the EU-28 average: '+'; if the variable is below the EU-28 average minus the standard deviation: '- -'; if the variable is below EU-28 average '-'; Colour code: white refers to a relatively more favourable outcome, blue refers to a relatively less favourable outcome compared to the EU average.

Source: EWCS 2010, Q39 How are your working time arrangements set?; Eurostat, Ad Hoc module 2010: Reconciliation between work and family life (lfso_10); Employees by their perceived possibility to vary start and/or stop the working day for family reasons (1000) [lfso_10fposste].

Division of unpaid work

In order to be able to present the state of play in the EU Member States, proxies were chosen, designed to indicate whether there is an environment in which it was possible for men *to engage in unpaid activities*. To build on the link between long working hours and low engagement in unpaid activities (see Table A.6), the analysis looked at the proportion of men on *more than 40 hours* against the average usual weekly hours for men. As short periods of part-time work would be assumed to help men to engage in unpaid activities – especially once having a child – and thus help a more gender equal sharing of unpaid work, we present also the share of *voluntary part-time employment* among men (as a % of total employment for men) as an input variable. We also present the *gap* between male and female weekly unpaid working time in order to have an overview of which countries succeed in involving men into unpaid activities.

In the *best performing group*, the Nordic Member States stand out compared to the EU average regarding the identified variables, with a relative lower share of males on long working hours, relatively more men on voluntary part-time work, and thus a *relatively more gender equal share* of unpaid work being carried out compared to the EU average. The same is true for the Baltic States, with the limitation of part-time employment being less common among men. However, the remaining Member States in this group appear in a less favourable light, with a gap greater than the EU average (except Slovenia).

The '*high female employment – shorter hours*' group generally promotes part-time work among males, but the gap between male and female unpaid work is higher than average, probably due to the even higher share of female part-time work in this group. Moreover in Austria, and especially in the UK, male working hours can also be longer than the EU average, which might be preventing men from engaging more in unpaid work.

The situation in the '*low female employment – longer hours*', '*average outcomes'* and '*relative worse outcomes'* groups is generally less favourable regarding the division of unpaid work. With some exceptions, relatively long hours prevail among men (the exceptions being Luxembourg and Italy), and voluntary part-time employment is limited, while the gender gap in unpaid work is higher than the EU average (except in Bulgaria and Poland), all of which show a *relatively less gender equal* share of unpaid work between men and women.

Table Table A.6: Unpaid work – Member States' state of play compared to the EU average, with grouping based on outcome variables

Grouping			Share of males on more than 40 hours (2010)	Average number of usual weekly hours of work in main job for males 2012	Gap male-female weekly unpaid working time (2010)	Voluntary part-time employment as a % of total employment males (2012)
Relative best outcomes	Baltics	Estonia	--	-	--	-
		Latvia	-	-	--	-
		Lithuania	--	-	-	-
	Nordics	Denmark	-	--	--	++
		Finland	--	-	--	+
		Sweden	-	--	--	+
	Average performers	France	--	+	+	-
		Cyprus	-	+	++	-
		Portugal	-	+	+	-
		Slovenia	+	+	-	+
High female employment - shorter hours		Germany	-	-	+	+
		Netherlands	-	--	++	++
		Austria	-	+	+	+
		United Kingdom	+	+	+	+
Low female employment -longer hours		Bulgaria	+	+	-	--
		Ireland	+	-	+	+
		Spain	-	+	+	-
		Hungary	+	+		-
		Poland	++	-	+	-
		Romania	++	+	-	-
		Slovakia	++	+	+	-
		Croatia	+	+	+	-
Average outcomes		Belgium	-	+	+	+
		Czech Republic	++	+	+	-
		Luxembourg	-	-	+	-
Relative worst outcomes		Greece	++	++	+	-
		Italy	-	-	+	-
		Malta	-	+	++	-

Explanation: if the variable is above the EU-28 average plus the standard deviation of the variable across the Member States: '++'; if the variable is above the EU-28 average: '+'; if the variable is below EU-28 average minus the standard deviation: '- -'; if the variable is below the EU-28 average '-'; Colour code: white refers to a relatively more favourable outcome, blue refers to a relatively less favourable outcome compared to the EU average, a gray cell refers to a missing variable.

Source: EWCS 2010, How many hours do you usually work per week in your main paid job? (q18); Eurostat: Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2]; DG JUST (2012) Annex 4.1: Average weekly paid and unpaid working time by gender, by country, 2010; Eurostat: Involuntary part-time employment as percentage of the total part-time employment, by sex and age (%) (lfsa_eppgai).

Financial disincentives

To proxy the incentives or disincentives for women to work more, we present the *METR* for a two-earner married couple with 2 children, with the first spouse earning 100% of AW and the second moving from 50% to 100% of AW (see Table A.7). To proxy the disincentives related to entering work, we show the *AETR* for a two-earner married couple with 2 children, with the first spouse earning 100% of AW and the second earner moving from non-employment to 100% of AW.

To factor in the disincentive effects of *childcare costs* we used the OECD variable on childcare cost burden (for 2008 and available only to a limited set of countries) and, finally, we take note of the *unadjusted gender pay gap* ([137]).

According to the proxy variables, the situation varies considerably across Member States. In terms of the group of '*high female employment – shorter hours*' some clear patterns emerge, with a rather high tax burden on both increasing working hours, and on entering work, and with above-average childcare costs. Moreover, even though the female employment rate is higher than the EU average in these Member States, it remains parallel with the above-average gender pay gaps.

The group of *'low female employment – longer hours'* Member States (together with the Czech Republic, which again shows more similarities with this group) displays rather low tax burdens (except in Hungary) and lower childcare costs (with the strong exception of Ireland). Still, the female employment rate is lower than average in all these countries, with no clear patterns emerging in relation to the gender pay gap.

High tax burdens are visible in the '*average outcomes*' group (Belgium and Luxembourg), and in some of the '*best performing*' Member States as well (Denmark, Finland, Portugal, Slovenia), while in other Member States the relative tax burden is lower (Sweden, Estonia, Greece, Malta). The gender pay gap is higher than average in most 'best performing' Member States (except Lithuania, Portugal, Slovenia), while in the 'average outcomes' group and the 'worst performing group' it is lower (albeit generally being accompanied by below-average female employment rates).

([137]) The female employment rate has been accounted for: if the female employment rate is below average in a Member State, then the below average gender pay gap cannot be deemed by itself as a favourable outcome as it might stem from the self-selection effect.

Table A.7: Financial disincentives – Member States' state of play compared to the EU average, with grouping based on outcome variables

Grouping			"AETR married couple, 2 children 1st spouse = 100% AW, 2nd spouse moves from non employment to full-time employment with 100% of AW (no UI benefit but entitled to SA if applicable)"	"METR two-earner married couple, 2 children 1st spouse = 100% AW, 2nd spouse moves from 50% to 100% of AW"	AETR for a Couple with childcare fees taken into consideration. Male earner at 100% of AW and female earner at 100% of AW. 2008	Gender pay gap in unadjusted form in %	Female employment rate % 2012
Relative best outcomes	Baltics	Estonia	--	--	--	++	+
		Latvia	+	-		+	+
		Lithuania	-	--		-	+
	Nordics	Denmark	++	+	+	+	++
		Finland	-	+	+	+	++
		Sweden	--	-	--	+	++
	Average performers	France	-	+	-	+	+
		Cyprus				+	+
		Portugal	+	++	-	-	+
		Slovenia	++	++	+	--	+
High female employment - shorter hours		Germany	++	++	++	++	++
		Netherlands	+	+	+	+	++
		Austria	+	+	+	++	++
		United Kingdom	-	-	++	+	+
Low female employment -longer hours		Bulgaria	-	+		-	-
		Ireland	-	-	++	-	-
		Spain	-	-	--	+	-
		Hungary				+	--
		Poland	+	+	+	+	-
		Romania	-	-	-	--	-
		Slovakia	-	-		--	-
		Croatia	--	--	--	+	-
Average outcomes		Belgium	++	++	+	-	-
		Czech Republic	-	-	+	++	-
		Luxembourg	+	+	-	--	+
Relative worst outcomes		Greece	-	-	--		--
		Italy	+	+		--	--
		Malta	--	--		-	--

Explanation: if the variable is above the EU-28 average plus the standard deviation of the variable across the Member States: '++'; if the variable is above the EU-28 average: '+'; if the variable is below the EU-28 average minus the standard deviation: '- -'; if the variable is below the EU-28 average '-'; Colour code: a white cell refers to a relatively more favourable outcome, a blue cell refers to a relatively less favourable outcome compared to the EU average, a gray cell: no data were available

Source: OECD tax-benefit database; OECD (2011), Chapter 4; Eurostat, Gender pay gap in unadjusted form by working time in % – NACE Rev. 2, B-S excluding O (Structure of Earnings Survey methodology) [earn_gr_gpgr2wt]; Employment rates by sex, age and nationality (%) (lfsa_ergan).

Childcare

To provide an overview on the multifaceted issue of childcare, we considered the proportion of all children (between 0–6 years old) with *zero hours of formal care enrolment* in terms of whether constraints/preferences or a lack of enrolment seemed to contribute to lower female employment (recognising that there might well be an unknown amount of informal care being provided in some cases) (see Table A.8).

In practice, the share of children between 0–6 years old with *above 30 hours* of formal care enrolment appears to help full-time female employment, making it another policy variable in this context. *In-kind benefits* correlate positively with female employment, while *childcare-related difficulties*, such as problems flagged concerning availability, accessibility and quality, could proxy obstacles to child enrolment and thus female participation.

Based on the variables presented above, the situation is varied across Member States, and not very favourable in most cases. The notable exceptions are the *Nordic States* with generally better than EU-average outcomes in terms of the variables identified, indicating the presence of relatively *employment friendly childcare systems,* with higher than EU-average spending on in-kind benefits, a relatively higher share of children enrolled in childcare for longer hours, and a lower share not enrolled in formal care institutions (except in Finland). The share of parents facing availability, access or quality problems is also lower than the EU-average.

The situation is somewhat less positive in the *Baltic States*, where spending on in-kind benefits is less than in the rest of the EU, which is consistent with the evidence that a larger proportion of children are not enrolled in formal care and more problems in terms of availability and access to childcare, suggesting somewhat less employment-friendly institutional arrangements. Nevertheless, once enrolled in these countries, children tend to be enrolled for longer hours, which may explain the smaller FTER gap.

The *rest of the best performing* group shows mixed outcomes. In France and Slovenia the in-kind benefit spending is higher than the EU-average and the share of enrolment is higher than average; there are availability and accessibility issues in these Member States. In Cyprus, however, while fewer difficulties with childcare are reported, enrolment rates are lower than the EU average.

The '*high female employment-shorter hours*' group generally displays fewer difficulties with childcare (apart from availability problems in Germany), with more spending on in-kind benefits and higher enrolment rates into formal care (except in Austria) suggesting relatively employment-friendly childcare arrangements. Nevertheless, in all four Member States, the share of longer hours enrolment is lower than average, which matches the shorter working hours of women (and thus a higher FTER gap) and which may indicate the effects of constraints as well as preferences.

The '*low female employment-longer hours*', '*average outcomes*' and '*worst performers*' groups have with a few exceptions (such as Belgium or Italy) with generally lower spending on in-kind benefits with higher non-enrolment rates (except in Spain). Difficulties with childcare are widely reported in Poland, Romania, Slovakia, the Czech Republic and Greece.

Table A.8: Childcare – Member States' state of play compared to the EU average, with grouping based on outcome variables

Grouping			Share of children age 0-6 with 0 hours formal enrolment in 2011	Share of children age 0-6 with 30 hours or more formal enrolment in 2011	Spending on benefits in kind as a percentage of GDP 2010	Availability problems (e.g. waiting lists, lack of services) 2012	Access problems (e.g. distance or opening hours) 2012	Quality problems 2012
Relative best outcomes	Baltics	Estonia	+	++	-	+	+	-
		Latvia	+	+	-	+	+	-
		Lithuania	++	+	-	-	--	-
	Nordics	Denmark	--	++	++	--	-	-
		Finland	+	+	++	--	-	--
		Sweden	--	++	++	--	--	-
	Average performers	France	-	+	+	++	+	-
		Cyprus	+	-	-	--	-	-
		Portugal	-	++	-	-	+	+
		Slovenia	-	++	+	++	+	+
High female employment - shorter hours		Germany	-	-	+	+	-	-
		Netherlands	-	--	+	--	--	--
		Austria	+	-	+	--	-	-
		United Kingdom	-	-	+	-	-	-
Low female employment -longer hours		Bulgaria	++	+	-	-	-	-
		Ireland	+	--	-	--	-	-
		Spain	-	-	+	-	+	+
		Hungary	++	-	-			
		Poland	+	+	-	--	-	+
		Romania	++	-	-	+	++	++
		Slovakia	++	--	-	+	++	++
		Croatia	++	+	-	+	+	++
Average outcomes		Belgium	-	+	-	+	-	-
		Czech Republic	++	-	-	+	++	+
		Luxembourg	-	-	+	+	-	-
Relative worst outcomes		Greece	+	-	-	++	++	++
		Italy	-	++	-	-	-	+
		Malta	+	-	-	+	-	+

Explanation: if the variable is above the EU-28 average plus the standard deviation of the variable across the Member States: '++'; if the variable is above the EU-28 average: '+'; if the variable is below the EU-28 average minus the standard deviation: '- -'; if the variable is below the EU-28 average '-'; Colour code: a white cell refers to a relatively more favourable outcome, a blue cell refers to a relative less favourable outcome compared to EU average, a gray cell: no data were available.

Source: DG EMPL calculations based on Eurostat, Formal childcare by age group and duration –% over the population of each age group (source: EU-SILC) [ilc_caindformal]; EQLS 2012, Q55: To what extent did each of the following factors make it difficult or not for you, or someone close to you, to use childcare services? The proportion of people reporting difficulties in accessing childcare services on various reasons; Eurostat; Tables by benefits – family/children function [spr_exp_ffa].

Table A.9: Overview table based on age cohorts and education levels ([1])

Grouping		Age cohort	Education level
Relative best outcomes	Baltics	Female employment rates and gender gaps in hours worked are generally above but employment rate of young females are in some cases beyond EU average	Gender gaps in hours worked are smaller than EU average for all education levels; females with low and medium level education have generally lower employment rates compared to EU average
	Nordics	Female employment rates and gender gaps in hours worked are generally more favourable than EU average; however gender gap in hours worked at young age is higher than EU average	Gender gaps in hours worked are smaller and female employment rates are higher than EU average for all three education levels
	Average performers	Female employment rate and gender gap in hours worked are more favourable than EU average for prime age women; young and senior female employment rates are in some cases beyond EU average with above and have face average gender employment gaps	Gender gaps in hours worked are generally smaller than EU average for all education levels; females with medium and high level education have some cases lower employment rates compared to EU average
High female employment - shorter hours		Female employment rates are generally higher than EU average but at the same time gender gaps in hours worked at prime age and senior age are wider than EU average	For all three education levels female employment rates are above EU average but meanwhile gender gaps in hours worked are generally wider than EU average.
Low female employment -longer hours*		Gender gaps in hours worked are generally narrower but female employment rates are generally lower than EU average in all three cohorts	For all three education levels gender gaps in hours worked are beyond EU average*** but female employment rates are also generally lower compared to the EU average
Average outcomes**		Young and senior female employment rates are lower than EU average, gender gap in hours worked for senior cohort is above EU average	Gender gaps in hours worked are higher than EU average for low and medium education levels, female employment rate is lower than EU average for medium education level
Relative worst outcomes		Female employment rates are generally lower and gender employment gaps are higher than EU average for all three cohorts	Gender gaps in hours worked are generally narrower than EU average, with female employment rates being generally lower and gender employment gaps being higher than EU average for all education levels

* together with the Czech Republic

** only Belgium and Luxembourg

*** except Ireland

([1]) As the Czech Republic showed more similarities with the 'low female employment – longer hours' group, for the overview tables we considered it as part of this group.

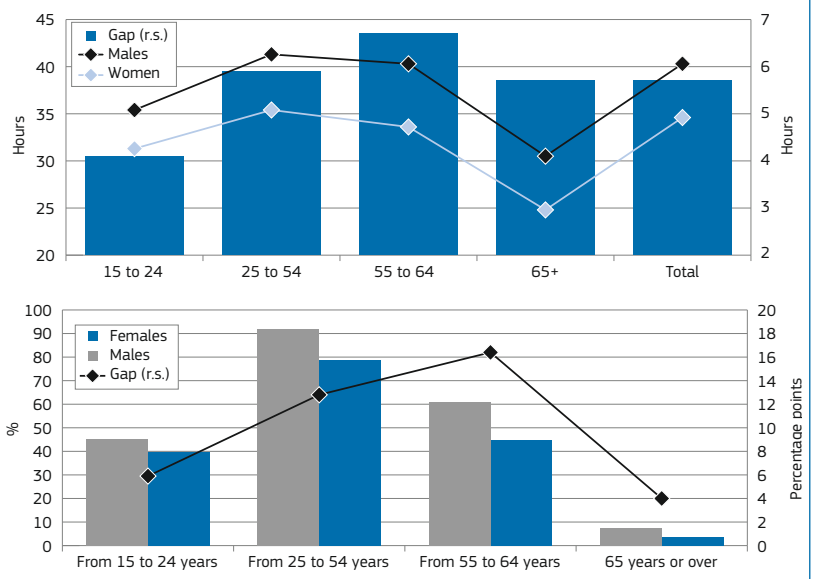
Table A.10: Overview table based on policy fields and identified proxy variables

Grouping		Part-time	Working time regimes	Working hours flexibility	Division of paid-unpaid work	Financial incentives	Childcare
Relative best outcomes	Baltics	Part-time relative less important in helping women onto labour market	Some cases long hours prevailing among females	Relative inflexible; flexible arrangements generally not available	Relative gender equal division of paid and unpaid work with lower share of men on voluntary part-time	Relative lower financial burdens, some cases higher than average gender pay gap.	Relative less employment friendly childcare with less spending on in-kind benefits, higher share of non-enrolment but with longer hours enrolment also more typical
	Nordics	Part-time relative important in helping women onto labour market; some unfulfilled female potential	Relative gender equal working time regimes	Relative flexible working time arrangements with some cases flexibility more available for men.	Relative gender equal division of paid and unpaid work	Relative higher financial burdens*****, higher than average gender pay gap.	Relative employment friendly childcare
	Average performers	Part-time relative less important in helping women onto labour market	Some cases long hours prevailing among females with relative low share of long part-time work	Relative inflexible; flexible arrangements generally not available	Relative unequal division of paid and unpaid work with long male work-hours	Relative higher financial burdens	Relative employment friendly with generally higher enrolment rates but difficulties indicated with childcare
High female employment - shorter hours		Part-time relative important in helping women onto labour market; strong presence of unfulfilled female potential	Short part-time prevailing among females, long part-time relative atypical; long working hours generally not widespread among females	Relative flexible working time arrangements	Relative unequal division of paid and unpaid work while there is higher share of men on voluntary part-time and/or there is lower male working hours	Relative higher financial burdens, higher than average gender pay gap.	Relative employment friendly with no widely indicated problems and higher than average spending on in-kind benefits but shorter hours enrolment is prevailing
Low female employment -longer hours*		Unavailability of part-time might contribute to female inactivity	Long working hours culture for both sexes with long part-time relative atypical for females; low gender gap in full-time work	Relative inflexible; flexible arrangements generally not available	Relative unequal division of paid and unpaid work with long male work-hours and low share of males on voluntary part-time work	Relative lower financial burdens, some cases higher than average gender pay gap.	Relative less employment friendly with higher share of non-enrolment and lower share of long-hours enrolment to formal care; lower spending on in-kind benefits and some problems indicated with childcare institutions
Average outcomes**		Higher than average female inactivity with higher share of part-time, some unfulfilled female potential	Long working hours culture not prevailing	Relative flexible working time arrangements	Relative unequal division of paid and unpaid work while there is higher share of men on voluntary part-time and/or there is lower male working hours	Relative higher financial burdens, lower than average gender pay gap.	Availability problems indicated with childcare but non-enrolment into formal care is lower than average
Relative worst outcomes		Unavailability of part-time might contribute to female inactivity	Large gender gap in full-time work, long part-time relative atypical for females	Relative flexible working time arrangements***	Relative unequal division of paid and unpaid work with low share of males on voluntary part-time work	Relative lower financial burdens****, lower than average gender pay gap.	Relative less employment friendly with less spending on in-kind benefits and some problems indicated with childcare institutions

* *together* with the Czech Republic
**only Belgium and Luxembourg
***except Malta
****except Italy
*****except Sweden

Annex II

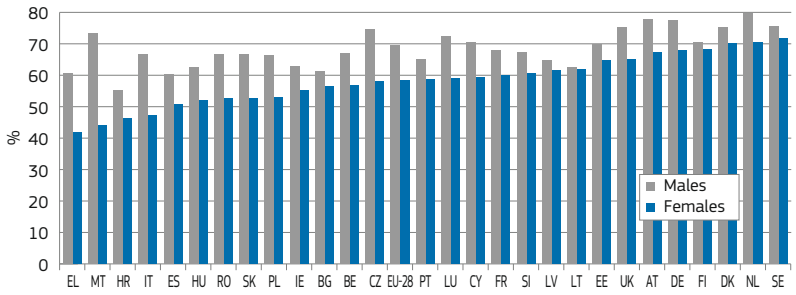
Chart A.1: Average usual weekly hours worked for total employment by age (EU-21) and activity rates by age (EU-28)



Source: OECD.Stat, Dataset: Average usual weekly hours worked on the main job; Eurostat, Activity rates by sex, age and nationality (%) [lfsa_argan].

Note: OECD data refers to EU-21 (BG, CY, HR, LT, LV, MT, RO not available) and refers to 2011. Activity rates refer to 2012.

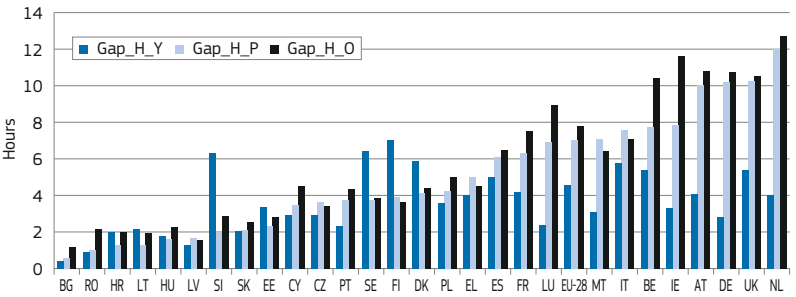
Chart A.2: Employment rates of males and females in 2012



Source: Eurostat, Employment rates by sex, age and nationality (%) [lfsa_ergan].

Note: Age group 15–64.

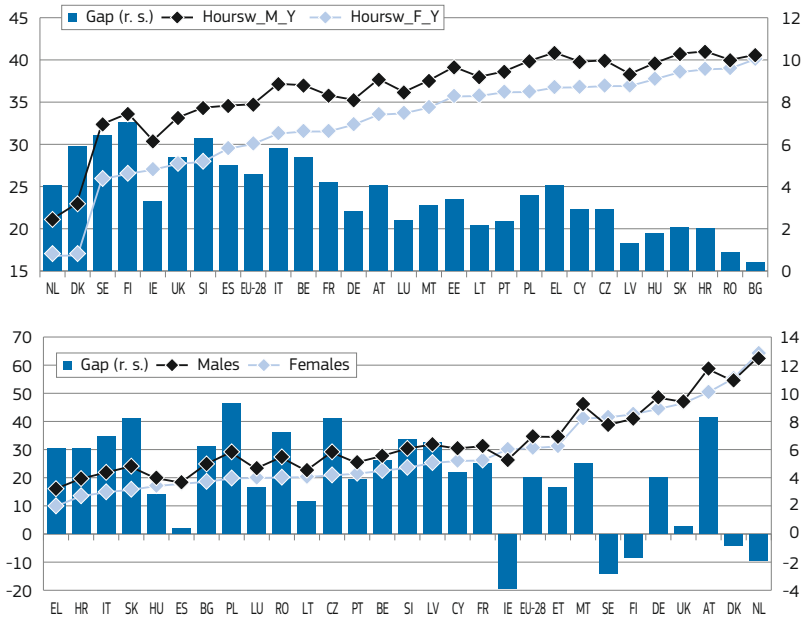
Chart A.3: Gap between average number of usual weekly hours of work for males and females in different age cohorts in 2012



Source: DG EMPL calculation based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2).

Note: Gap_H_Y stands for the average number of usual weekly hours worked gap for the young (age 15–24); Gap_H_P stands for the gap for the prime-age workers (age 25–54); Gap_H_O stands for the gap for the older workers (age 55–64). Gap=corresponding figure for males – corresponding figure for females.

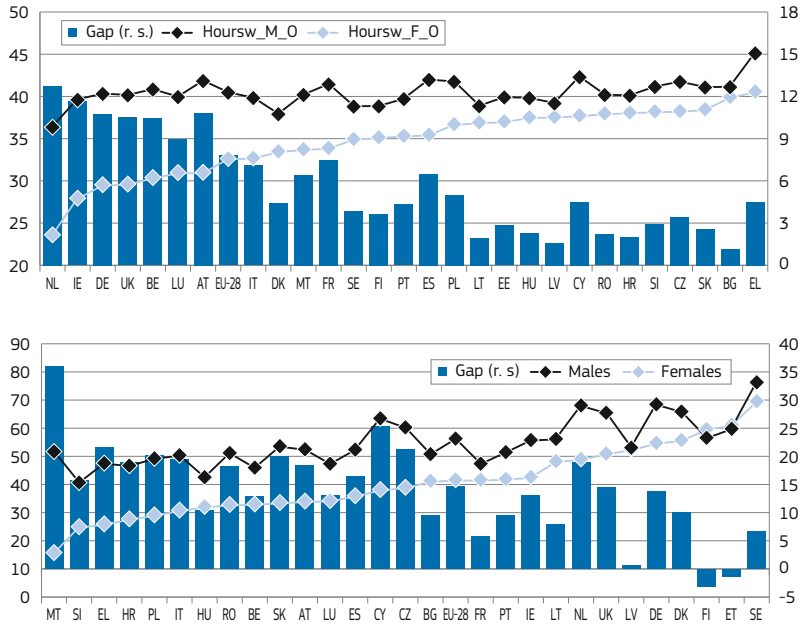
Chart A.4: Average number of usual weekly hours of work for young men and women (age 15–24) and gap (top chart), and corresponding employment rates (%) of men and women and gap (bottom chart) in the EU Member States in 2012



Source: DG EMPL calculations based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2); Eurostat: Employment rates by sex, age and nationality (%) [lfsa_ergan].

Note: HOURS_M_Y stands for usual average weekly hours worked for young males; HOURS_F_Y stands for usual average weekly hours worked for young females.

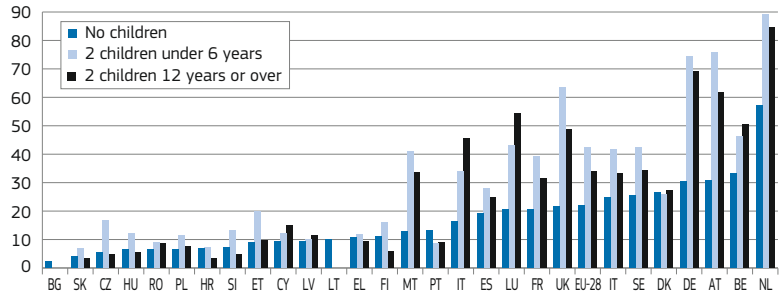
Chart A.5: Average number of usual weekly hours of work for the older age male and female (age 55–64) cohort and gap (top chart), and corresponding employment rates of males and females and gap (bottom chart) in the EU Member States in 2012



Source: DG EMPL calculations based on Eurostat, Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours (lfsa_ewhun2); Eurostat: Employment rates by sex, age and nationality (%) [lfsa_ergan].

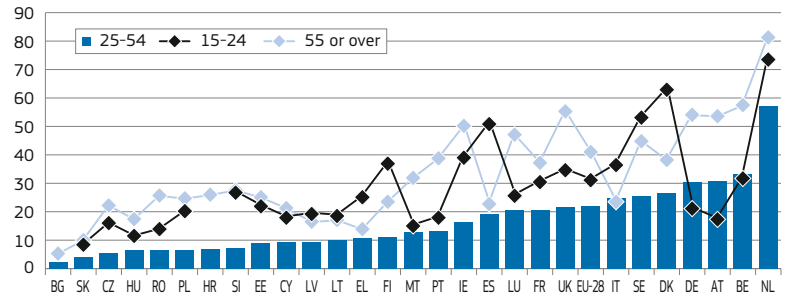
Note: HOURS_M_O stands for usual average weekly hours worked for older-age males; HOURS_F_O stands for usual average weekly hours worked for older-age females.

Chart A.6: Share of part-time employment among prime-age women (25–54) with children/without children



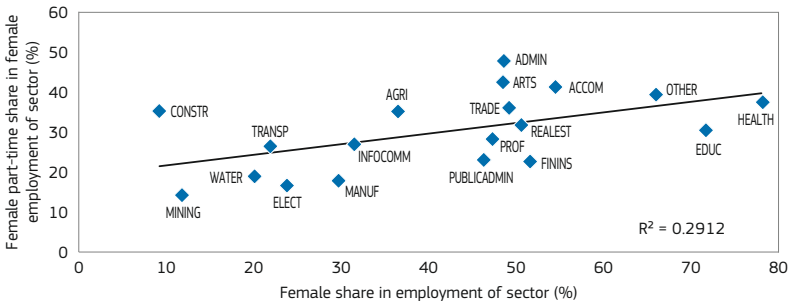
Source: Eurostat, Percentage of part-time employment of adults by sex, age groups, number of children and age of youngest child [lfst_hhptechi].

Chart A.7: Share of part-time employment for selected childless women age cohorts



Source: Eurostat, Percentage of part-time employment of adults by sex, age groups, number of children and age of youngest child [lfst_hhptechi].

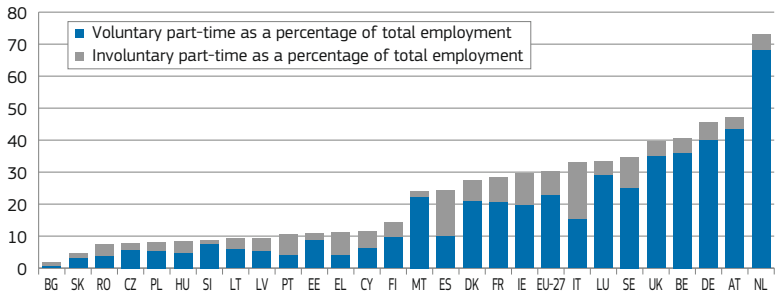
Chart A.8: Correlation between female share in sector and female part-time share in total sector female employment across all sectors for the EU-28 average (age 15–64)



Source: Eurostat, Employment by sex, age and economic activity (from 2008 onwards, NACE Rev. 2) – 1 000 [lfsa_egan2], Full-time and part-time employment by sex and economic activity (from 2008 onwards, NACE Rev. 2) – 1 000 [lfsa_epgan2] ([1]), Correlation: 0.54.

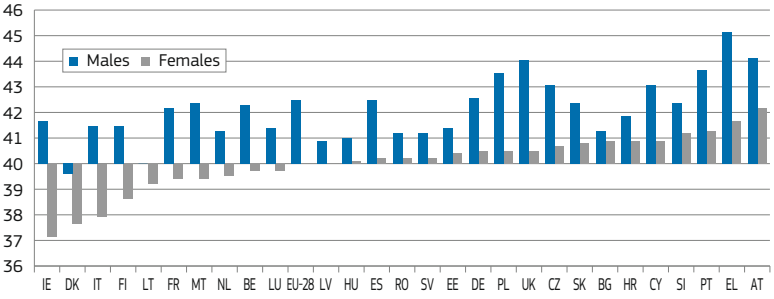
([1]) Sectors included: AGRI: Agriculture, forestry and fishing; MINING: Mining and quarrying; MANUF: Manufacturing; ELECT: Electricity, gas, steam and air conditioning supply; WATER: Water supply, sewerage, waste management and remediation activities; CONSTR: Construction; TRADE: Wholesale and retail trade, repair of motor vehicles and motorcycles; TRANSP: Transportation and storage; ACCOM: Accommodation and food service activities; INFOCOMM: Information and communication; FININS: Financial and insurance activities; REALEST: Real estate activities; PROF: Professional, scientific and technical activities; ADMIN: Administrative and support service activities; PUBLICADMIN: Public administration and defence, and compulsory social security; EDUC: Education, human health and social work activities; ARTS: Arts, entertainment and recreation; OTHER: Other service activities.

Chart A.9: Share of part-time as a percentage of total employment among women aged 25–49 broken down to shares of voluntary and involuntary part-time (2012)



Source: Eurostat; Involuntary part-time employment as a percentage of the total part-time employment, by sex and age (%) [lfsa_eppgai], Part-time employment as a percentage of the total employment, by sex and age (%) [lfsa_eppga].

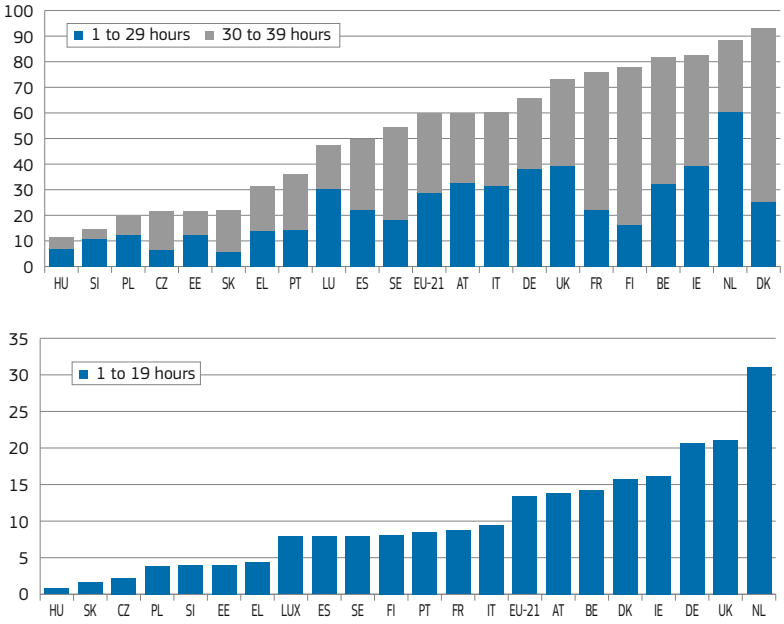
Chart A.10: Average numbers of usual weekly hours in full-time work in 2012



Source: Eurostat: Average number of usual weekly hours of work in main job, by sex, professional status, full-time/part-time and economic activity (from 2008 onwards, NACE Rev. 2) – hours [lfsa_ewhun2].

Note: Data for Netherlands were available only for 2011.

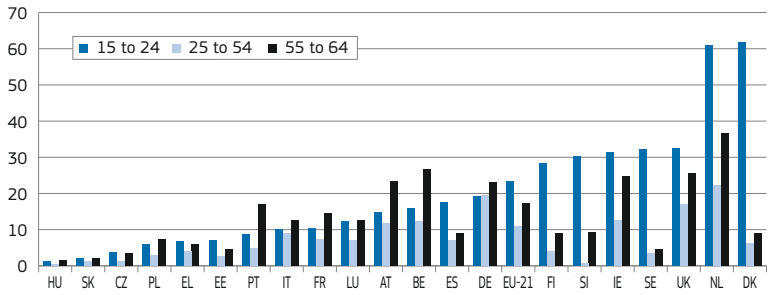
Chart A.11: Share of women (%) on selected usual weekly hour bands



Source: OECD, Incidence of employment by usual weekly hours worked.

Note: Total female population; data for EU-21.

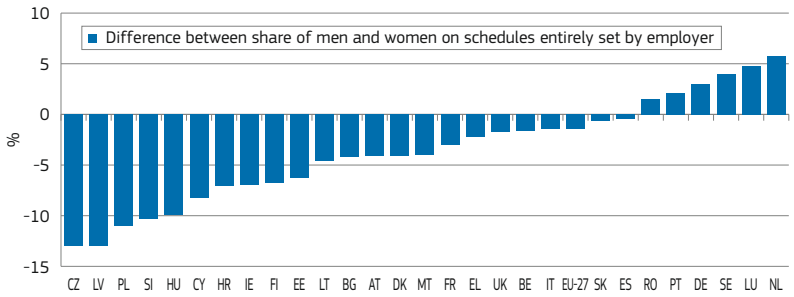
Chart A.12: 1–19 weekly hours based on selected age groups among females



Source: OECD, Incidence of employment by usual weekly hours worked.

Note: Data for EU-21.

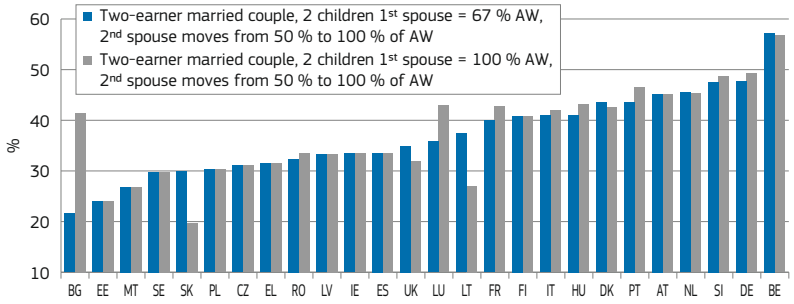
Chart A.13: Difference between share of men and women on work schedules entirely set by the employer



Source: EWCS 2010 Q39 How are your working time arrangements set?

Note: Difference in percentage points.

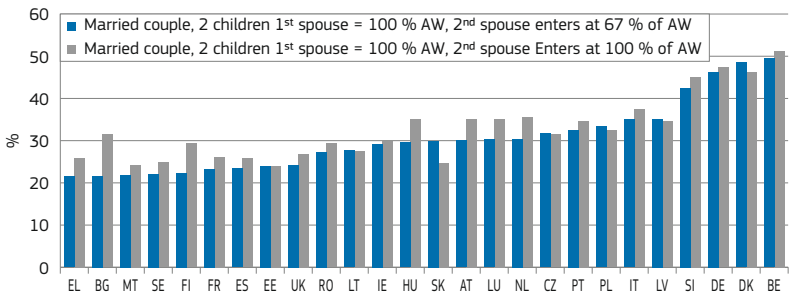
Chart A.14: Marginal effective tax rate for a two-earner married couple with 2 children, where the first earner earns 67 % or 100 % of the average wage and the second earner *increases his/her working hours* (moves from 50 % to 100 % of the average wage) in 2011



Source: OECD tax-benefit model.

Note: No data was available for HR and CY. Marginal Effective Tax Rate (METR) is the fraction of any additional earnings that is taxed away by the combined effect of taxes and benefit withdrawals. METR = 1 - (change in NET income / change in GROSS income). METRs are computed for an earnings change of 1 % of the Average wage.

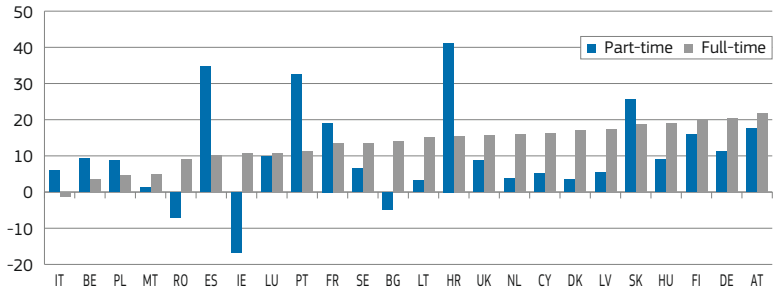
Chart A.15: Average effective tax rate for a two-earner married couple with 2 children, when the first earner earns 100% of AW and the second earner enters at 67% and 100% of AW in 2011



Source: OECD tax-benefit model.

Note: No data was available for CY and HR. Average Effective Tax Rates (AETR) are calculated for transitions from full-time unemployment to full-time employment; persons are not entitled to unemployment benefit but are entitled to social assistance if applicable; AETR = 1 - (change in net income / change in gross income). AETR x % is that part of additional gross earnings that is 'taxed away' when moving from unemployment (full-time with previous earnings of x % AW) to full-time employment (with current earnings of x % AW). AETRs are measured at the household level and take into account increasing taxes and contributions as well as reduced benefits. For two-earner couples, the first spouse's earnings are held fixed. The 'x%' therefore relates to the second spouse only.

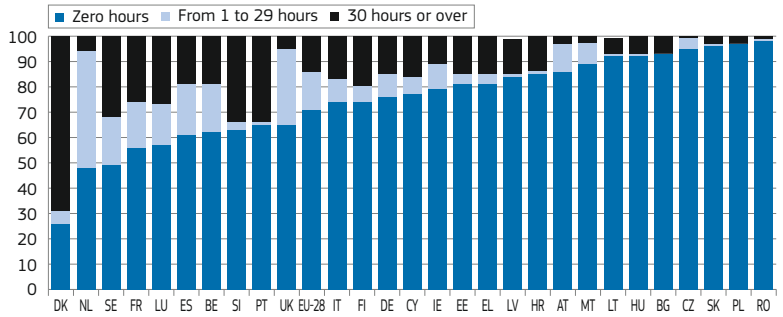
Chart A.16: Full-time and part-time gender pay gaps, 2010



Source: Eurostat Gender pay gap in unadjusted form by working time in % – NACE Rev. 2, B-S excluding O (Structure of Earnings Survey methodology) [earn_gr_gpgr2wt].

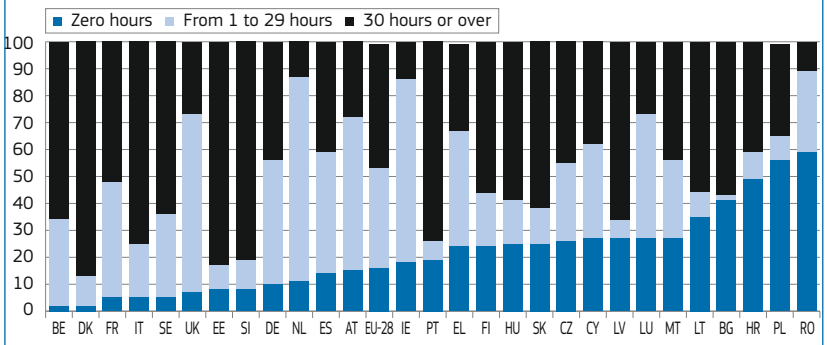
Note: No data were available for CZ, EE, SI and EL.

Chart A.17: Enrolment in formal childcare for children less than 3 years old in 2011



Source: Eurostat, Formal childcare by age group and duration – % over the population of each age group (source: EU-SILC) [ilc_caindformal].

Chart A.18: Enrolment in formal childcare for children aged between 3 and the minimum compulsory school age in 2011



Source: Eurostat, Formal childcare by age group and duration – % over the population of each age group (source: EU-SILC) [ilc_caindformal].

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Chapter 4

Undeclared work: recent developments[1]

1. Introduction

Tax evasion and fraud is increasingly seen as a political challenge at European level to be addressed in the context of the strategy to overcome the fall-out from the financial crisis ([2]). After a largely jobless recovery, the labour market in most of the EU is still weak, with unemployment at unprecedented levels and the financial situation of households under stress. Undeclared work (abbreviated to UDW) is a well-recognised form of tax evasion which, while being fuelled to some extent by the weak labour market and rising levels of poverty, is nevertheless undermining public finances, the welfare state and, ultimately, wider social cohesion.

Given unclear and uncertain evidence concerning the relation between labour market conditions and the extent of UDW ([3]), this chapter seeks to provide clearer insights into the phenomenon itself, and its policy implications, on the basis of a recent Eurobarometer survey (whose results can be compared with a pre-crisis survey).

Part 1 of the chapter addresses issues of definition and measurement. Part 2 presents the main trends in undeclared work across the Member States as seen through the latest Eurobarometer survey. Part 3 offers both a descriptive presentation and an econometric analysis of factors driving undeclared work, based on the Eurobarometer survey data. Part 4 highlights some examples of policy action taken by Member States to reduce undeclared work, while Part 5 presents key findings and conclusions.

1.1. Definition and measurement

UDW is a major component of the informal or shadow economy (also known as 'grey' or 'black' economy), which is defined by the European Commission as '...any paid activities that are lawful as regards their nature but not declared to public authorities, taking into account differences in the regulatory system of Member States' ([4]). This definition relates to work and services that are concealed from tax and social security administrations and labour inspectorates to avoid taxes and social security contributions related to income and labour law obligations, as well as the cost of complying with registration requirements and health and safety regulations. The definition covers a variety of activities ranging from informal household services to clandestine work by illegal residents, but excluding criminal activities and speculative trade. By its very nature, particular care is needed when making inter-country comparisons on the basis of this, or any other definition, in so far as what is lawful and unlawful activity may differ between Member States.

It is obviously difficult to obtain reliable estimates of the extent of undeclared work and the size of the shadow economy, and a variety of studies, often applying different methods and criteria, inevitably produce equally varied results. Some estimates for different EU Member States demonstrate some of this divergence in results depending on the method used.

In general, though, the research methods used can be categorised as direct or indirect.

Direct methods are generally based on surveys and have the advantage in terms of comparability and detail. However, they tend to under-report the extent of UDW (in part because irregular migrants are significantly underrepresented in the sample, but also for other, rather obvious, reasons). Such a Europe-wide survey was conducted for the first time in 2007 (Special Eurobarometer 284), and repeated in 2013 (Special Eurobarometer 402) ([5]). A long-standing national example of such a survey is that undertaken by the Rockwool Foundation in Germany ([6]).

([1]) By Guido Vanderseypen, Teodora Tchipeva and Jörg Peschner. With contributions from Piet Renooy and Colin Williams to the policy section.

([2]) See European Council conclusions, 22 May 2013.

([3]) See Williams and Renooy (2013).

([4]) European Commission (2007), p. 2.

([5]) The results of Special Eurobarometer 284 were commented on in the European Commission's Communication COM(2007) 628.

([6]) In its report ('*Das Ausmaß der Schwarzarbeit in Deutschland*'), published in 2012, the Rockwool Foundation found that UDW accounted for 2.3% of the total number of hours worked in the formal economy in Germany in 2008 — well down on the 4.1% reported in 2001.

Indirect methods are usually based on comparisons of macro-economic data (such as differences between output, income and expenditure data) or estimates of electricity consumption, or cash transactions. An approach often employed in such international comparisons is based on the Multiple Indicators Multiple Causes (MIMIC) model, which assumes a relationship between the unobserved shadow economy and a set of observable variables, notably monetary ones.

However, this methodology faces strong criticism ([7]). One of the weaknesses is said to be that it tends to over-estimate the level of undeclared work and that country comparisons can be difficult. Furthermore, it says little about its socio-economic characteristics ([8]).

Table 1 presents various estimates on the size of the shadow economy, the scale of undeclared work and the number of informal workers in the Member States using predominantly indirect methods. The first column presents estimates of the size of the shadow economy as a percentage of GDP, based on the MIMIC approach.

A second indirect source comes from the European Employment Observatory (EEO), which collected national data in 2004 and 2007 concerning the share of undeclared work. This is presented in the second column, as a share of either GDP or employment ([9]). These figures are based on labour force studies or macro-models, and complemented by surveys and, hence, not fully comparable across countries. As can be seen, the estimated scale of undeclared work tends to be significantly lower than that estimated by the MIMIC approach.

The World Bank's research on informal workers ([10]) suggests a similar picture, as presented in the third column. This measure includes those working without a contract, informal self-employment, unpaid family work and employers who employ five or fewer workers.

Another indicator is the adjustments for the non-observed economy (NOE) in National Accounts, as shown in the fourth column, although this measure includes items that go beyond the standard definition of undeclared work, e.g. illegal activities. A further issue is that such data is only available for a limited number of countries and not always for recent years.

The divergence between available indicators underlines the need for caution in interpreting data on undeclared work. The data on undeclared work points to a great deal of heterogeneity, with estimates ranging from 2% to 30%. The estimated size of undeclared work is usually significantly lower in the reported national data than the estimates of the shadow economy based on the MIMIC approach. The divergence can only partly be explained by the underreporting of income included in the shadow economy. Another explanation is differences in the definition, and more precisely the range of people covered. For example, the World Bank measure may be less adequate for advanced economies than for emerging ones.

In this respect, the feasibility of establishing a common indirect method was studied by GHK and Fondazione G. Brodolini in 2009. This report recommended using a 'labour input' method based on the comparison of actual social security declarations and imputed declarations based on the European labour force survey (LFS) ([11]).

([7]) The Intersecretariat Working Group on National Accounts (ISWGNA) warned against the use of the indicator in 2006. The ISWGNA gathers representatives of the five international organisations (European Commission, IMF, OECD, UN, World Bank) that have co-signed the international manual System of National Accounts, 1993.

([8]) It is based on statistical relationships, notably the currency demand, which can partly capture home production. It might not take country-specific characteristics and differences sufficiently into account as the parameters of the model are estimated jointly for a large group of countries.

([9]) For more details, see European Commission (2013), pp. 77–78

([10]) The World Bank calculated a proxy for the number of informal workers, available through national social surveys. The WB measure of the shadow economy (as a percentage of a country's registered GDP) covers 'non-professional' self-employed, employers who employ five or fewer workers, people working without a written contract, unpaid family workers, and where possible workers for whom the employer does not pay social contributions. For more details, see World Bank (2012), p. 4, see also Hazans (2011).

([11]) GHK and Fondazione G. Brodolini (2009): study on indirect measurement methods for undeclared work in the EU, available at: ec.europa.eu/social/BlobServlet?docId=4546&langId=en.

Table 1: Size of shadow economy, undeclared work and informal workers in the EU Member States ([1])

Country	**Size of shadow economy** (as % of GDP)	**Undeclared work** (share of GDP or employment, 1995–2006)	**Informal workers** (% of extended labour force, 2008–09)	**Non-observed economy adjustments** (% of GDP, reference year)
BE	16.4	6–10	10.5	4.6 (2009)
DE	13	7	11.9	NA
EE	27.6	7–8	9.8	9.6 (2002)
IE	12.2	NA	33	4 (1998)
EL	23.6	25	46.7	NA
ES	18.6	12	18.8	11.2 (2000)
FR	9.9	4–6.5	10.3	6.7 (2008)
IT	21.1	12	22.4	17.5 (2008)
CY	25.2	4.2	53	NA
LU	8	NA	NA	NA
MT	24.3	25	NA	NA
NL	9.1	2	12.6	2.3 (2007)
AT	7.5	2	19.7	7.5 (2008)
PT	19	5	22.4	NA
SI	23.1	17	14.1	10.2 (2007)
SK	15	13–15	12.2	15.6 (2009)
FI	13	4.2	11.2	NA
BG	31.2	22–30	13.2	13.4 (2011)
CZ	15.5	9–10	12.5	8.1 (2009)
DK	13	3	11.5	NA
HR	28.4	NA	NA	10.1 (2002)
LV	25.5	18	8	13.6 (2000)
LT	28	16–18	6.4	18.9 (2002)
HU	22.1	15–20	9.4	10.9 (2009)
PL	23.8	12–15	21.6	15.4 (2009)
RO	28.4	16–21	11.8	21.5 (2010)
SE	13.9	5	8.2	3 (2009)
UK	9.7	2	21.7	2.3 (2005)
EU-27	**14.3**	**7.2**	**16.4**	

Source: European Commission, 'Tax reforms in EU Member States 2013 Report', Table 4.7, p. 78.

([1]) Please refer to the original sources of information contained in the European Commission (2013) for additional important notes and clarifications on the data.

1.2. Drivers of UDW

The scale and nature of UDW work are influenced by a wide range of economic, social, institutional and cultural factors. Economic factors include not only the direct and indirect incidence of taxation (both actual and as perceived by employers and employees), but also the 'cost' of complying with complex tax and labour regulations (including employment protection regulation) as well as the penalties (or lack of them) related to enforcement.

Less well recognised, perhaps, are the consequences of sociological and demographic changes, such as the ageing population, which are a source of substantial new demands for household and care services that are not always, or easily, met by market or publicly supplied services, leading to much more informal forms of assistance, with equally informal forms of financial remuneration.

Cyclical factors can also play a role. One view is that in a booming economy there are more opportunities to earn higher incomes and build up corresponding social security rights while, in recession, employment opportunities, wages and working conditions all come under pressure, encouraging some to seek to compensate for income losses from the formal economy through activities in the shadow economy.

The alternative view is that the undeclared economy declines in recession because of lower demand for both declared and undeclared labour; traditional sectors where undeclared work is concentrated (such as construction and catering) will be harder hit in times of economic crisis, and undeclared work will be substituted by 'flexible' and cheaper declared labour (see Williams and Renooy, 2013, p. 5).

A number of features of the current labour market and social situation in Europe are likely to be considered conducive to the growth of informal work, such as the increasing length of unemployment spells, the situation of relatively disadvantaged groups (young people, migrants), and the pressure on wages and household incomes more generally. From the demand side, a difficult business context may also encourage employers to seek to evade or limit tax liabilities by resorting to undeclared work.

1.3. Why does UDW matter?

Many of the concerns about UDW are common to all Member States and have been, for nearly two decades, the subject of EU-wide policy debates and peer reviews given that the Single Market adds an extra dimension to national concerns by increasing the potential mobility of people, goods and services across the EU, including through cross-border subcontracting and posting of workers, with evident opportunities for the evasion of national legislations.

More generally, UDW is seen to obstruct conventional growth-oriented economic, budgetary and social policies. From a macro-economic perspective, it decreases tax revenues and may undermine the financing of, and trust in, social security systems. From a micro-economic perspective, it tends to distort competition between firms and to reduce efficiency since informal businesses typically avoid accessing formal services and inputs (e.g. credit) and hence tend to remain small.

For those concerned, undeclared work is much less of an advantage than it is often assumed, being likely to be associated with poor working conditions and subsequent risks to health, low prospects of career progress, and insufficient or absent social protection coverage ([12]).

At the same time, some undeclared workers may continue to draw unemployment, inactivity or family benefits to which they are no longer entitled, although they may also forego the normal benefits of working with a formal contract and risk remaining employed only in undeclared activities. As such, UDW represents an extreme case of labour market segmentation.

The possibility of finding UDW is, however, often seen as a major pull factor for illegal immigration which will largely fall outside the social security system, and therefore see it as the only option on offer.

([12]) In this respect, the 2012 International Labour Conference of the ILO recommended a social protection floor as part of the formalisation process.

2. Highlights of the Eurobarometer survey

2.1. Introduction

The Special Eurobarometer survey 402 was carried out in the 27 Member States and in Croatia in April/May 2013, on the basis of face-to-face interviews with more than 26000 respondents from different social and demographic groups ([13]). The questionnaire followed essentially the same pattern as the Special Eurobarometer 284 survey of May/June 2007, thereby providing some indications of trends in UDW since the onset of the crisis ([14]).

In the 2013 survey, respondents' participation in undeclared work was examined from different perspectives. Respondents were asked separately whether they had, within the preceding 12 months:

- acquired any goods or services which they (supposedly) believed to have stemmed from undeclared work (demand side of undeclared goods and services);
- actively performed any undeclared activities (supply side for both goods and services);
- received part of their salary in their regular job (if holding one) on an undeclared basis, as so-called 'envelope wages'.

The survey also asked about perceptions of undeclared work in terms of:

- knowing anyone who works undeclared;
- awareness of the sanctions imposed by authorities if discovered;
- the level of risk of being detected;
- reasons why people may do such work;
- the acceptability of undeclared work and various evasion scenarios.

([13]) The methodology used is that of Eurobarometer surveys as carried out by the Directorate-General for Communication ('Research and Speechwriting' Unit). A technical note on the manner in which interviews were conducted by the Institutes within the TNS Opinion & Social network is appended as an annex to the EB 402 report. Also included are the interview methods and confidence intervals.

([14]) Comparisons at EU level between 2007 and 2013 Special Eurobarometers can be made only for the EU-27 as Croatia was not included in the 2007 survey.

Table 2: Types of undeclared work considered in the Eurobarometer survey

Type of undeclared work	From supply perspective (doer)	From demand perspective (buyer)
Individuals doing undeclared work for individuals or private households	✓	✓
Firms working undeclared for individuals or private households	X	✓
Firms performing undeclared work on behalf of other firms	X	X
Individuals doing undeclared work for firms	✓	X

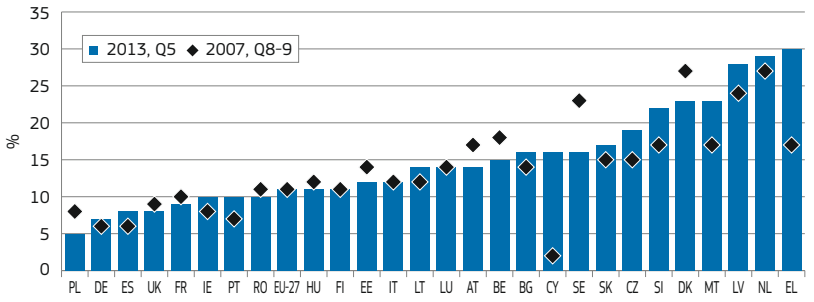
A summary of the findings by country can be found in a detailed report ([15]). For the purposes of this report, national results have been aggregated into four groups: 'Continental Europe' ([16]), Eastern and Central Europe ([17]), Southern Europe ([18]) and the Nordic countries ([19]). This grouping is consistent with that used in the report on the 2007 Special Eurobarometer ([20]).

Table 2 illustrates the types of undeclared work covered by the survey from both the demand and the supply side.

In assessing the evidence from this survey, a number of points need to be noted:

- The survey focused on undeclared work by individuals (described as 'private supply') and envelope wages, leaving many undeclared activities performed by companies outside the scope of the survey.
- Respondents had little or no time to prepare their answers, which was beneficial in terms of ensuring spontaneity and sincerity in responses, but this may have reduced the accuracy with respect to information on volumes, value and prices. This may also partly explain the significant share of 'don't know' answers or even refusals, and which are not systematically shown in the tables.
- Illegal immigrants are, almost by definition, hard to survey and difficult to interview when identified. In this survey, undeclared work carried out by illegal immigrants is almost certainly not fully covered from the supply side. In particular, in countries where an important share of undeclared work is believed to be carried out by illegal immigrants, this may have contributed to the unexpectedly low figures for undeclared work observed in this survey.
- When comparing the results between Member States, including the possibly unexpectedly high figures in some Northern European countries, differences in attitudes and differences in the nature and the volume of the services involved may need to be taken into account.
- More generally, answers to questions about the private supply of undeclared work and envelope wages should probably be considered more reliable and factual than those on the demand side, where the question lends itself to over-reporting ([21]).

Chart 1: Percentage of respondents who acquired goods or services undeclared, Questions 8–9/5, 2007–13



Source: Eurobarometer 2007 and 2013.

2.2. The demand side of UDW

2.2.1. Overall results

Just over one in ten respondents (11%) report that they had purchased goods or services in the previous year which they had good reason to believe involved undeclared work. This finding is in line with that of the 2007 survey (also 11%).

There are considerable variations across the EU (see Chart 1). Member States with a particularly high proportion of respondents declaring that they had purchased undeclared goods or services in the previous year included Greece (30%), the Netherlands (29%) and Latvia (28%). The Member States reporting the lowest proportions of purchasers were Poland (5%), Germany (7%), Spain and the UK (8% in each).

In most countries the proportion of respondents reporting that they had purchased undeclared goods or services was broadly similar to the result in 2007. The most notable increases were in Cyprus (+ 14 percentage points increase from 2% to 16%) and Greece (+ 13 points from 17% to 30%), followed by Malta (+5 points from 18% to 23%) and Slovenia (+5 points from 17% to 22%). The most notable drop was in Sweden (– 7 points from 23% to 16%).

([15]) http://ec.europa.eu/public_opinion/index_en.htm

([16]) Belgium, Germany, France, Ireland, Luxembourg, the Netherlands, Austria and the UK.

([17]) Bulgaria, the Czech Republic, Estonia, Latvia, Lithuania, Hungary, Poland, Romania, Slovenia, Slovakia and Croatia.

([18]) Cyprus, Greece, Spain, Italy, Malta and Portugal.

([19]) Denmark, Finland and Sweden.

([20]) Available at the Eurobarometer website: http://ec.europa.eu/public_opinion/index_en.htm

([21]) Cf. Q6 'Which of the following goods or services have you paid for ...where you had a good reason to believe that they included undeclared work?' In theory, one undeclared worker could be perceived as such by many clients. For example, babysitting is reported twice more on the demand side than on the supply side (12%).

No marked differences between socio-demographic groups were found — purchasers are found among both men and women, and across all age groups and occupations.

2.2.2. Types of undeclared goods and services purchased

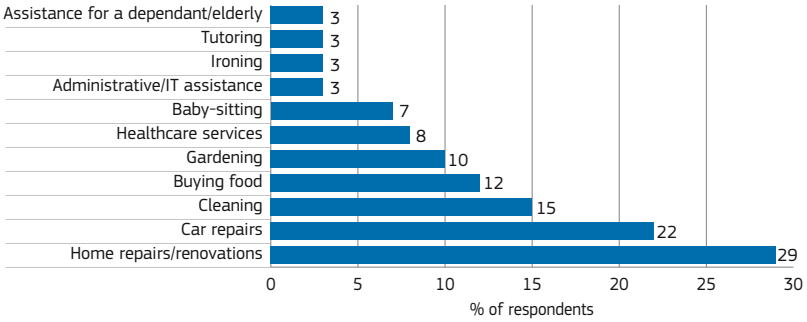
Respondents who paid for goods or services in the last 12 months which they had reason to believe included undeclared work, were asked what goods or services these were.

Home repairs (29%), car repairs (22%), home cleaning (15%) and buying food (12%) were the most frequently cited services, closely followed by gardening services (10%) as shown in Chart 2 ([22]).

To get a full picture of the types of services/ goods rendered undeclared, Chart 2 should be considered together with the outcome on the supply side, i.e. Chart 7, which points to another important category, namely waiter/ waitress activities (11%).

The range of other undeclared activities included healthcare (8% on EU level, and especially popular in Southern European countries), babysitting (a total of 7%), tutoring/IT assistance (3%), and trade in goods (possibly via e-commerce).

Chart 2: Types of goods/services purchased undeclared in the EU-27



Source: Eurobarometer 2013 ([1]).

([1]) The chart is based on question 6: 'Which of the following goods or services have you paid for during the last 12 months, where you had a good reason to believe that they included undeclared work, i.e. that the income was not completely reported to tax or social security institutions? (MULTIPLE ANSWERS POSSIBLE)'.

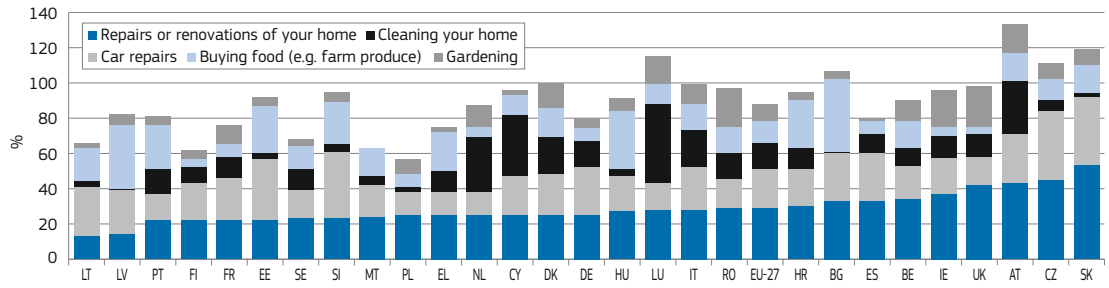
There are significant variations across the EU in terms of the four most common categories as illustrated in Chart 3. In particular, while undeclared cleaning is frequently mentioned in some Continental and Southern European countries (Austria, Luxembourg, the Netherlands, Cyprus and Italy), it is nearly absent in the new Member States. Also, the undeclared trading of food is particularly popular in many of the new Member States (e.g. the Baltic countries, Bulgaria and Slovenia) and some Southern European countries (Greece and Portugal).

2.2.3. Amount spent on undeclared work

Respondents who thought that they had paid for goods or services in the last 12 months that included undeclared work were asked to estimate how much they had spent in total on them ([23]). For the EU as a whole, the median amount spent on undeclared goods and services in the previous year was 200 euros (see Table 3).

As shown in Chart 4, over a third (37%) stated that their total expenditure on undeclared goods and services in the previous year was 200 euros or less, with around one in eight (12%) saying it was 50 euros or less, and one in four (25%) estimating their spending as being in the range of 51–200 euros. Around one in six (17%) said that they had spent between

Chart 3: Types of goods/services purchased undeclared in the EU MS

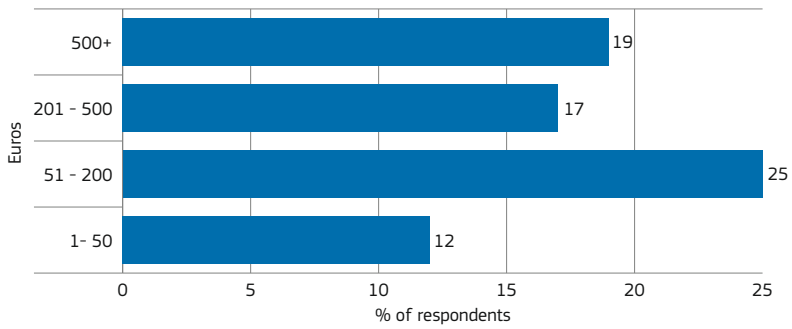


Source: Eurobarometer 2013, Question 6.

([22]) Many personal and household services offer a large employment potential if performed declared. The European Commission issued in 2012 a staff working document exploiting their employment potential (see SWD(2012) 95 final as well as a summary of the public consultation which took place between April and June 2012 (available at: http://ec.europa.eu/social/main.jsp?langId=en&catId=88&eventsId=854&furtherEvents=yes). See also contributions presented at the Conference on Exploiting the Employment Potential of Personal and Household Services (January, 30–31, 2012), e.g. Farvaque (2013). In March 2013 the European Commission also presented a proposal for a Council Decision authorising EU Member States to ratify the ILO 2011 Convention concerning decent work for domestic workers (Convention No 189).

([23]) Q7a. 'And approximately how much have you spent on all these undeclared goods and services in the last 12 months?' (WRITE DOWN — ONE ANSWER ONLY) (NO DECIMALS — IF 'DON'T REMEMBER' CODE '99997' — IF 'REFUSAL' CODE '99998' — IF 'DON'T KNOW' CODE '99999') _ _ _ _ _ EUROS

Chart 4: Yearly amount spent on undeclared goods/services in the EU-27



Source: Eurobarometer 2013 (1).

(1) The chart is based on question 7a, 'And approximately how much have you spent on all these undeclared goods and services in the last 12 months?'

Table 3: Yearly amount spent on undeclared goods/services by country groups

	1–50 EUR	51–200 EUR	201–500 EUR	500+ EUR	Median (in EUR)
EU-27	**12%**	**25%**	**17%**	**19%**	**200**
Continental Europe	13%	29%	17%	22%	200
Eastern and Central Europe	18%	24%	12%	8%	117
Southern Europe	7%	19%	19%	21%	300
Nordic countries	10%	30%	19%	28%	232

Source: Eurobarometer 2013.

Table 4: Hourly cost of undeclared goods/services in the EU and by country groups

	1–5 EUR	6–10 EUR	11–15 EUR	16–20 EUR	20+ EUR	never buy undeclared	median (in EUR)
EU-27	**7%**	**17%**	**8%**	**5%**	**12%**	**3%**	**11**
Continental Europe	6%	25%	12%	6%	15%	2%	12
Eastern and Central Europe	19%	9%	3%	2%	3%	3%	5
Southern Europe	4%	13%	4%	3%	10%	6%	11
Nordic countries	3%	4%	16%	16%	29%	6%	20

Source: Eurobarometer 2013 (1)

(1) The table is based on question 7b, 'When considering only the undeclared service which you buy most frequently, how much does this service cost you approximately per hour?'

201–500 euros and a slightly larger proportion (19%) more than 500 euros.

While the median yearly amount of money spent by Europeans was 200 euros, there were considerable variations between countries with respondents in Southern Europe spending the most, with a median spend of 300 euros, and those in Eastern and Central Europe the least, with a median spend of 117 euros (although these differences may partly reflect differences in purchasing power).

In terms of the hourly cost of undeclared services (see Table 4), the median *hourly* cost for undeclared goods and services purchased most frequently was 11 euros across the EU.

Around a quarter (24%) of respondents who had purchased undeclared goods or services in the past year estimated the hourly cost of the most frequently bought services to be no more than 10 euros, with most (17%) thinking that the hourly cost was in the range of 6–10 euros, and a smaller proportion (7%) estimating 1–5 euros.

Around one in eight (13%) thought the hourly cost was in the range of 11–20 euros, with 8% estimating 11–15 euros, 5% 16–20 euros and 12% more than 20 euros.

A small minority (5%) refused to provide an approximate cost and over four in ten (42%) did not know, or could not remember, the approximate hourly cost of their most frequently purchased services.

The Nordic countries had the highest median hourly cost for undeclared goods or services, at 20 euro, and Eastern and Central Europe the lowest, at 5 euro.

Unlike the evidence concerning the supply side (see Section 2.3), no marked differences could be detected on the demand side between socio-demographic groups, or groups with particular experiences of and attitudes towards undeclared work.

2.3. The supply side of UDW

2.3.1. Overall results

Only a small minority of respondents in the EU, one in 25 (4%), said that they had carried out undeclared paid work in the past year. This result was in line with the findings of the 2007 survey (24).

There is a considerable degree of variation between Member States (Chart 5) with countries with a particularly high

(24) It has to be noted, however, that the wording of the question used for this measure is somewhat different from that used in the 2007 survey where respondents were asked if they had carried out undeclared activities which they were paid for in money or in kind. Hence the findings from the two surveys are not strictly comparable. With this in mind, the results show a small drop in 2013 in the proportion of Europeans who say they have carried out undeclared activities.

proportion of respondents saying that they had undertaken undeclared paid work in the last 12 months including Latvia, the Netherlands and Estonia, (11% in each), followed by Denmark (9%), Lithuania (8%) and Sweden, Slovenia and Croatia (7% in each).

Member States with a particularly low proportion of respondents reporting their involvement in undeclared paid work in the past year were Germany, Portugal, Cyprus, Italy and Ireland (2% in each case) and Malta (1%).

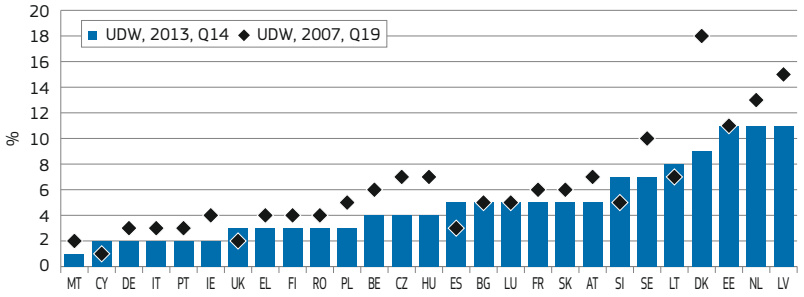
At first sight there is no obvious relation between the trend in undeclared work since 2007 and the economic situation measured by real GDP per capita (Chart 6). However, in Section 3, the possible influence of a number of drivers on undeclared work is analysed.

At the level of country groups, respondents in Eastern and Central Europe and those in the Nordic region were most likely to be reporting undeclared paid work, while those in Southern Europe were the least likely. In most countries the proportion of respondents who said that they were involved in undeclared paid activities remained similar to, or a little lower than, the level reported in 2007.

Differences were particularly notable with respect to groups of people categorised either in a standard socio-demographic way, or in terms of their economic or employment situation. Those most likely to have carried out undeclared paid work were as follows, and as set out in Table 5:

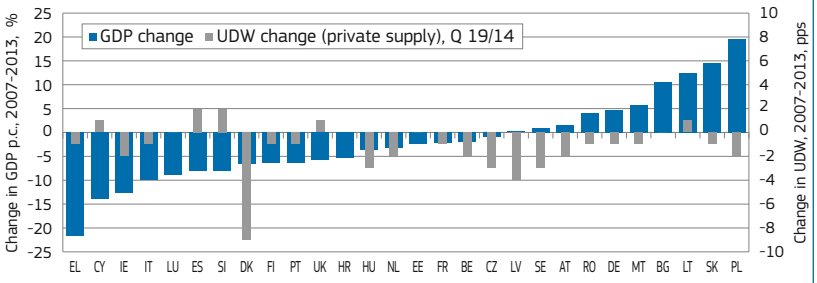
- Gender/age: More men (5%) than women (3%) supply goods/services undeclared. Younger persons (aged 15–24) tend to be more involved (7%) than those aged 55+ (1%).
- Employment/income status: The unemployed (9%) and students (7%), particularly when compared with the retired (1%) and managers (2%) more often engage in undeclared activities.
- Those who struggle to pay household bills most of the time (7%), particularly when compared with those who almost never struggle (3%).

Chart 5: Share of respondents who have performed undeclared work, question 19/14, 2007–13



Source: Eurobarometer 2007 and 2013.

Chart 6: Development of UDW (private supply) and GDP p.c.



Source: Eurostat National Accounts [namq_aux_gph] and Eurobarometer, 2013 (1).

(1) Data for GDP is quarterly (i.e. average of quarter one and two in the respective year, 2007 and 2013), index 2005 = 100, seasonally adjusted and adjusted by working days, Eurostat table namq_aux_gph. Data on Greece and Romania is based on spring forecast for 2013.

Table 5: Socio-economic characteristics of suppliers of UDW

Sex	
Male	5%
Female	3%
Age	
15-24	7%
25-39	5%
40-54	3%
55+	1%
Respondent occupation scale	
Self-employed	5%
Managers	2%
Other white collars	3%
Manual workers	4%
House persons	3%
Unemployed	9%
Retired	1%
Students	7%
Difficulties paying the bills	
Most of the time	7%
From time to time	4%
Almost never	3%

Know anyone who works undeclared	
Yes	10%
No	1%
Risk of detection if caught	
High	3%
Small	5%
Paid for undeclared work	
Yes	14%
No	3%
Was paid in cash	
Yes	26%
No	3%
Likely undeclared employment	
Works without contract	9%
Variable salary	4%
Work unpaid	14%

Source: Eurobarometer 2013 (1).

(1) Based on question 14: 'Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months?'

- Knowledge/experience of undeclared work: Those who know anyone who carries out undeclared work (10%), compared with those who do not (1%); and, those who have bought undeclared work in the past year (14%), compared with those who have not (3%); dependent employees who have been paid any of their income as cash in the past year (26%), compared to dependent employees who have not (3%).

2.3.2. Types of undeclared goods and services supplied

Respondents who had carried out any undeclared paid activities, apart from any regular employment, were asked what kinds of undeclared activities they had undertaken in the past year.

Of those who carried out undeclared work, most were likely to mention repairs or renovations (19%) followed by gardening (14%) and cleaning (13%). A slightly smaller proportion mentioned babysitting (12%) and working as waiters (11%) (see Chart 7).

Less than one in ten respondents mentioned carrying out work in other service sectors. Just under one in seven (15%) said they had carried out undeclared paid activity that involved a *service* not on the list shown to them, and around half as many (7%) mentioned undeclared paid activity involving unlisted *goods*.

At a country group level there were differences, with respondents in Southern Europe much *less* likely than those in other regions (particularly Eastern and Central Europe) to report having carried out undeclared work in terms of repairs or renovations (12% and 26% respectively) and gardening (3% vs. 21%). However, they are much *more* likely than respondents in other regions to have carried out undeclared cleaning work (25%) (see Table 6).

Respondents in 'Continental' countries are much *more* likely than those elsewhere to say they have carried out undeclared babysitting (17%) which was as widely mentioned as repairs or renovations (17%) and gardening (17%).

Respondents in Nordic countries were much *more* likely than those in other regions to have carried out undeclared work involving selling other services (30%).

Table 6: Types of activities supplied undeclared by country groups

	Home repairs/ renovations	Gardening	Cleaning	Baby-sitting	As a waiter/ waitress
EU-27	**19%**	**14%**	**13%**	**12%**	**11%**
Continental Europe	17%	17%	11%	17%	13%
Eastern and Central Europe	26%	21%	7%	7%	6%
Southern Europe	12%	3%	25%	6%	15%
Nordic countries	24%	12%	5%	7%	6%

Source: Eurobarometer 2013, question 15a.

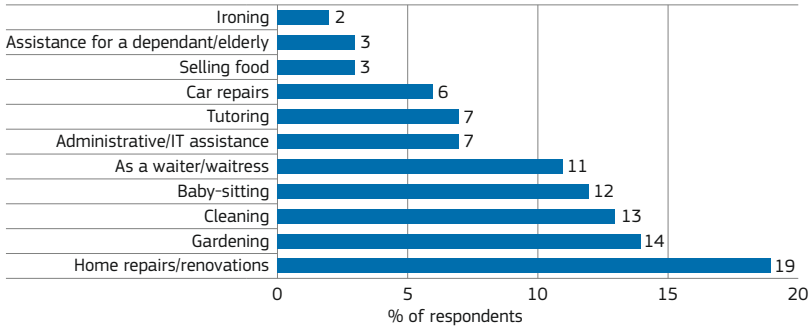
Table 7: Socio-economic characteristics of suppliers by type of activity

	Repairs or renovations	Gardening	Cleaning	Baby-sitting	As a waiter or waitress
EU-27	**19%**	**14%**	**13%**	**12%**	**11%**
Sex					
Male	29%	19%	5%	3%	6%
Female	2%	7%	25%	25%	18%
Age					
15-24	10%	16%	9%	28%	20%
25-39	19%	8%	13%	4%	11%
40-54	23%	20%	18%	6%	4%
55+	28%	18%	14%	6%	3%
Education (End of)					
15-	32%	10%	31%	5%	5%
16-19	23%	16%	12%	10%	10%
20+	12%	13%	6%	6%	10%
Still studying	8%	16%	11%	31%	20%
Respondent occupation scale					
Self-employed	19%	13%	3%	3%	10%
Managers	4%	9%	2%	15%	6%
Other white collars	17%	14%	8%	4%	9%
Manual workers	27%	16%	14%	8%	6%
House persons	10%	6%	32%	16%	14%
Unemployed	23%	14%	22%	6%	14%
Retired	24%	21%	7%	10%	0%
Students	8%	16%	11%	31%	20%
Difficulties paying the bills					
Most of the time	21%	18%	22%	7%	9%
From time to time	11%	11%	11%	8%	14%
Almost never	23%	15%	10%	17%	9%
Know anyone who works undeclared					
Yes	19%	14%	12%	9%	11%
No	14%	16%	18%	24%	9%
Paid for undeclared work					
Yes	18%	11%	7%	8%	13%
No	20%	16%	16%	13%	10%

Source: Eurobarometer 2013 ([1]).

([1]) Based on question 14: 'Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months?'

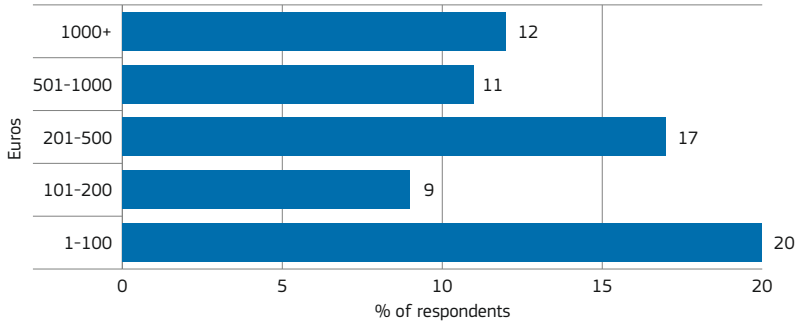
Chart 7: Types of activities supplied undeclared in the EU-27



Source: Eurobarometer 2013 ([1]).

([1]) Based on question 15a: 'Which of the following activities have you carried out undeclared in the last 12 months? (MULTIPLE ANSWERS POSSIBLE)'

Chart 8: Income earned from undeclared activities, EU-27



Source: Eurobarometer 2013, question 15b.

Table 8: Income earned from undeclared activities, by country groups

	1–100 EUR	101–200 EUR	201–500 EUR	501–1 000 EUR	1 000+ EUR	Median (in EUR)
EU-27	**20%**	**9%**	**17%**	**11%**	**12%**	**300**
Continental Europe	26%	9%	21%	11%	13%	300
Eastern and Central Europe	12%	8%	16%	10%	6%	300
Southern Europe	16%	9%	7%	8%	17%	300
Nordic countries	18%	9%	22%	20%	21%	465

Source: Eurobarometer 2013, question 15b.

There are also differences between socio-demographic groups, and other categories of people, in terms of the proportion of respondents carrying out each type of activity, as shown in Table 7.

- Repairs or renovations: more men (29%) than women (2%) tend to provide these types of services undeclared; those with lower education (32%) than with higher (12%), and manual workers (27%) when compared with managers (4%). Interestingly, the older tend to be more involved than the younger (those aged 55+ (28%) as against those aged 15–24 (10%)).

- Gardening: more men (19%), compared with women (7%); those who are retired (21%), particularly when compared with house persons (6%) and managers (9%).

- Cleaning: five times more often among women than men (25% vs. 5%); most common among the least educated (31%). House persons (32%) and the unemployed (22%), particularly when compared with managers (2%) and the self-employed (3%); people who struggle to pay household bills most of the time (22%), particularly when compared with those who almost never struggle (10%).

- Babysitting: more than 8 times more common among women than men (25% vs. 3%); most common among the youngest, 15–24 year olds (28%), and students (31%), particularly when compared with the self-employed (3%) and other (non-managerial) white collar workers (4%).

- Waiter/Waitressing: three times more common among women than men (18% vs. 6%). It is five times more common among the youngest (20%) when compared with those 40–54 (4%), and six times when compared with the oldest in the sample, 55+, (3%). As expected, more common among students (20%), particularly when compared with the retired (0%).

2.3.3. Amount earned through undeclared work

Respondents who had carried out undeclared paid activities in the past year were asked to estimate how much money they had earned from these activities ([25]). The median EU-level annual earnings from undeclared work carried out in the past year was 300 euros (see Table 8).

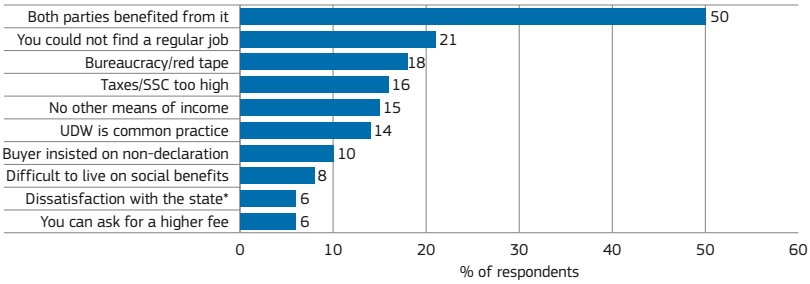
As shown in Chart 8, just under half (46%) estimated that their annual earnings from such activities were no more than 500 euros, with a fifth (20%) reporting earnings in the range of 1–100 euros (20%), just under one in ten (9%) estimating between 101–200 euros, and around one in six (17%) specifying a value in the range of 201–500 euros.

Around one in nine Europeans (11%) estimated annual earnings in the range of 501–1 000 euros and a similar proportion (12%) reported earnings in excess of 1 000 euros.

An analysis by country group indicates that the median annual amount earned from undeclared work was highest in the Nordic countries (465 euros) compared

([25]) Q15b. 'APPROXIMATELY how much money have you earned from these undeclared activities in the last 12 months?' (WRITE DOWN — ONE ANSWER ONLY) (NO DECIMALS — IF 'DON'T REMEMBER' CODE '99997' — IF 'REFUSAL' CODE '99998' — IF 'DON'T KNOW CODE '99999') _ _ _ _ _ EUROS.

Chart 9: Reasons for working undeclared in the EU-27



Source: Eurobarometer 2013 ([1]).

([1]) Based on question 17, 'Among the following, what were the reasons for doing these activities undeclared? (MULTIPLE ANSWERS POSSIBLE)'. * The exact wording is 'The state does not do anything for you, so why should you pay taxes'.

Table 9: Reasons for working undeclared by country groups

	Both parties benefited	Can't find a regular job	Taxes/ SSC too high	No other means of income	UDW is common practice
EU-27	**50%**	**21%**	**16%**	**15%**	**14%**
Continental Europe	62%	12%	14%	9%	10%
Eastern and Central Europe	43%	28%	17%	19%	17%
Southern Europe	26%	41%	20%	26%	21%
Nordic countries	65%	8%	10%	8%	5%

Source: Eurobarometer 2013.

with a median of 300 euros in each of the other European regions (see Table 8).

2.3.4. Reasons for carrying out UDW

Respondents who had undertaken undeclared paid activities in the past year were asked for their reasons for doing so ([26]).

As shown in Chart 9, half of the respondents (50%) said that both parties benefited, with other reasons mentioned much less. One in five respondents (21%) reported that they did undeclared work because they could not find a regular job; around one in nine (18%) mentioned excessive bureaucracy or red tape; and one in six (16%) said that tax and/or social security contributions were too high. One in seven (15%) said that they had no other form of income, and a similar proportion (14%) that it was common practice in their region or sector. Only one in ten (10%) reported that the customer insisted on not declaring the work.

Again differences are found between the four country groups (Table 9). Respondents in both the Nordic and 'Continental' countries were more likely to mention that both parties benefited from the undeclared work (65% and 62% respectively), particularly when compared with those in Southern Europe (26%). Respondents in the Nordic countries were also more likely than those in other regions to mention bureaucracy or red tape as a justification (14%), particularly when compared with 'Continental' countries (4%).

Respondents in Southern Europe were particularly likely to mention an inability to find a regular job (41%) or any other source of income (26%). Respondents in Southern Europe were also the most likely of the four country groups to mention that undeclared work was a common practice in their region or work sector (21%).

Respondents in Eastern and Central Europe were more likely than those in other regions to say that a reason for doing undeclared work was 'the State does not do anything for you, so why should you pay taxes' (15%), particularly when compared with those in the Nordic countries (2%).

The finding from the socio-demographic groups, and the attitudinal/behavioural groups concerning the main reasons for doing undeclared work, are shown in the table below. While mutual benefit is the most cited reason, the labour market situation, fiscal considerations and the income situation appear as important drivers for some groups.

The labour market situation ('Could not find a regular job') ([27]) is particularly relevant for:

- 25–39 year olds (27%), particularly when compared with those aged 55+ (16%);
- those who left full-time education aged 15 or under (27%) and aged 16–19 (29%), compared with those who finished their education aged 20 or over (9%);
- the unemployed (58%), particularly when compared with managers (8%) and other white collar workers (5%);
- people who struggle to pay household bills most of the time (38%), particularly when compared with those who almost never struggle (9%);
- dependent employees who received part/all of their income in the last 12 months in cash (25%), compared with those who did not (7%).

Financial considerations ('Taxes and/or social security contributions are too high') are relevant for:

- 25–39 year olds (24%), particularly when compared with those aged 55+ (7%);

([26]) Q17. 'Among the following, what are your reasons for doing these activities undeclared? (SHOW CARD — READ OUT — MULTIPLE ANSWERS POSSIBLE) The person(s) who acquired it insisted on the non-declaration; Bureaucracy or red tape for a regular economic activity is too complicated; Bureaucracy or red tape for minor or occasional economic activities is too complicated; You could not find a regular job; You were able to ask for a higher fee for your work; Both parties benefitted from it; Taxes and/or social security contributions are too high; Working undeclared is common practice in your region or sector of activity so there is no real alternative; The State does not do anything for you, so why should you pay taxes; It is difficult to live on social welfare benefits; You have no other means of income; Other (SPONTANEOUS); Refusal (SPONTANEOUS); Don't know'.

([27]) Also the answer 'Undeclared work is common in region or work sector so no real choice', was cited by 25–39 year olds (20%), by those who left full-time education aged 15 or under (21%), and by the unemployed (20%).

- those who are self-employed (24%), particularly when compared with the retired (5%) and students (10%);
- people who struggle to pay household bills most of the time (21%), particularly when compared with those who almost never struggle (14%);
- those who know anyone who undertakes undeclared work (17%), compared with those who do not (9%).

The income situation ('No other means of income') is relevant for:

- women (19%), compared with men (12%);
- those who left full-time education aged 15 or under (22%), particularly when compared with those who finished their education aged 20 or over (7%);
- house persons (31%) and the unemployed (26%), particularly when compared with managers (0%) and other white collar workers (3%);
- people who struggle to pay household bills most of the time (29%), particularly when compared with those who almost never struggle (7%).

2.4. Envelope wages

This section addresses a specific form of undeclared work — namely cash-in-hand, or 'envelope' wages. It focuses on the group where such forms of payment are relevant: those who work and rely on an employer to pay their income (i.e. dependent employees, excluding the self-employed). Evidence is presented concerning the extent of such practices, whether this form of payment is being used for regular work and/or for overtime, and what share of total income is paid in this manner.

2.4.1. Share of employees paid cash-in-hand

For a dependent employee in receipt of 'envelope' wages, the employer may pay all, or part, of their regular salary and/or remuneration on a cash-in-hand basis, without declaring the amount to the relevant authorities. This could mean one of the following:

- *No salary or only a relatively small salary (e.g. the legal minimum wage) is paid to the employee in a formal way that would imply the payment of taxes and social security contributions. Instead of a regular salary, or in addition to it, the employee receives an 'envelope wage' for an agreed regular amount of work,*

  or

- *Contractually agreed hours are paid in a formal way, but additional hours are remunerated on a cash-in-hand basis, without declaration to tax or social security institutions.*

In each case, both the employer and employee may profit, at least in the short run. The employer avoids paying social security contributions for the salary of the employee or part of their salary, and the employee may receive more than the net salary she or he would receive if they were formally paid. In some instances, though, employees may have no choice — they either accept the 'envelope' wages or they do not get the work.

Respondents who fell into the category of dependent employees were asked if their employer had paid any of their income in the last 12 months in cash, without declaring it to the tax or social security authorities ([28]).

The vast majority of dependent employees say they had not received any part of their salary as 'envelope' wages within the past year (93%). A very small minority (3%) said that they received all or part of their remuneration in cash.

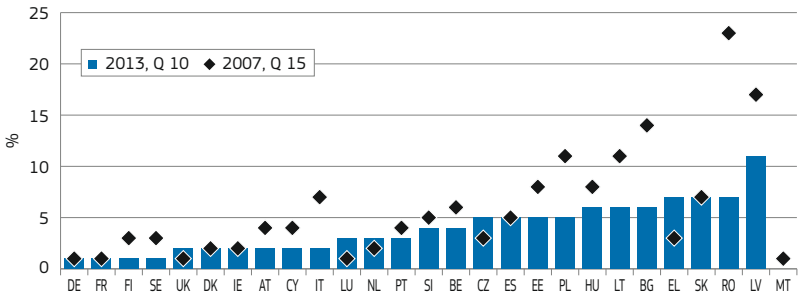
Compared with the results from 2007, there appears to have been a reduction in the proportion of dependent employees who report that they had received all or part of their salary as envelope wages within the past 12 months (– 2 percentage points from 5% to 3%) ([29]).

All countries within the Central and Eastern Europe region had dependent employees in receipt of envelope wages above the EU average, while the Nordic countries were all below. In 'Continental' countries, only Belgium (4%) reported a share above the EU average and in Southern Europe only Greece (7%) and Spain (5%) reported higher than average shares.

In the majority of countries the proportion of dependent employees in receipt of envelope wages was broadly similar to the level reported in 2007. The most notable *increase* was in Greece (+4 percentage points). The most marked *decreases* were noted in Romania (– 16 points), Bulgaria (– 8 points), Latvia and Poland (– 6 points), Lithuania and Italy (– 5 points), as illustrated in Chart 10.

Dependent employees in receipt of envelope wages are more likely to be working for smaller organisations, with more than half (56%) employed in organisations employing fewer than twenty people,

Chart 10: Envelope wages, 2007–13

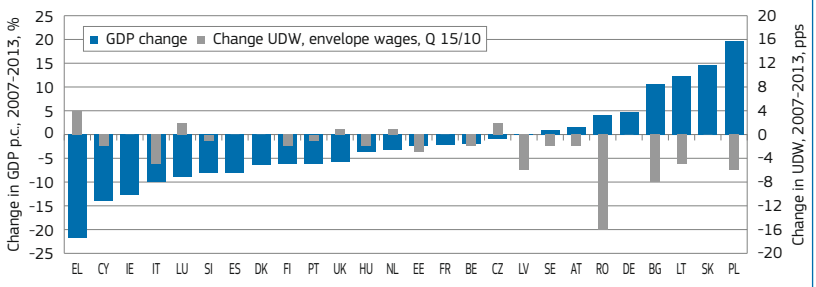


Source: Eurobarometer 2007 and 2013.

([28]) ASK Q10 TO Q13 IF 'DEPENDENT EMPLOYEES' CODE 10 TO 18 IN D15a — OTHERS GO TO Q14
Q10. 'Sometimes employers prefer to pay all or part of the regular salary or the remuneration (for extra work, overtime hours or the part above a legal minimum) in cash and without declaring it to tax or social security authorities. Has your employer paid you any of your income in the last 12 months in this way? (ONE ANSWER ONLY) (PLEASE REMIND THE INTERVIEWEE THAT ALL ANSWERS WILL REMAIN ANONYMOUS) Yes; No; Refusal (SPONTANEOUS); Don't know'.

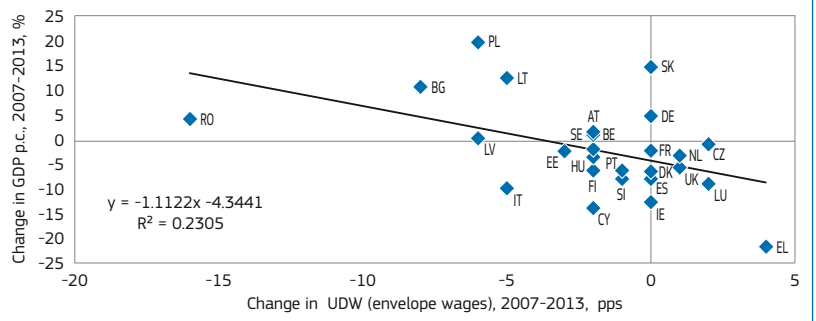
([29]) In this connection, it is also important to note that in most countries there has been a drop since 2007 in the proportion of respondents thinking that there is only a small risk of being detected. This is most notable in Denmark (–17 percentage points), the Netherlands (–10 points), Malta, Slovakia and Sweden (–8 points in each) and France (–7 points). A few countries show an increase in the proportion thinking the risk of being detected is small, with the most notable shifts in Cyprus (+ 10 points), and Portugal and Romania (+ 8 points in each).

Chart 11: Changes in the GDP p.c. and undeclared work measured by envelope wages



Source: Eurostat, National Accounts [namq_aux_gph] and Eurobarometer, 2013.

Chart 12: Changes in the GDP p.c. and undeclared work in the form of envelope wages



Source: Eurostat, National Accounts [namq_aux_gph] and Eurobarometer, 2013 ([1]).

([1]) Malta — missing data on envelope wages for 2013; Croatia — missing data on envelope wages for 2007. Data for GDP is quarterly (i.e. average of quarter one and two in the respective year, 2007 and 2013), index 2005 = 100, seasonally adjusted and adjusted by working days, Eurostat table namq_aux_gph. Data on Greece and Romania is based on spring forecast for 2013.

compared with three in ten (30%) of those who have not.

Around one in six dependent employees who had been paid envelope wages (17%) worked in organisations of 1–4 people, with a similar proportion (18%) in organisations with 5–9 employees, and a fifth (21%) for an employer with 10–19 staff. These proportions compare with 9%, 10% and 11% respectively for those who have not been paid envelope wages.

Conversely, only one in seven employees who had been paid envelope wages worked for organisations of 100 or more employees (15%), with only 7% employed by companies with 500 or more staff, compared with four in ten (39%) and a quarter (24%) respectively among those who had not been paid envelope wages.

Dependent employees, who had received income in the previous year as cash, but without it being declared to the tax or social security authorities, were asked if this was for regular work, overtime or both ([30]). Over a third (37%) said it was for regular work, with a little less than a third (31%) saying that it was for overtime or extra work, and a quarter (25%) reporting that it was for both. Compared with the results from the 2007 survey, there has been a notable drop in the proportion saying that they had received envelope wages for both regular and overtime work (– 11 percentage points — down from 36% to 25%).

In contrast to the private supply of undeclared work, the incidence of envelope wages seems to increase when GDP per head falls (see Chart 11 and Chart 12). The correlation between the changes in the UDW in the form of envelope wages and changes in GDP is strong (– 0.5) and significant at the 1% level.

([30]) ASK Q11 AND Q12 IF 'YES', CODE 1 IN Q10 — OTHERS GO TO Q13
Q11. 'Was this income part of the remuneration for your regular work, was it payment for overtime hours or was it both? (ONE ANSWER ONLY) Part of the remuneration of the regular work; Overtime, extra work; Both regular and overtime work; Refusal (SPONTANEOUS); Don't know'.

A notable example is Greece where GDP declined by more than 20% during the crisis and where the incidence of envelope wages increased by 10 pps. Similar patterns, but of a smaller magnitude, are evidenced in Luxembourg, the Netherlands and the UK. On the other hand some New Member States such as Bulgaria, Romania, Lithuania and Poland saw a reduction in the incidence of envelope wages, and GDP per head rose during those years.

2.4.2. Proportion of gross annual income paid cash-in-hand

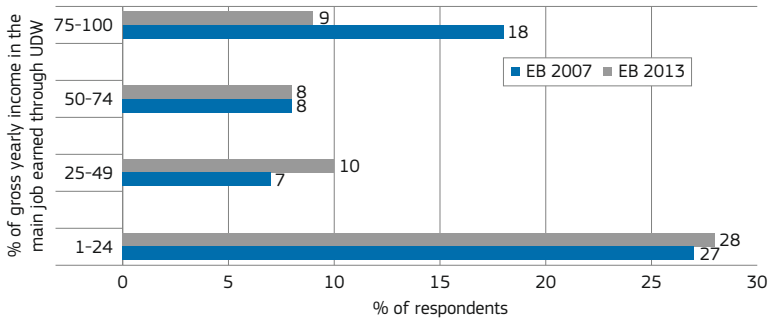
Dependent employees who had received any of their income in the previous year in cash, without it being declared to the relevant authorities, were asked to estimate the proportion of their gross annual income in their main job that it represented ([31]). As shown in Chart 13, 28% of recipients of envelope wages said that less than 25% of their gross yearly income in their main job was paid in this way, while one in ten (10%) reported that the cash payments accounted for 25–49% of their gross annual income, with slightly smaller proportions (8% and 9% respectively) saying that envelope wages amounted to 50–74% and 75–100% of their total annual income.

Compared with the results from the 2007 survey, there has been a notable drop in the proportion reporting that their envelope wages accounted for 75% or more of the gross yearly income from their main job (– 9 percentage points from 18% to 9%). There was also a small increase in the proportion refusing to give an answer (+5 points).

As shown in Table 10, among recipients of envelope wages the average proportion of gross yearly income from the main job received in this form was 36%. Compared with the results from 2007, and reflecting the drop in the proportion who say that envelope wages accounted for more than 75% of their salary, there was a notable decrease in the average proportion of gross annual income received as envelope wages (– 7 percentage points from 43% in 2007).

([31]) Q12. 'Approximately which percentage of your gross yearly income in your main job did you get this way? (WRITE DOWN — ONE ANSWER ONLY) (NO DECIMALS — IF 'DON'T REMEMBER' CODE '997' — IF 'REFUSAL' CODE '998' — IF 'DON'T KNOW' CODE '999') _ _ _%'.

Chart 13: Income from envelope wages in the EU



Source: Eurobarometer 2007 and 2013, question 12.

Table 10: Income from envelope wages by country groups

	1–24 %	25–49%	50 –74%	75–100%	Average
EU-27	**28%**	**10%**	**8%**	**9%**	**36%**
Continental Europe	36%	13%	4%	0%	17%
Eastern and Central Europe	32%	9%	14%	3%	29%
Southern Europe	10%	8%	5%	31%	69%
Nordic countries	92%	0%	0%	0%	7%

Source: Eurobarometer 2013, question 12.

As Table 10 shows, there were differences between the four country groups. Recipients of envelope wages in Southern Europe were given, on average, more than two thirds (69%) of their total remuneration in the form of cash — an exceptionally high proportion compared with other regions. In Eastern and Central Europe the average was less than a third (29%), in 'Continental' countries it was less than a fifth (17%), and in the Nordic countries it was less than a tenth (7%).

3. Econometric analysis of driving factors using the Eurobarometer

In order to better understand the relative importance of the different forces encouraging the use of undeclared work — general labour market conditions, unemployment, poverty and fiscal situation — a wide-ranging econometric analysis was undertaken, at both macro and micro-level, using the Eurobarometer (EB) data.

The findings from the macro-analysis (Subsections 3.1–3.4) are based on EB data from the two years 2007 and 2013, notably the questions that focus on people's involvement in undeclared work, either because they had been a private supplier ([32]) of undeclared services, or because they had received envelope wages in an employer-employee relationship ([33]). Although these two forms of undeclared work are different, the substantial correlation between them ([34]) justifies a joint analysis.

The findings from the micro-analysis, using individual replies to the EB questions, are summarised in Subsection 3.5 and Annex 2.

3.1. Labour market conditions are driving more visibly the practice of envelope wages, rather than the private supply of undeclared work

The severe downturn in 2008–09 reduced the prospects of finding regular work in most Member States, compared to 2007 when the first EB was held, resulting in a reduction in total employment of around 2% between 2007 and 2013, and an increase in the unemployment rate from below 7% to more than 11%, reaching particularly high levels in Latvia, Spain, Ireland, Greece and Bulgaria.

Table 11 and Table 12 show the correlations between the various national level indicators of unemployment and job vacancies, and of undeclared work, for the two years 2007 and 2013. The following explanatory variables were considered: the unemployment rate (UE Rate), long-term unemployed measured as a share of the active population (LTU Rate) or as a share of the unemployed (LTU % UE), transition rate into long-term unemployment (TRANS.LTU) ([35]), job vacancy rate (JVR), youth unemployment rate (YOUTH UE), and share of young people neither in employment nor in education (NEET).

Based on the UDW data from the latest survey, all the coefficients were highly significant, at least for envelope wages, whether one looked at indicators of the unemployment situation or at the job vacancy rates. In both surveys, the highest significant correlations were observed for the indicator of envelope wages, in particular in relation to the transition rate into long-term unemployment (TRANS.LTU) ([36]). The two charts below (Chart 14 and Chart 15) additionally show the relation between UDW (envelope wages) and, respectively, LTU (as per cent of unemployment) and the job vacancy rate, which were also highly correlated in the latest year.

This evidence suggests that a difficult labour market tends to push people into UDW, or at least increases their readiness to accept envelope wages. This is also confirmed by the evidence that, in the 2013 EB, 21% of the respondents said that the main reason for doing undeclared work was an inability to find a regular job — a much higher percentage than reported in the 2007 EB survey.

([32]) '... have you yourself carried out any undeclared paid activities in the last months' (respectively question 14 in the EB 2013 and question 19 in the EB 2007).

([33]) 'Sometimes employers prefer to pay all or part of the salary (...) without declaring it to tax and social security authorities. Has your employer paid you any of your income in the last 12 months in this way' (respectively question 10 in the EB 2013 and question 14 in the EB 2007).

([34]) See for example the high share of those receiving envelope wages (26%) answering positively to Q14.

([35]) This indicator was used in European Commission (2012), pp. 77–79. It represents the ratio between the number of long-term unemployed in year t and the short-term unemployed in t-1.

([36]) Also, the World Bank found that the length of the unemployment spell is clearly correlated with the participation in undeclared work in nearly all countries. See World Bank (2012), p. 47.

The correlations between labour market indicators and the private supply of undeclared work are, however, much less significant. A possible explanation is that other factors are at work, such as stagnating demand for undeclared work at a time of recession ([37]). It is also possible that it is due to a strong country bias as a result of greater inaccuracies in answering the question on the supply of UDW, compared to the question on envelope wages. This latter issue is better addressed in the micro-econometric analysis (see Subsection 3.5), which allows country effects to be isolated from the impact of the presumed explanatory variables.

Another approach to overcome the country bias consists in comparing variations in the variables for the period 2007–13. Chart 16 and Chart 17, which plot the variation in the unemployment rate against that in undeclared work (private supply and envelope wages respectively), suggest a weak positive link between the increase in the unemployment rate, on one hand, and the increase in each of the two measures of UDW, on the other.

3.2. Poverty: apparent influence on the readiness to accept envelope wages

Whereas the private supply of undeclared work shows no significant relationship with poverty in the year-by-year analysis, the incidence of envelope wages is strongly and positively correlated with all the poverty indicators: the at-risk-of-poverty rate of the unemployed (AROP UE); the share of people at risk of poverty or social exclusion (AROPE); the in-work poverty rate (IWP); and the share of people experiencing severe material deprivation in terms of at least four items (SMD) ([38]).

([37]) As highlighted in the overall results, demand for UDW stayed broadly at the same level between 2007 and 2013.

([38]) Europe 2020 poverty composite indicator is People at risk of poverty or social exclusion (AROPE), which has three dimensions, namely People living in households with very low work intensity, People at risk of poverty and People severely materially deprived. On the exact definitions, see Eurostat website http://epp.eurostat.ec.europa.eu/portal/page/portal/europe_2020_indicators/headline_indicators. Additionally, European Commission (2011), Chapter 3 makes a thorough review of the inter-linkages between the three dimensions of the composite headline indicator. See also European Commission (2011), Chapter 4 for an analysis based on the indicator of in-work poverty.

Table 11: Labour market & UDW, EB 2007

	Envelope wages	Private supply
UE Rate	0.11	– 0.34*
LTU Rate	0.19	– 0.27
LTU % UE	0.27	– 0.22
TRANS.LTU	0.5***	0.1
JVR	– 0.15	0.14
YOUTH UE	0.16	– 0.43**
NEET	0.47***	– 0.44**

Source: DG EMPL calculations based on Eurostat LFS [lfsa_urgan, une_ltu_a, jvs_q_nace2 and edat_lfse_20] and Eurobarometer 2013.

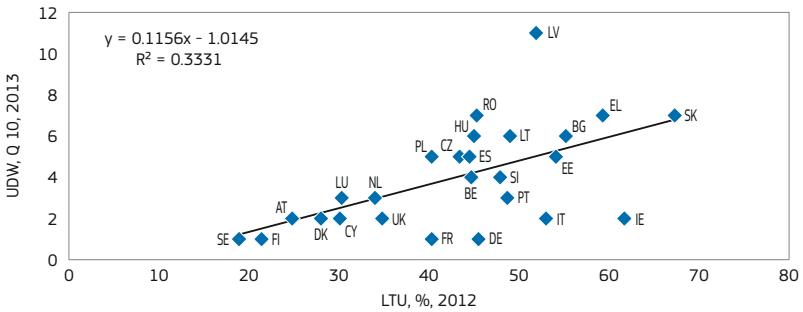
Table 12: Labour market & UDW, EB 2013 ([1])

	Envelope wages	Private supply
UE Rate	0.44**	– 0.06
LTU Rate	0.54***	– 0.07
LTU % UE	0.58***	– 0.09
TRANS.LTU	0.6***	– 0.2
JVR	– 0.6***	– 0.1
YOUTH UE	0.4**	– 0.2
NEET	0.38**	– 0.36*

Source: DG EMPL calculations based on Eurostat LFS [lfsa_urgan, une_ltu_a, jvs_q_nace2 and edat_lfse_20] and Eurobarometer 2013.

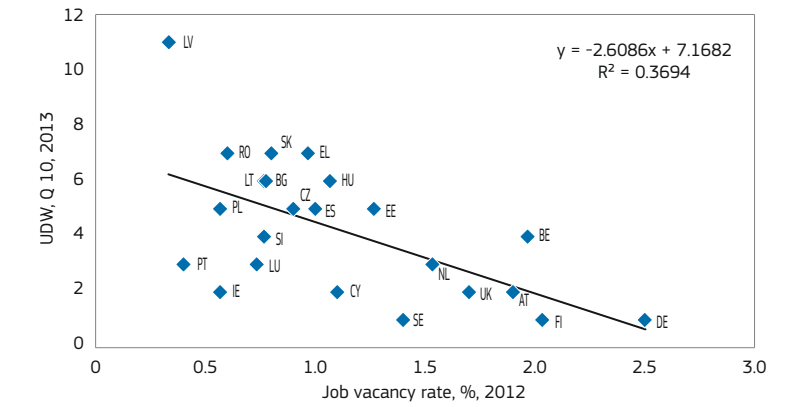
([1]) The tables show the correlation between various labour market indicators and two measures of undeclared work. The stars show the significance level: *** - 1%, **- 5%, and * - 10%. Correlations are estimated on most recently available data, i.e. for UDW — the EB 2013; UE rate, LTU rate, LTU as per cent of unemployed, job vacancy rate, youth unemployment, and the NEET rate — 2012.

Chart 14: LTU and UDW, 2013



Source: Eurostat LFS [une_ltu_a] and Eurobarometer 2013.

Chart 15: Job vacancy rate and UDW



Source: Eurostat Labour Market statistics [jvs_q_nace2] and Eurobarometer 2013.

Table 13: Poverty and UDW, EB 2007

	Envelope wages	Private supply
AROP UE	0.4**	– 0.04
AROPE	0.8***	– 0.13
IWP	0.55***	– 0.23
SMD	0.8***	– 0.04

Source: DG EMPL calculations based on Eurostat SILC [ilc_li04 , ilc_peps01, ilc_iw01 and ilc_mddd11 respectively] and Eurobarometer 2013.

Table 14: Poverty and UDW, EB 2013 (1)

	Envelope wages	Private supply
AROP UE	0.26	– 0.11
AROPE	0.68***	0
IWP	0.39**	– 0.11
SMD	0.72***	– 0.08

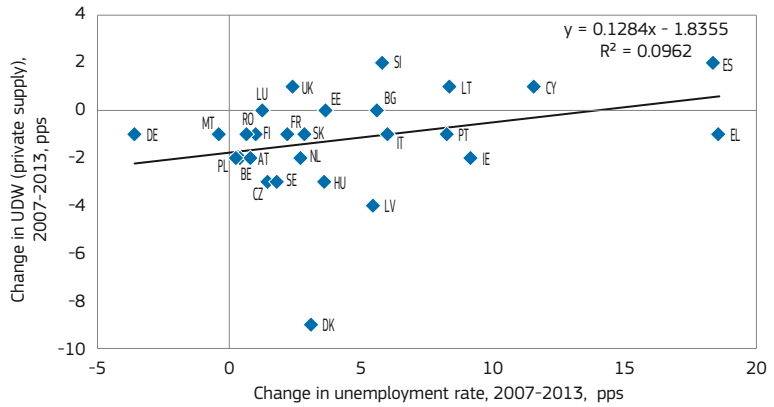
Source: DG EMPL calculations based on Eurostat SILC [ilc_li04 , ilc_peps01, ilc_iw01 and ilc_mddd11 respectively] and Eurobarometer 2013.

(1) The tables show the correlation between various poverty indicators and two measures of undeclared work. The stars show the significance level: *** - 1%, **- 5%, and * - 10%. The data on the poverty indicators is for 2011, which was the most recently available data at the time the manuscript was prepared. The income reference period is 2010, except for UK and Ireland.

The correlations in Table 13 and Table 14 show that, for both years, the envelope wages indicator is highly significant (mostly at the 1% level) with a correlation coefficient of 0.8 for the share of people at risk of poverty and social exclusion, and the share of people experiencing severe material deprivation. This could be interpreted in the sense that the risk of poverty, severe material deprivation and/or in-work poverty makes people more inclined to accept envelope wages.

While the correlations with the private supply of UDW are insignificant in this macro-analysis, the analysis of micro-data in Subsection 3.5, where one of the explanatory variables is 'difficulties to pay bills', identifies results that are more in line with expectations.

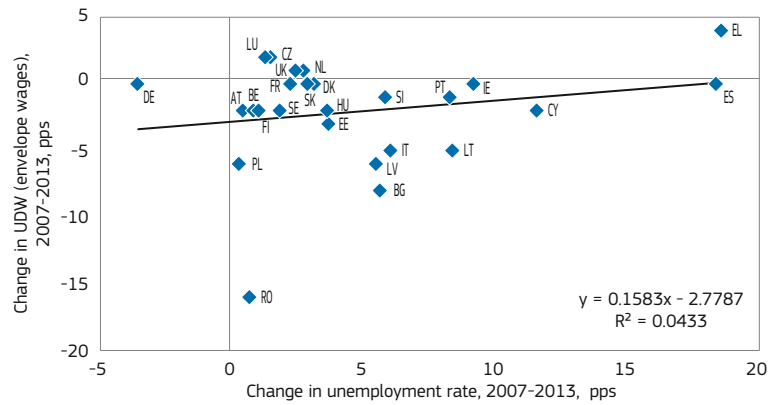
Chart 16: Changes in the private supply of undeclared work and unemployment



Source: DG EMPL calculations based on Eurostat, LFS [lfsa_urgan] and Eurobarometer, 2013 (1).

(1) Data on the unemployment rate is quarterly data (i.e. the change is taken as a difference between the average of quarter one and two in 2013, on one hand, and the average of quarter one and two in 2007, on the other. Data for Lithuania and Portugal on the unemployment rate 2007 is estimated.

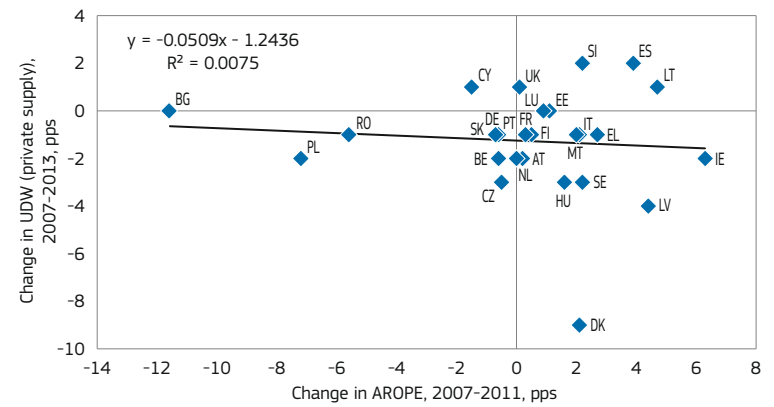
Chart 17: Changes in the incidence of envelope wages and unemployment



Source: DG EMPL calculations based on Eurostat, LFS [lfsa_urgan] and Eurobarometer, 2013 (1).

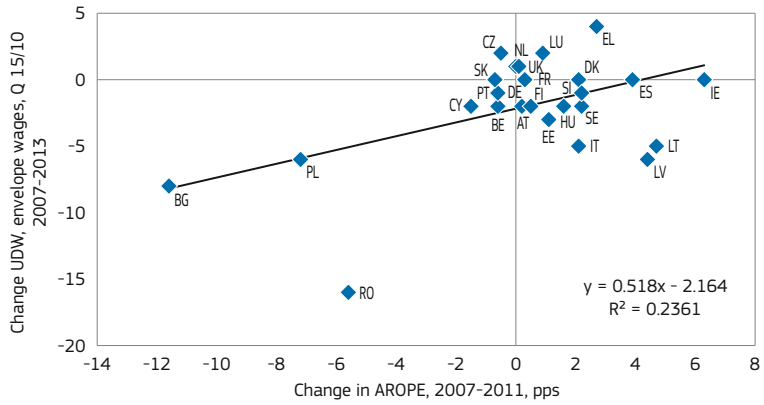
(1) Data on the unemployment rate is quarterly data (i.e. the change is taken as a difference between the average of quarter one and two in 2013, on one hand, and the average of quarter one and two in 2007, on the other. Data for Lithuania and Portugal on the unemployment rate 2007 is estimated. Data on the incidence of envelope wages is missing for Croatia (2007) and Malta (2013).

Chart 18: Changes in the poverty rate (AROPE) and the private supply of undeclared work



Source: DG EMPL calculations based on Eurostat, SILC [ilc_peps01] and Eurobarometer 2013.

Chart 19: Changes in the poverty rate (AROPE) and the incidence of envelope wages



Source: DG EMPL calculations based on Eurostat, SILC [ilc_peps01] and Eurobarometer 2013.

These findings are confirmed by a comparison of variations in the respective variables for the period 2007–13. The correlation between an increase in one of the poverty indicators (namely, AROPE) and the increase in undeclared work seems to hold only for envelope wages (see Chart 18 and Chart 19) ([39]).

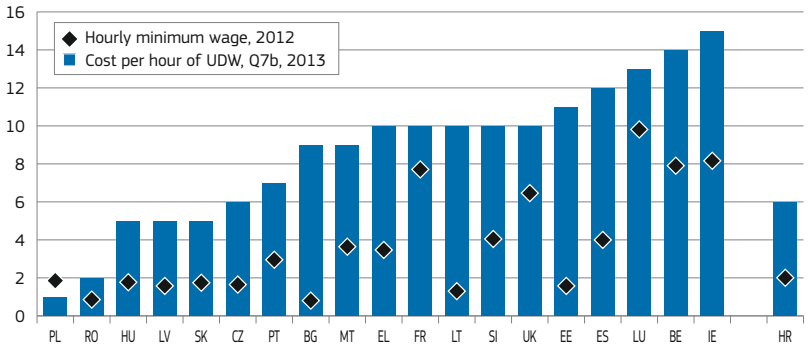
([39]) The slope is slightly negative in Chart 18 plotting the private supply of UDW but the R-squared is very low (0.008).

Box 1: The unit price of undeclared work and the minimum wage

One might expect hourly income from undeclared work to be lower than official minimum wages, since high minimum wages might be assumed to make undeclared work more attractive. Moreover, obtaining goods or services at lower prices is mentioned as one of the principal reasons for making purchases of undeclared work in most Member States (60% on average in the 2013 EB).

Contrary to these expectations, however, the cost for undeclared work on an *hourly basis* is higher than the hourly minimum wage in all countries except Poland ([1]). Possible explanations include the fact that, in most countries, minimum wages cover those who usually work full-time while undeclared work activities are often supplied for shorter periods and on an irregular basis. With this in mind, even though hourly pay for undeclared work is higher, it makes a significant difference in the income earned/cost over a longer period of time: monthly gross income from minimum wage is between 6 (in Portugal) and 74 (in the Netherlands) times higher than monthly income from undeclared work ([2]). Even if taxes and social security contributions are accounted for, the difference still remains large, quite apart from issues of quality and reliability ([3]).

Chart 20: Hourly minimum wage (gross) and hourly cost of UDW



Source: DG EMPL calculations based on Eurostat, Earnings Survey [earn_mw_cur] and LFS [lfsa_ewhuis], and Eurobarometer 2013.

Another explanation might be that much of the undeclared work (e.g. repairs and renovation) is of at least a semi-skilled nature, and therefore normally remunerated at above minimum wage levels. In fact the high hourly labour cost may, of itself, encourage those involved to avoid declaring it.

([1]) Data on hourly cost is based on question 7b, Eurobarometer 2013. It refers only to undeclared services most frequently bought. The hourly minimum wage is computed by dividing the monthly minimum wage (Eurostat table earn_mw_cur) by the average usual monthly hours (full-time). The latter is obtained by multiplying the average weekly hours (Eurostat table lfsa_ewhuis) by 4.5.

([2]) The monthly income from undeclared work is computed using EB (2013), question 15b 'Approximately how much money have you earned from these undeclared activities in the last 12 months?'. Yearly income from the EB survey is divided by 12 to obtain the monthly income. Number should be treated with caution because of small sample sizes in some cases.

([3]) This is based on the OECD tax-benefit model, which computes net monthly income of minimum wage earners working full-time applying the corresponding rules of the country regarding taxation and social contributions for various family types (single person, single parent, couple with 2 children, couple with no children). For more details, see OECD (2007), Annex A.

3.3. Taxation alone does not explain variations in UDW

Taxation is often put forward as a reason for work being undeclared. Using data from the Eurobarometer survey 2013, high taxes and social contributions are mentioned as a factor for doing undeclared work particularly in Hungary, Greece, Lithuania and Portugal (between 25 and 35 % of respondents involved in undeclared work claim that they do it because taxes/social security contributions in the country are too high).

Another indication that taxation in general plays a role in the considerations of firms comes from surveys like the World Bank enterprise surveys which reveal that, on average, 45 % of firms in the EU's new Member States and Croatia cited tax rates as a major obstacle to doing business in 2009 ([40]).

Table 15 and Table 16 show the relationship between three indicators of the tax burden on labour and undeclared work: the implicit tax rate on labour (ITR_L); the share of labour taxes in total taxes (TAX_L); and the tax wedge ([41]). The last two indicators are significantly positively correlated with the private supply of undeclared work in 2007, suggesting that the incidence of undeclared work increases with the increase in the tax burden. However, in 2013, they were all insignificant ([42]). Chart 21 plotting the UDW indicator against a tax indicator for 2011 shows a very low R-squared (0.04) with observations widely scattered around the line of fit.

Hence the analysis suggests that the manner in which taxation can influence undeclared work is far from clear-cut, which also reflects the findings of Eurofound (see Williams and Renooy, 2013) using a macro-indicator of UDW based on a monetary method ([43]).

During the current crisis, factors other than tax levels and to some extent tax changes may have had an impact on the size of the shadow economy. It is also possible that rather than being concerned just by the level of taxes, citizens may be looking at the way their governments are using their tax revenues: if they consider that they are receiving appropriate levels of public services and social security support in return for their taxes, they may be more willing to contribute than if they judge otherwise.

Table 15: Taxation and UDW, EB 2007

	Envelope wages	Private supply
ITR_L	– 0.08	0.3
TAX_L	– 0.13	0.5***
TAX_WEDGE	0.24	0.33***

Source: DG EMPL calculations based on Eurostat, Taxation trends in the European Union, 2013 and Eurobarometer 2013.

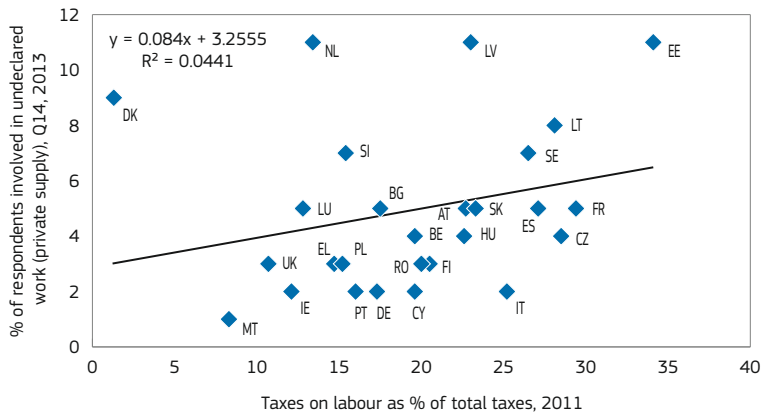
Table 16: Taxation and UDW, EB 2013 ([1])

	Envelope wages	Private supply
ITR_L	– 0.26	0.25
TAX_L	0.2	0.21
TAX_WEDGE	– 0.04	0.03

Source: DG EMPL calculations based on Eurostat, Taxation trends in the European Union, 2013 and Eurobarometer 2013.

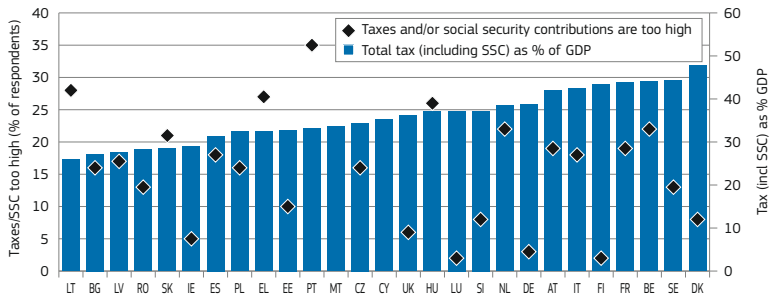
([1]) The tables show the correlation between various tax indicators and two measures of undeclared work. The stars show the significance level: ***-1%, **-5%, and *-10%. The tax indicators are the most recently available at the time the manuscript was prepared and refer to 2011.

Chart 21: Share of labour taxation and private supply of UDW



Source: DG EMPL calculations based on Eurostat and Eurobarometer 2013.

Chart 22: Real vs. perceived tax burden



Source: DG EMPL calculations based on Eurobarometer 2013 and Eurostat.

([40]) World Bank (2012), pp. 73–74.

([41]) The implicit tax rate on labour is calculated as the ratio of taxes and social security contributions on employed labour income to total compensation of employees and payroll taxes. It is an indicator of tax burden labour on macro level. The tax wedge on labour is an indicator of the tax burden on labour on micro level: it is the tax wedge for a single worker without children at two thirds of average earnings, i.e. it shows the tax wedge on low-wage workers.

([42]) Looking at changes, i.e. change in the tax indicators and change in the two indicators of undeclared work over 2007–13, yields similar results: the only significant cases are for the indicator on share of labour taxation (0.4 at 5 % level for the UDW_q19 and –0.4 at 10 % for UDW_q10), which leaves the picture inconclusive.

([43]) http://www.eurofound.europa.eu/pubdocs/2013/243/en/1/EF13243EN.pdf, see section 4.

In fact the 2013 EB survey results show that perceptions of the effective tax burden may well deviate from reality. Chart 22 plots the level of taxation as a percentage of GDP along with the perceptions of people as to how far taxes influence decisions to undertake UDW. It shows that it is not necessarily in the countries with the highest rates of taxation (e.g. FI, DK, SE, DE) that people perceive taxes as a driver for UDW, which may reflect dissatisfaction with the public services they receive for the taxes that they pay.

3.4. An effective welfare state may strengthen tax morale and contain UDW

How people feel about the efficiency with which tax revenues are spent, and what they are spent on, may influence decisions as to whether or not to evade taxes. In the Northern countries of the EU, higher taxes may be more acceptable in so far as government spending on public goods is higher. Furthermore, these countries tend to have more effective tax accountability regimes that may enable them to sustain higher levels of 'tax morale'.

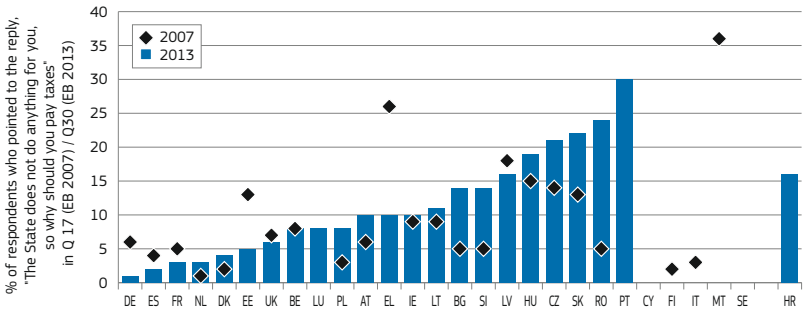
In this respect the Eurobarometer survey includes a specific response possibility — 'The State does not do anything for you, so why should you pay taxes' — as part of question 17. Chart 23 plots the percentage of respondents who indicated this reply by Member States in both 2007 and 2013.

The percentage of respondents who saw an inadequate return from the State as a possible driver for UDW was the highest in some of the new Member States (Romania, Slovakia, Czech Republic, Hungary) and Portugal. Moreover, the percentage has increased following the crisis.

In the Nordic countries (Denmark, Finland), Netherlands, Germany and France, on the other hand, the percentage of people giving this response is small, and has even slightly decreased, which may reflect the increased role of governments in these countries in cushioning the negative social effects of the crisis through such actions as temporary increases in unemployment benefits duration, larger social protection benefits/or larger coverage, investment in active labour market policies, etc.

Table 17 and Table 18 present evidence on how some indicators of government spending on public services relate to undeclared work ([44]). The indicators taken into account are the: net replacement rates after six and twelve months of unemployment (NRRs/6 or NRRs/12); total government spending (GOVspend) as a per cent of GDP; two indicators of spending on social protection benefits (Soc Prot BE and SPB_cofog) as a per cent of GDP; expenditure on health (health exp) as a per cent of GDP; and expenditure on education (educ exp) as a per cent of GDP ([45]).

Chart 23: Trends in people's confidence in the fairness of the tax system according to the Eurobarometer survey, 2007–13



Source: Eurobarometer 2013 ([1]).

([1]) Question 17 in the Special Eurbarometer 2013 and question 30 in the Special Eurobarometer 2007 read as follows: 'Among the following, what were the reasons for doing these activities undeclared? (MULTIPLE ANSWERS POSSIBLE)'. One of the reply categories is: 'The State does not do anything for you, so why should you pay taxes'; for the other reply categories, see the Questionnaire in Annex 1.

Table 17: Government spending & UDW, EB 2007

	Envelope wages	Private supply
NRRs/6 months	– 0.55***	0
NRRs/12 months	– 0.68***	– 0.02
GOV spend_tot	– 0.4**	0.09
Soc Prot BE	– 0.7***	0.16
SPB_cofog	– 0.5***	0.09
health exp	– 0.67***	0.15
educ exp	– 0.2	0.38**

Source: DG EMPL calculations based on OECD-European Commission Tax-benefit model, Eurostat ESSPROS [spr_exp_sum] and General Government Expenditure by Function, COFOG, [gov_a_exp] and Eurobarometer 2013.

Table 18: Government spending & UDW, EB 2013

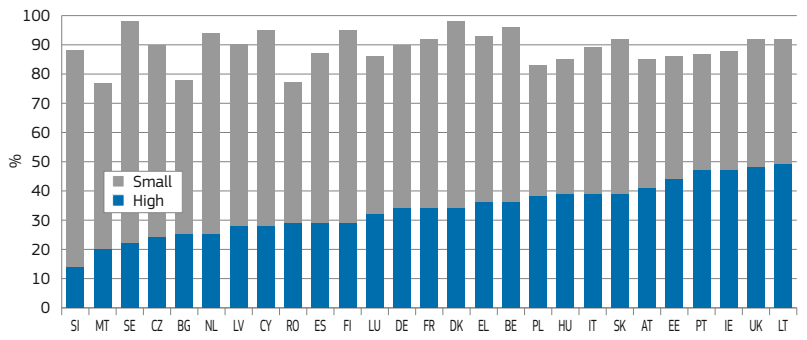
	Envelope wages	Private supply
NRRs/6 months	– 0.54***	– 0.13
NRRs/12 months	– 0.67***	0.02
GOV spend_tot	– 0.64*	– 0.13
Soc Prot BE	– 0.70***	0.02
SPB_cofog	– 0.66***	– 0.1
health exp	– 0.61***	0.02
educ exp	– 0.41**	0.32

Source: DG EMPL calculations based on OECD-European Commission Tax-benefit model, Eurostat ESSPROS [spr_exp_sum] and General Government Expenditure by Function, COFOG, [gov_a_exp] and Eurobarometer 2013.

([44]) We present correlations for both indicators of undeclared work, based on question 14 (2013) and on question 10 (2013), which is envelope wages. The first indicator however is insignificant all the time, except for one case in 2007. For this reason we comment only based on the indicator of envelope wages.

([45]) NRRs/6 or NRRs/12 are based on the OECD-European Commission tax benefit model. They are calculated for a single person with no children earning 67 % of the average wage. Soc Prot BE is based on Eurostat ESSPROS data [spr_exp_sum]. Old-age pensions and survivors are excluded. The other indicator of social protection benefits, SPB_cofog, is based on the Eurostat COFOG data [gov_a_exp]. Total general government expenditure (GOV_spend_tot) and expenditure on health and on education are also based on the Eurostat COFOG database [gov_a_exp].

Chart 24: Risk of detection



Source: Eurobarometer 2013, question 3.

The correlations show that, as expected, the level of government spending and the incidence of envelope wages are inversely, and statistically significantly, related. For example, the higher the net replacement rates, the lower the rate of undeclared work, whereby the net replacement rates for those unemployed for more than 12 months exhibit a higher correlation (– 0.7 against – 0.55), significant at the 1% level ([46]). Social protection spending is, likewise, strongly correlated (– 0.7) and highly significant.

The tables also show a significantly high negative correlation between spending on health and education and undeclared work (– 0.6 and – 0.4 respectively for 2013).

Over the period 2007–13 the correlation between undeclared work and government spending increased (from – 0.4 to – 0.64) and become more significant, which may well reflect the greater importance of this type of spending in the years of the crisis.

Last but not least, how compliant other citizens are is another factor that influences decisions to evade taxes or not. In countries where corruption is systematic, the obligation to pay taxes quickly drops as a social norm. Therefore, control of corruption is critical to improving tax morale. Chart 24 plots the responses from within the different Member States from EB 2013 (question 3) with respect to perceptions of the risk of detection.

In the EU-27, the proportion believing there was a high level of risk of detection increased slightly between 2007 and 2013 — from 33% to 36%. At Member State level, the highest percentage of people who believed in 2013 that the risk was very high or fairly high (summarised by HIGH in the chart) were found in the UK, Ireland, two of the Baltic countries (Lithuania and Estonia) and Portugal. On the other hand, the Member States with the highest percentage of people saying that the risk was very small or fairly small (SMALL in the chart) were the Nordic countries (Sweden, Denmark and Finland), the Netherlands as well as some of the new Member States like Slovenia, the Czech Republic and Cyprus.

In Subsection 3.5, the micro-data analysis tests more rigorously the impact of public trust on the probability of taking up undeclared work by considering an available international index.

3.5. Results of a micro-data analysis

As a complement to the general presentation of the evidence available concerning the factors likely to be behind undeclared work, a logistic regression analysis was carried out using the results of EB 2013.

3.5.1. Analysis of private supply of undeclared work

In a first regression, a dichotomous dependent variable is considered, using question 14 ('*Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months?*') with the value set at '0' if the respondent answered 'no', and at '1' in case of 'yes' ([47]). As Q14 is not continuous, a logistic regression was done with an array of explanatory independent variables on the right-hand side of the equation (X).

A number of socio-demographic control variables were included covering: gender; age; education; degree of urbanisation; and size of household. Other independent variables reflected potential driving factors behind undeclared work — these included the subjective risk of being detected when working undeclared; general difficulties to make ends meet; and the employment status. In addition, country fixed effects were included, reflecting contextual differences such as overall attitudes and openness towards undeclared work.

The results are detailed in **Annex 2**; they are in line with the analysis presented above.

A reference category was defined for each explanatory variable X. The estimated coefficients are shown in the second column in Annex 2. They reflect the chance that for a certain variable X a category will fall into Q14=1 ('have carried out undeclared work'), relative to the reference category. If the estimated coefficient is positive (negative), this means that the category will have a higher (lower) chance of Q14=1 than the reference category. The respective significance levels for a test of coefficients to be equal to zero are given in the column 'Sig.'. The coefficient is written in bold if statistical significance is 1% or below.

The respective **odds ratio** is given in the third column. In order to assist the interpretation of the results, the following illustrations are based on odds ratios which are linked in a non-linear way to the coefficients ([48]). It tells us how much higher or lower the odds is of finding a

([46]) To note is that high replacement rates, especially for the long-term unemployed, can affect incentives to take up regular work (e.g. unemployment trap) and thus may lead to higher long-term unemployment. This effect can be cushioned by counter-balancing measures for incentives like for example steeper profile of benefits over the unemployment spell, active labour market policies, etc. (see European Commission 2012, Chapter 1, Section 3 or European Commission 2011, Chapter 4 on in-work poverty). Hazans (2011) found that the impact of unemployment insurance varies across Europe. In the southern and new Member States, where spending on unemployment insurance benefits is modest, it seems to keep job seekers from having to accept informal work without distorting incentives to take up regular work. In contrast, in Western and Northern European countries, higher spending on unemployment benefits increases informal dependent employment.

([47]) 'Don't know' and refusals were ignored.

([48]) Given the logarithmic nature of the regression, the relation between the estimated coefficient ß and the odds ratio OR is in fact exponential: OR=exp(ß). See, for example, Backhaus *et al.* (2008), p. 260.

person for which Q14=1 for a certain category, relative to the reference category. An odds ratio of 1 (coefficient of 0) would mean that the odds of finding a person who states Q14=1 is equal for category X as for the reference category.

To visualise the results from the regression, the odds ratios relative to the respective reference category are illustrated in Chart 25 for the set of independent variables. The bars for respective reference categories are darker.

In relation to the control variables, it appears that men were much more likely to have undertaken undeclared work over the previous 12 months than women (**gender** variable D10 with an odds ratio higher than 2 for males). In terms of **age** (D11), the younger the person the higher the probability of having had recent experience with undeclared work when compared with the 55+ age group.

Household size (D40a) remains insignificant (only for people living alone does there seem to be a somewhat higher probability of having had recent experience with black work, compared to large households) whereas, for the degree of **urbanity** (D25), it appears that the probability is higher outside urban areas.

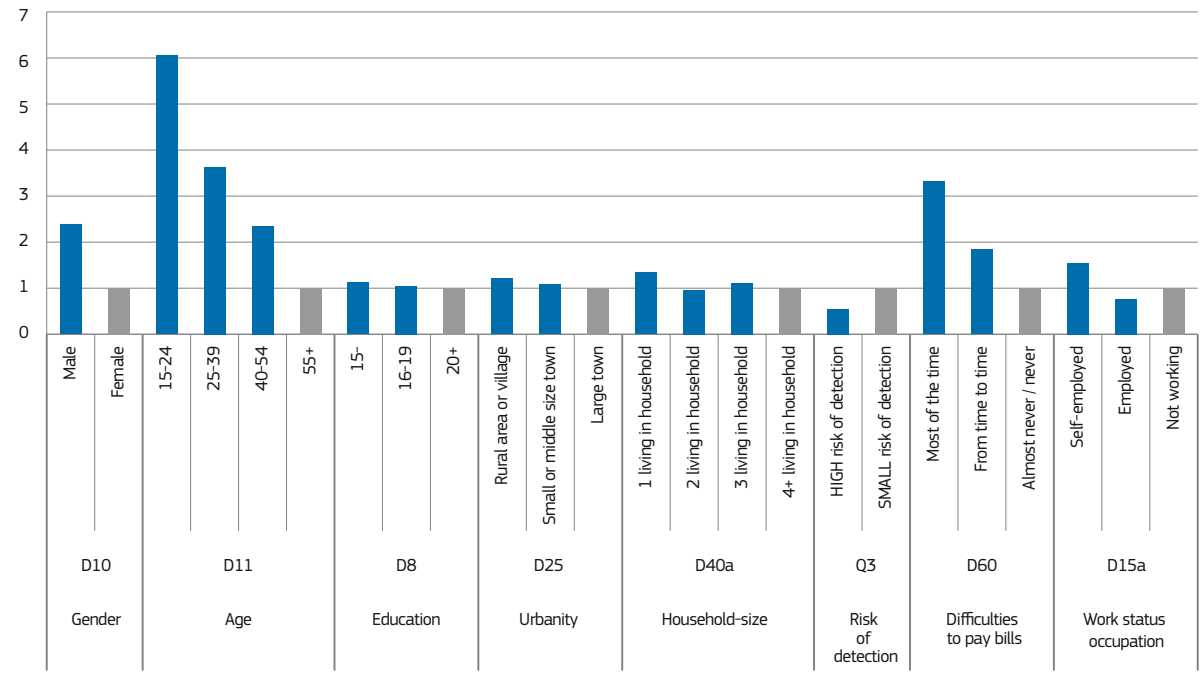
The **education** variable (D8) (proxied by the age at which full-time education stopped) was found to be insignificant in this model specification although this changes if the last variable reflecting **social hardship** (D60 on difficulties to get bills paid) is left out of the list of independent variables. In that case, there is strong evidence that lower education will result in a greater inclination to undertake undeclared work. This reflects the presence of multi-collinearity between D60 and D8. In fact, the results for D60 alone show that the more people are confronted with difficulties in paying their bills at the end of the month, the greater the (statistically significant) probability of having had experience with undeclared work.

Another strong determinant is the individually perceived **risk of being detected** (Q3) when working undeclared. Perhaps understandably, those who consider such risk 'high' have only half the odds of having worked in this way recently compared with those who considered the risk of detection as 'low'.

In line with expectations, **employment status** (D15a) is a highly significant determinant. With non-working people as a reference, employed people face a

Chart 25: Logistic regression for Q14, odds ratios relative to the respective reference categories (=1, grey bars)

Q14: Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months?

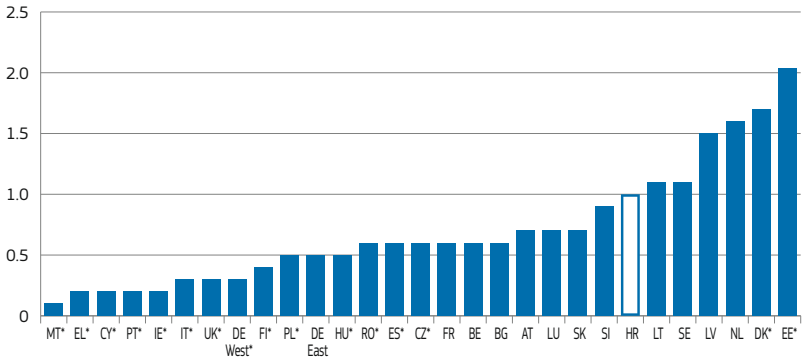


D10	Gender
D11	How old are you?
D8	How old were you when you stopped full-time education?
D25	Would you say you live in a...?
D40a	Could you tell me how many people aged 15 years or more live in your household, yourself included?
Q19a	You are employed WITHOUT a formal contract?
Q19b	Your salary is variable, with a substantial part based on results?
Q 19c	You work unpaid (either part or full-time) for a partner or family business?
Q3	People who work without declaring income, run the risk that tax or social security institutions find out and issue supplementary tax bills and perhaps fines. How would you describe the risk of being detected in (OUR COUNTRY)?
D60	During the last twelve months, would you say you had difficulties to pay your bills at the end of the month...?
Q13	Thinking about the organisation you work for APPROXIMATELY how many employees does it have?

Source: DG EMPL calculations based on EB 2013.

Chart 26: Country fixed effects in the logistic regression for Q14, odds ratios for the country fixed effects relative to Croatia (=1)

Q14: Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months?



Source: DG EMPL calculations based on EB 2013 (1).

(1) The * marks the country fixed effects which are significant at the 1% level or lower.

23% lower risk of having experience with black work. In contrast, the risk for self-employed people is much higher than for non-working peers (+55%).

Those results are in line with expectations and confirm earlier descriptive analysis. However, given the large sample size (21600 observations out of 27600 in total), it was also possible to control **country fixed effects** in the regression equation in order to capture unobserved differences in the institutional surrounding or cultural differences which could lead to a different understanding of questions by respondents. Chart 26 illustrates the odds ratio for the country fixed effects relative to Croatia as the reference country (=1).

The odds ratios reflect the chance of finding people with experience in undeclared work over the previous 12 months (Q14), relative to Croatia ([49]). Most odds ratios are below 1, indicating that, relative to Croatia, the odds of working undeclared appears to be systematically lower in most countries, although this is not the case in the Baltic countries or in Denmark, Sweden or the Netherlands. A possible explanation for this finding could be the relatively high proportion of neighbourhood services (especially childcare) in the latter countries.

3.5.2. Analysis of drivers of envelope wages

In order to consolidate these results, a second regression analysis was undertaken using a similar set of independent variables X, but with a dependent variable that asked specifically about people's experience with undeclared payments made in cash ([50]).

Q10: *Sometimes employers prefer to pay all or part of the salary or the remuneration (for extra work, overtime hours or the part above a legal minimum) in cash and without declaring it to tax or social security authorities. Has your employer paid you any of your income in the last 12 months in this way?*

The most significant differences to the estimation for Q14 are the perceived risk of being detected, on the one hand, and country specific effects, on the other.

The perceived risk of being detected when working undeclared (Q3) ceases to be significant in terms of whether or not the person has *received parts of supplementary payments undeclared* in cash. On the other hand, the danger of being detected seems to be a strong barrier to working undeclared, as seen in the regression for Q14 above. In fact, it appears that people feel safer when part of their pay is handled legally, but supplemented by an undeclared part paid in cash, although they are less inclined to work undeclared if the general risk of detection is higher.

Country fixed effects continue to show the mostly negative parameters vis-à-vis Croatia as reference. In contrast to the regression for Q14 above, this is also true for the Netherlands, Denmark and (especially) Sweden. In these countries, working undeclared at all seems to play a more dominant role than receiving supplementary undeclared payments in an envelope, which tends to support the explanation concerning the impact of neighbourhood services in these countries, which are usually paid for entirely in cash.

There are four additional explanatory variables which appear significant for the regression on Q10 on top of the list for the regression on Q14 shown above.

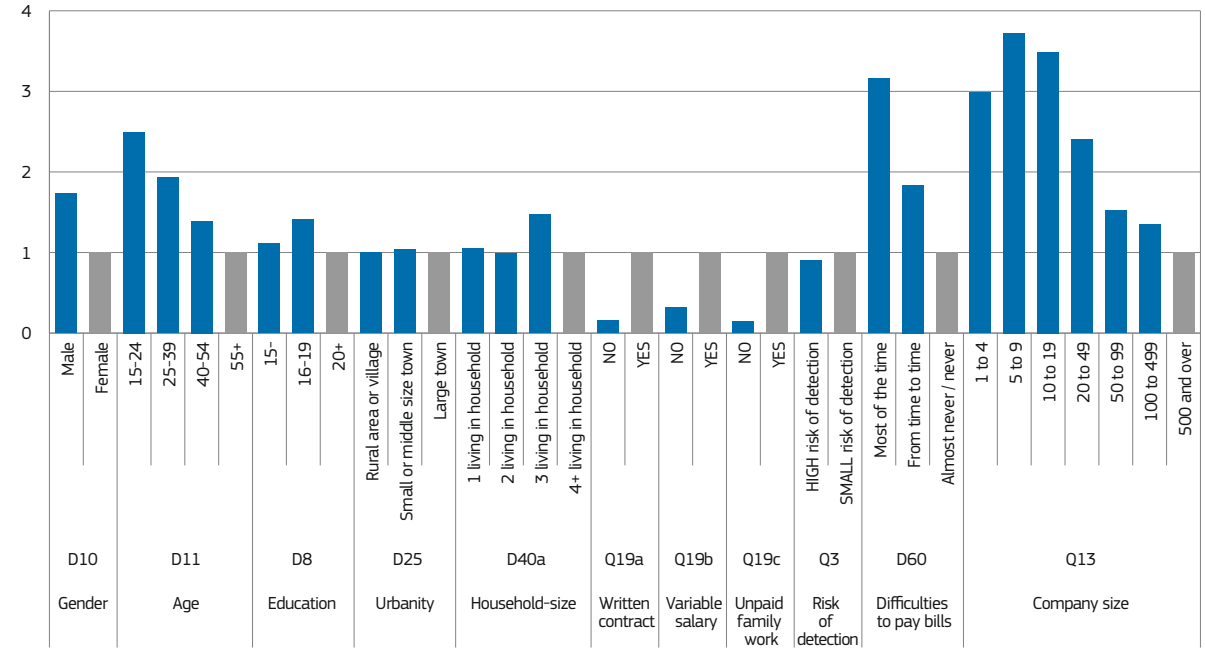
- The risk of having cash undeclared as part of one's salary is six times higher for people who are employed **without a formal contract**, compared to those with a formal contract. Having no written contract is a good indicator of people being at risk of being paid undeclared.
- It is three times higher for people with **variable parts of their salary** compared to those without since performance-based pay variations obviously make it easier to hide undeclared parts of the salary.
- It is six times higher for people who **work unpaid (at least part-time) for a partner or family business** compared to the complementary group. In this respect it is possible that many respondents who work in family businesses receive substantial parts of their pay undeclared while replying they did unpaid work for their family business.
- The **size of the organisation** where people work (Q13) is particularly significant concerning a person's inclination to receive in-cash payments without declaring them, with small organisations much more prone to envelope payments than large ones.

([49]) Croatia was selected as a reference by the algorithm because it is the last country of the series.

([50]) Again, the dummy is set equal to 1 in case of the respondent answering 'yes', 0 in case of 'no'. For the variables included in this regression, there are more invalid answers and refusals compared to the regression done above on Q14, so that the number of valid observations reduces to a less optimal 9.500. However, the results shown in Table Y broadly confirm what could be observed with Q14 as outcome variable which has a very similar target.

Chart 27: Logistic regression for Q10, odds ratios relative to the respective reference categories (=1, grey bars)

Q10: Has your employer paid you any of your income in the last 12 months [cash without declaration]?

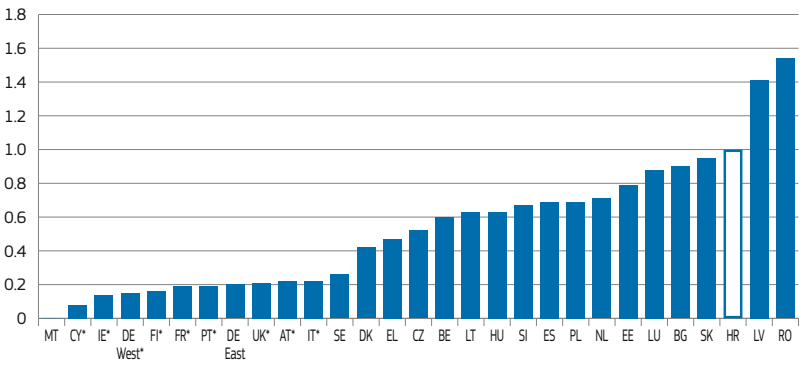


D10	Gender
D11	How old are you?
D8	How old were you when you stopped full-time education?
D25	Would you say you live in a...?
D40a	Could you tell me how many people aged 15 years or more live in your household, yourself included?
Q19a	You are employed WITHOUT a formal contract?
Q19b	Your salary is variable, with a substantial part based on results?
Q 19c	You work unpaid (either part or full-time) for a partner or family business?
Q3	People who work without declaring income, run the risk that tax or social security institutions find out and issue supplementary tax bills and perhaps fines. How would you describe the risk of being detected in (OUR COUNTRY)?
D60	During the last twelve months, would you say you had difficulties to pay your bills at the end of the month...?
Q13	Thinking about the organisation you work for APPROXIMATELY how many employees does it have?

Source: DG EMPL calculations based on EB 2013.

Chart 28: Country fixed effects in the logistic regression for Q10, odds ratios for the country fixed effects relative to Croatia (=1)

Q10: Has your employer paid you any of your income in the last 12 months [cash without declaration]?



Source: DG EMPL calculations based on EB 2013 (1).

(1) The * marks the country fixed effects which are significant at the 1% level or lower.

3.5.3. Perceived corruption and undeclared work

Since country effects were particularly significant in both the regression on recent experience with private undeclared work (Q14) and the one on envelope wages (Q10), the question arises as to whether these country effects hide differences which are more than just unobservable biases, or cultural differences in interpreting the questions. One determinant taken on board for a control regression analysis is Transparency International's Corruption Perception Index (CPI) for 2012, which reflects people's estimation of how transparent and reliable their public sector is seen

to be ([51]) with a higher CPI indicating less confidence.

In the analysis the dataset was amended by assigning the CPI of his/her country to each respondent. CPI is a macro-variable which is included as covariate in the regression. As every country has its CPI, country fixed effects and CPI cannot be included together in the same regression. Hence, for the analysis that follows, the CPI replaces the country effects in both equations (Q14 and Q10).

It appears that for the question about recent experience with private supply of undeclared work (Q14), CPI is not significant at levels below 10%, whereas it is highly significant for the question on undeclared envelope wages (Q10). The higher the CPI (the better the perceived situation in the respondent's country), the lower the probability of having part of the salary paid as envelope wage is. This is strong evidence that the existence of a public sector in which people have confidence serves to discourage them from working undeclared or at least accepting undeclared parts of their remuneration.

Table 19: Policy measures for transforming undeclared work into declared work ([1])

Approach	Focus	Typical measures
1. Compliance-oriented approach	Prevention	New categories of legitimate work Technological interventions to limit the use of cash Administrative simplification, notably for self-employment and new companies Increasing social protection for regular employment Safeguards in tax collection
	Corrective	Direct tax incentives targeted at buyers Service vouchers Amnesties
2. Commitment approach	Tax morality	Normative appeals Awareness-raising campaigns Changing perceptions of tax fairness
3. Deterrence approach	Improved detection	Better cooperation/coordination between labour and tax administration, including — improved exchange of information — joint operations
	Increased penalties	Increased penalties for evasion
	Increased perception of risk	Advertising the penalties for undeclared work Advertising the effectiveness of detection procedures

([1]) For an analysis of public policies to turn undeclared domestic work into declared see also TUDWA (2012), Williams and Renooy (2008).

4. The role of policies in transforming undeclared work into declared work

4.1. Introduction

A variety of measures have been implemented across the EU Member States in order to address problems of undeclared work and the black economy more generally.

These measures can be classified into three broad groups as shown in Table 19 ([52]). First, the compliance-oriented approach focuses on measures that create incentives to formalise undeclared work; the commitment approach focuses on measures that foster higher tax morale and a culture of commitment; and the deterrence approach includes measures that discourage people from working undeclared, e.g. by making the expected cost of being caught and punished greater than the economic benefit of engagement.

The rest of this section serves to illustrate recent policy examples from the Member States which may have brought about noteworthy changes in the incidence of undeclared work, or which are considered to have the potential to do so.

However, to the extent that the 'deterrence' approach is usually facilitating both the compliance and commitment approach, this section will not focus on inspections and penalties in their own right. In this respect, more information can be found in the impact assessment of the Commission's proposal to launch a platform of inspectorates and other enforcement bodies ([53]).

The chosen policy examples are a mix of horizontal and sector-specific measures, in which social partners often play a key role. It should be nevertheless noted that the impact of individual measures is difficult to judge a priori, let alone quantify, not only because of the general measurement difficulties specific to undeclared work, but also because of the possibility of apparently irrational economic behaviour.

In the 'compliance-oriented' approach (and also in the 'deterrence' approach), the starting point is that undeclared workers and their employers are 'rational economic actors' who evade tax, social security and labour law obligations when the pay-off to be obtained by evading them is greater than the expected cost of being caught and punished ([54]). However, the evidence from the Eurobarometer surveys appears to suggest that many of those engaged in undeclared work do not appear to be rational economic actors in that sense but rather social actors

([51]) It is a composite index — a combination of polls — drawing on corruption-related data collected by a variety of reputable institutions. The CPI reflects the views of observers from around the world, including experts living and working in the countries and territories evaluated. See http://www.transparency.org/cpi2012/results.

([52]) The classification in the table is derived from an inventory developed by Eurofound, see http://www.eurofound.europa.eu/areas/labourmarket/tackling/search.php.

([53]) Forthcoming.

([54]) Allingham, M. and Sandmo (1972), pp. 323–338.

Box 2: Action plan(s) to combat UDW in Latvia

In Latvia, the government adopted two action plans to combat undeclared work in 2010:

1. 'Action plan for combating the shadow economy and ensuring fair competition for 2010–13' developed by the Ministry of Finance. It includes 63 measures grouped in 14 directions of action, of which seven are general and six are related to selected economy sectors like construction, transports and logistics, and retail trade.

2. 'Action plan for combating undeclared employment 2010–13', developed by the Ministry of Welfare. This plan includes 25 measures, in four groups.

The general objective of both action plans is to reduce the size of the shadow economy and undeclared work, and to ensure fair competition. For this, it is planned that undeclared activities should be made as disadvantageous as possible, and activities in the formal economy made as advantageous as possible, by facilitating transfer to the formal economy and improving communication between legal public management and society. Both plans include measures aimed at deterrence as well as measures to improve compliance.

Among them, the most interesting is the simplification of the tax regime for micro-enterprises by the consolidation of several taxes into one so-called micro-enterprise tax introduced in 2010 (including personal income tax, social contribution and risk fee regarding employees of micro-enterprises, corporate tax if the company meets requirements of this tax or personal income tax payments due from the owner of the micro-enterprise). In terms of deterrence, the controlling authorities were strengthened both by training the existing staff and by adding staff to the authorities with the Revenue Service taking on 82 new auditors in 2012. In terms of punishment and sanctions, those caught using undeclared work risked losing permits and licenses.

motivated by goals such as redistribution ([55]).

Partly in recognition of the above, a 'soft' tax morality policy approach has begun to emerge that shifts attention away from using incentives or disincentives to focus instead on developing a culture of commitment amongst citizens, by educating people about the benefits of declared work and not evading tax, social security and labour laws ([56]).

All three approaches are mutually reinforcing, however, and can be effectively combined as demonstrated in the example of Latvia which saw one of the sharpest reductions in undeclared work between 2007 and 2013, in terms of both private supply and envelope wages.

([55]) As the 2013 Eurobarometer survey displays, 49% of undeclared workers conducted this activity for friends, colleagues or acquaintances, 27% for relatives and 18% for neighbours, and of those acquiring undeclared goods and services, 42% obtain these from friends, colleagues and acquaintances, 9% from relatives and 9% from neighbours. Examining the motives of purchasers of undeclared goods and services, moreover, in 22% of cases it is a favour amongst friends, relatives or colleagues (up from 14% in 2007) and in 20% of cases it is in order to help someone who is in need of money (up from 11% in 2007).

([56]) Williams, C. C. and Renooy, P. (2013).

4.2. 'Compliance-oriented' approach

4.2.1. Preventive measures

In order to make it easier and/or more beneficial to work in a legitimate way, at least five broad policy measures can be envisaged, namely: introducing new categories of legitimate work; technological innovations; administrative simplification for new companies and self-employment; increasing social protection; and safeguards in the tax collection system.

• New categories of legitimate work

One possibility for encouraging people and businesses to engage in declared work is to introduce new categories of declared work so that activities conducted as undeclared work can be declared. Yet, this should not lead to a proliferation of contract types and to labour market segmentation ([57]).

Given the limited scale of much of the undeclared work in the EU and the extent to which much undeclared work involves odd jobs, many conducted for and by close social relations, the creation of an appropriate employment status is seen as an important means of legitimising a significant portion of the undeclared economy. A well-known example of this is the 'mini-jobs' category of employment adopted in Germany, which has one of the lowest rates of supply of undeclared work (2% according to the most recent EB based on question 14).

The creation of new categories of legitimate work to enable odd jobs to move from the undeclared to the declared realm has also been used elsewhere. However, the unlimited proliferation of such atypical forms of regular employment (e.g. odd jobs, mini-jobs, etc.) needs a word of caution. As shown in European Commission (2011), Chapter 4, such jobs are often associated with a higher risk of in-work poverty and can in no way represent a long-term substitute for permanent jobs.

Box 3: Mini-jobs, Germany ([1])

Until 1999, 'minor employment' was allowed up to a certain income level (DM 630) and with a weekly working time cap of 15 hours. This work was exempt from social security payments for employers and employees alike. Employers had to pay a lump-sum tax of 23% with employees paying no tax at all. This minor employment could be combined with declared regular employment and could still be exempt from tax and social security contributions. At the start of 1999, there were over 6.5 million minor jobs, representing almost 70% of all jobs in catering and 60% of jobs in cleaning.

In 1999, the government reformed the minor employment scheme, aimed at limiting its growth, which drove much of this work into the undeclared sphere.

In 2002, the German government introduced three new types of mini-jobs:

1. €400 jobs — the income limit of the former DM 630 jobs was raised to €400. However, the 15 hours per week limit was lifted. In 2013 the upper limit was raised to €450 tax free. At the same time as the upper earnings limit was raised, the statutory duty to have pension insurance was also introduced for anyone commencing a mini-job. The employer pays all of a reduced contribution of 15% (as opposed to half of the regular 19.6%) of the monthly gross wage. Marginal employees earn correspondingly lower pension entitlements but they can bring this up to the full entitlement by voluntarily paying the remaining sum (4.6%) into the pension scheme.

2. Mini-jobs in the household sector — introduced to combat undeclared work in this sphere. The employer pays a levy of 12% and can deduct a certain amount from their tax payments.

3. Mini-jobs — to ease the transfer from minor to normal employment, a transition zone now ranging between €450 and 850 was introduced, with social security contributions for the employee rising gradually from around 4% to the full 21%.

While 4.1 million employees were in minor employment in September 2002, this had risen to 5.5 million at the end of April 2003, one month after the introduction of mini-jobs. Some 1.21 million were people already in a formal job, about 580 000 of whom are estimated to have transferred their add-on job from the undeclared to the declared realm ([2]).

In 2013, there were about 7.5 million €400 mini-jobs and every fourth newly created job is a mini-job; in the hospitality sector 50% of all jobs are mini-jobs ([3]). Many are undertaken by married women, not least because the income tax thresholds for family income and child allowances are not affected.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/de016.htm.
([2]) Baumann, A. and Wienges, S. (2003).
([3]) Woudwijk, J. (2012), pp. 23–33.

([57]) In order to avoid a potential proliferation of contracts, the creation of new categories of legitimate work can go together with improving existing contract types, reducing administrative burden, etc.

Box 4: Voucher scheme in the agricultural sector, Italy

A 2008 pilot service voucher scheme introduced in Italy in the agricultural sector during the grape harvest ('Il sistema dei voucher nel settore agricolo') sought to regularise the students and pensioners who supply their labour on an occasional basis during the grape harvest. Each worker can work for a maximum of 30 days and the maximum remuneration is €5 000 in a calendar year. Each employer can use the voucher scheme up to a maximum of €10 000 per annum. The workers are paid in these vouchers, credited on a magnetic card, and then cash withdrawals can be made with them at ATMs. The magnetic card also carries information about the worker relevant to the social security agency (INPS) and the workplace accident insurance agency (INAIL).

Within a year of its introduction in August 2008, 540 000 vouchers (worth €10 each) were sold to employers, resulting in the regularisation of 36 000 workers for 108 000 working days.

This voucher scheme has now been extended to all agricultural activities and a maximum of €7 000 of vouchers can be used by each employer. By early 2013, almost 5 million vouchers of €10 each had been sold, meaning work for 110 000 workers ([1]). This scheme could be further extended to other sectors and activities, including private coaching (such as music lessons), gardening, holiday work by young people and door-to-door deliveries.

([1]) http://www.reggio-emilia.coldiretti.it/focus-voucher-in-agricoltura.aspx?

Box 5: Seasonal and casual work in Hungary: the Simplified Employment Act, 2010

With the introduction of the Simplified Employment Act in 2010, Hungary encouraged a new category of minor employment by simplifying obligations for employers linked to seasonal employment and casual or temporary work ([1]). In particular, the Act enables an employer to notify this work either by a simple text message (SMS) or electronically via the Client Gate System once they are registered on the system. For seasonal work, the employer has to pay taxes of HUF 500 (€1.75) and for casual work HUF 1 000 (€3.50) on a daily basis.

According to the National Tax and Customs Administration, between April and May 2010, over 505 000 simplified employment cases were registered, of which nearly 420 000 were for ad hoc or casual employment, 16 000 for seasonal agricultural employment, 6 500 for seasonal tourism employment, and over 10 000 in plant cultivation. Around 500 000 of these jobs lasted less than five days. Between 1 August 2010 and 31 December 2011, around 12.5 million working days were registered and HUF 8 billion (€28 million) flowed into the State treasury ([2]).

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/hu015.htm
([2]) http://hvg.hu/gazdasag/20120312_alkalmi_munkasok_bevetel

Box 4, Box 5 and Box 6 provide examples from Italy, Hungary (where participation rates in undeclared work have significantly declined from 7% to 4% of the population between 2007 and 2013), and Denmark (which has witnessed the largest decline in the participation rate in undeclared work — 9 pps — between 2007 and 2013.

However, all such measures need limits. If paid favours are encouraged as a type of employment rather than as a form of active citizenship, this might have the side effect of expanding the labour system to incorporate working conditions that were previously seen as unacceptable and precarious and liable to result in unfair competition and an overall loss of tax revenue.

• Technological interventions to limit the use of cash

Since the onset of the recession, greater use has been made of technological interventions to address issues of undeclared work, notably including 'cash registers'. Box 7 reviews their introduction in Sweden and Poland, where undeclared work declined by around 3 pps between 2007 and 2013. Similar schemes have also been introduced in Belgium (mandatory from 2014 in the hospitality sector), Denmark, Greece, Italy and Hungary.

Box 6: Legitimising odd jobs in Denmark

In Denmark, family and friendly favours in private homes are now tax-free, thus legalising the bulk of previously existing undeclared work in Denmark. Furthermore, young people under 16 years of age can also be paid for domestic work or child-care for other private households without paying tax. Pensioners can earn up to DKK 10 000 annually (€1 341) by working in private homes with no consequence for their State pension.

It can be noted that the demand for cleaning (21 %) is the fifth largest in Denmark, and that the supply of other domestic services (e.g. repairs/ renovations) is 29 %, just 4 pps lower than the highest level in the Union. Efforts to formalise this type of work can significantly contribute to reducing the level of UDW in the country.

Box 7: Cash register legislation in Sweden ([1]) and Poland ([2])

In Sweden, as of 1 January 2010, businesses selling goods and services in return for cash payments must have a certified cash register which has a black box attached to it that reads these transactions. Only staff at the Swedish Tax Agency can access the information in the black box. Non-complying companies can be fined SEK 10 000 (€1 190). If they fail to comply once again within a year, a fee of SEK 200 000 (€23 800) is imposed. Cash payments registered include those made by debit (bank) card. It is too early to evaluate the overall effect, but statistics from the Swedish Tax Agency indicate that in 2010 the reported VAT for restaurants rose by 7 %, and in the hairdressing industry by 11 %.

In Poland, in 2010 the Ministry of Finance made electronic fiscal cash registers mandatory in a range of professions (for example doctors, lawyers, tax advisers, physicians running private practices, funeral homes and translators). The immediate effect was weaker than expected, as less than 30 % of the estimated number notified the tax administration of having acquired fiscal cash registers within a month of the law coming into force. The exact figure of those who complied in subsequent months is not known. Another problem is that it remains possible to avoid recording sales despite the introduction of the cash registers. For example, doctors reportedly only have to record sales during official opening hours, thus excluding patients seen after hours, those seen on home visits and those patients agreeing to a lower fee if no 'paperwork' is involved.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/se017.htm
([2]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/pl017.htm

Another possible use of technology to reduce undeclared work is the pre-filling of tax forms, applied already in 10 Member States (Belgium, Denmark, Finland, Lithuania, Malta, the Netherlands, Portugal, Romania, Spain and Sweden). They are seen to reduce opportunities for both error and fraud, to reduce the administrative burden, and to improve the relationship between taxpayers and public administration.

Furthermore, making the electronic payment for any transaction compulsory over a certain threshold — which for instance, has been set at DKK 10 000 (€1 341) in Denmark, €1 000 in Italy and €1 500 in Greece — is also an effective way of tracking large transactions. However this measure offers only partial coverage since transactions under the threshold still remain susceptible to being done under-the-counter. Moreover, the effectiveness of the scheme partly depends on the ability of the tax authorities to trace the individuals' electronic payments or bank accounts. This is currently not the case in all Member States, and is in general difficult to achieve because of confidentiality and data protection concerns.

• Administrative simplification, notably for self-employment and new companies

Simplifying the compliance procedures has been stepped up in many Member States since the onset of the recession as a way to induce more tax compliance. This can take the form of reducing the number of tax forms and returns, or pursuing an integrated approach to audit with a single visit to inspect records rather than separate inspections for different taxes ([58]). These are often incremental changes, but when taken as a cumulative whole have major impacts on compliance behaviour.

The risk of people drifting into undeclared work can also be prevented by making the transition into self-employment easier for both the employed as well as the unemployed on whom most Member States tend to focus. One such initiative is the start-up premium in Germany (see Box 8).

([58]) More details to be found in the impact assessment of the Commission's proposal to launch a platform of inspectorates and other enforcement bodies, forthcoming.

Box 8: Start-up premium (Gründungszuschuss, Ich AG), Germany ([1])

In 2002, the Hartz Commission was asked to present reform proposals for national labour market policy. One aspect was the introduction of a new public subsidy for business start-ups (Existenzgründungszuschuss). Introduced in 2003, this subsidy became known as 'Ich-AG', or 'Me PLC'. In the beginning, the scheme was criticized for performing the same function as a second, existing scheme, the 'bridging grant' (Überbrückungsgeld), resulting in the federal government fusing the two initiatives together in 2006 in the form of the 'start-up premium' (Gründungszuschuss, GZ). This GZ can be granted to recipients of the unemployment benefit wanting to start up their own business. In addition to their continued unemployment benefit, recipients receive an additional monthly grant of €300 in the first six months. If, after these six months, the recipient proves intense business activity and initial successes, the additional €300 monthly grant is paid for another nine months. Until the end of 2011, the timing of the two stages was reversed, lasting nine months and six months respectively. The prerequisites for participation in the scheme are being entitled to 150 days of unemployment benefit on the day of the company's foundation, proof of capability to do self-employed work and the possession of an economically viable business plan.

According to a study, more women applied for GZ-funds ([2]) than previously. GZ participants are also older and have higher educational qualifications compared with participants in the two earlier schemes ([3]). Between 119 000 and 147 000 recipients of the unemployment benefit enrolled annually in the GZ scheme between 2007 and 2010 ([4]). There is also a high survival rate: 19 months after start-up, 75–84 % of former GZ recipients were still in business ([5]). No evidence has been provided, however, of the scheme's effectiveness in reducing undeclared work.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/de017.htm
([2]) Bernhard, S. and Wolff, J. (2011).
([3]) Caliendo, M., Hogenacker, J., Künn, S. and Wießner, F. (2011).
([4]) Bernhard, S. and Wolff, J. (2011).
([5]) Caliendo *et al.* (2011).

Box 9: Simplifying legislation, Portugal

In 2005, Portugal's Ministry of Justice (Ministério da Justiça) announced the Simplex programme whose aim is to encourage administrative and legislative simplification. One initiative was the 'on the spot firm' ('Empresa na Hora'), which seeks to alleviate the processes and procedures necessary to set up a new company. This initiative makes it possible to establish a company in a single office (one-stop shop) in a single day. On completion, the definitive legal person ID card is handed over, the social security number is assigned and the company immediately receives its memorandum and articles of association, as well as an extract of the entry in the Commercial Register. The security of the incorporation procedure for new enterprises is thus ensured by having all the details sent to the tax authorities. Between 2005 when the initiative started, and September 2008, some 59 068 new enterprises were established, including 23 560 sole trader businesses (40 %).

Since the onset of recession, most Member States have continued to pursue simplifications within their compliance procedures including actions such as reducing the number of tax forms and returns. These are often small incremental changes, but when viewed overall, can have a major impact on compliance. Compliance can also be simplified without deregulating, as the Portuguese example of the 'on the spot firm' shows (see Box 9) ([59]). Many other countries have explored the transferability of this initiative, including Finland, Hungary, Slovenia, Sweden, Brazil and China.

• Increasing social protection for regular employment

Increasing social protection for those who are engaged in declared activities has a twofold advantage. Firstly, the connection between formal work, paying social premiums, and the benefits of unemployment payments or pensions, makes formal work attractive. Secondly, welfare provisions during periods of unemployment take away the need to do undeclared work in order to obtain an income. Moreover, the provision of such social protection does not always have to be government-led, as the example of Romania shows (see Box 10).

([59]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/pt003.htm

Box 10: Builders Social House, Romania ([1])

In Romania, 'The Construction Sector Social Agreement for 2007–09' ('Acordul Social Sectorial Pentru Construcții 2007–09') estimated that about one-third of the active workforce was undeclared and highlighted the importance of tackling this sphere. The Builders Social House (Casa Socială a Constructorilor, CSC) is one prominent initiative being used to incentivise the transformation of undeclared work into declared work. The CSC was established in 1998 as a privately run welfare organisation, to which the representative trade unions and employer organisations in the construction and building materials sector contribute in equal measure. It provides welfare during the winter months (1 November – 31 March), when the construction sector slumbers, to people who are in registered formal jobs and in doing so, provides an incentive for workers to be in declared rather than undeclared work in the construction and building materials sector.

CSC members are construction companies and manufacturers of building materials. Entitlement to welfare provision during these winter months is only available to declared employees — that is, those with employment contracts recorded with the local labour inspectorates, and whose social security contributions due by both the employer and employee have been paid. Corporate contributors pay 1.5 % of their turnover into the CSC scheme, and employees contribute 1 % of their gross base salary. In 2008, CSC had 573 member organisations accounting for 40 % of all employment in the construction and building materials industries. During the 2007–08 winter period, 102 387 benefited from this scheme as welfare recipients.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/ro001.htm

Box 11: Reverse charges in the construction industry, Sweden ([1]) and reverse VAT in Finland

To tackle VAT fraud and undeclared work in the construction industry, the Swedish government introduced a law on reverse charge VAT effective from 1 July 2007. A reverse charge means that the buyer, not the seller, must file and pay VAT. This system is similar to the one used in the trade of goods and services between companies in different countries within the EU. A company which performs and sells construction services, must pay VAT for its subcontractors. If the purchaser of the service is not a construction company, the vendor adds VAT to the invoice. If the purchaser of the service is a construction company, the vendor does not add VAT to the invoice. Instead, the purchaser will be responsible for reporting the output VAT. Reverse VAT liability does not apply to sales which consist solely of materials.

According to a survey by the Swedish Tax Agency, around 39 % of the surveyed companies believed that the reverse charge reduced the extent of undeclared work in the construction sector. The Swedish Tax Agency did not find support for this argument when investigating any increase in payroll taxes. The Tax Agency does however find that the reverse charge has had positive effects in terms of increased reporting of output tax in the construction sector by SEK 700 million (€82.3 million) in 2008 ([2]).

In April 2011, Finland introduced reverse VAT, only with construction services, not materials, and private individuals as buyers are excluded. In the legislative proposal, the increase in VAT revenue was estimated to be €80–120 million.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/se016.htm.

([2]) Swedish Tax Agency (2010).

This approach is potentially transferable to other economic sectors where work is largely seasonal, such as agriculture and forestry, and also to other countries.

• Introducing safeguards in the tax collection system

Tax fraud creates significant distortion in the functioning of the internal market, prevents fair competition and also erodes revenues that should be used for the implementation of public services at national level. In particular, VAT fraud is highly important in several Member States involving relatively few persons but the amounts at stake are considerable. In addition VAT fraud is also often linked to the black economy, false deductions, falsified invoices or under-reported supplies which also contribute to the losses in VAT revenues. Moreover, undeclared work is often associated with the avoidance of paying VAT. One option to ensure that VAT is paid in the production chain is to use the so-called reverse charge mechanism which implies shifting the tax liability from the supplier to the recipient with respect to domestic commercial transactions. The tax liability does not disappear into the production chain. The main suppliers tend to be large VAT-registered companies and there is no VAT charged to the main supplier responsible. The last supplier in the production chain is responsible for the VAT filing. This is one option advocated for tackling undeclared work as well. As such, the mechanism is tackling mainly the problem of the so-called carousel or missing trader fraud. However, a generalised reverse charge mechanism is still under consideration taking into account that the effects of such a change have to be considered carefully. These effects are linked mainly to the need to control the movement of untaxed goods, to the need for the identification of the customer (taxable or non-taxable person), cash flow, etc.

So far, such a reverse charge mechanism has been introduced in many EU Member States for specific, and limited,

Box 12: Tax deductions for household work in Sweden ([1]) and Denmark ([2])

Since December 2008, Swedish citizens can receive a 50% tax deduction on labour costs for household services (RUT) and the renovation, conversion and extension of homes (ROT), up to a maximum of SEK 50000 (€6000) per annum. Companies charge the customer the costs of materials and half the labour costs, including VAT. The company requests the outstanding sum from the Swedish Tax Agency. In 2010, 1.1 million people used this scheme and the Swedish Tax Agency paid out SEK 1.4 billion (€16.6 million) in RUT deductions and SEK 13.5 billion (€1.6 billion) in ROT deductions. Some 7.6 million hours of RUT services and 53 million hours of ROT services were performed.

The Swedish Tax Agency estimates that undeclared work decreased by 10% between 2005 and 2011 in these sectors ([3]). In the autumn of 2009, the Swedish Federation of Business Owners conducted a survey among 1857 companies in the construction sector. The result showed that nearly 80% of the surveyed companies felt that the measure had a positive impact on reducing undeclared work.

From 1 June 2011 until the end of 2014, it is possible in Denmark for each household member over 18 years of age to deduct from their taxes up to DKK 15000 (€2000) for the costs of employing craftspeople and domestic helpers under a pilot project called 'Home-Job Plan' (Bolig-Jobplan). The expenses that can be deducted include payment for cleaning, indoor-outdoor maintenance of the house, gardening and babysitting and since April 2013 it has also included subsidies to summerhouses.

The cost to the government was estimated to be DKK 1 billion (€134 million) in 2011 and around 1.75 billion (€234 million) in 2012 and 2013. Relative to expectations, the pilot project has so far been a success; 270000 people used the deduction in 2011 and most of the work involved home improvement, maintenance and repair. They have on average reported deductions of DKK 9800 (€1315) per person. In total, the deductions reported constitute DKK 2.7 billion (€362 million). The tax value of those deductions is around DKK 900 million (€121 million). The success of the measure was partly due to the simplified way of realizing the deduction. The Danish tax authority introduced an electronic system to pay for services and at the same time for the deduction on the tax return of the buyer and for reporting the income on the tax returns of the person performing the work.

The major difference between Sweden and Denmark is that Sweden has a tax deduction of €6600 compared with €2000 in Denmark. Similar measures have also been initiated in Finland and Germany.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/se015.htm
([2]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/dk015.htm
([3]) Swedish Tax Agency (2011).

goods and services vulnerable to VAT fraud (mobile phones, construction services, etc.).

The example of Sweden shows a significant decline in undeclared work in the construction sector where it had traditionally been heavily concentrated.

4.2.2. Corrective measures

In addition to measures to prevent people working in an undeclared way, initiatives have been introduced to make it easier and more beneficial for those already participating in undeclared work to declare their earnings. Many of the measures under consideration concern sectors that are sensitive to undeclared work (household services, construction etc.) as well as regularisations more generally.

- **Direct tax incentives targeted at buyers of undeclared work**

Targeted direct tax incentives to encourage consumers to purchase declared goods and services have been pursued in relation, for example, to household repairs, maintenance and improvements. Tax rebates on home maintenance expenses have been available in France since 2000, and there are tax reductions for house repairs in Italy and Luxembourg. The impact of such measures however has to be assessed.

Schemes in Sweden, where undeclared work decreased by 3 pps between 2007 and 2013, and Denmark, where undeclared work has decreased by 9 pps, are reviewed below. These schemes both target household services (e.g., cleaning, babysitting, gardening), where undeclared work is heavily concentrated, as well as the household repair, maintenance and improvement area, and have been associated with a steep decline in undeclared work in these countries (see Box 12).

Instead of tax rebates, demand can also be stimulated with subsidies since they can also reduce the price of goods and services to consumers. In Austria, for example, specific types of elderly care are supported through targeted subsidies with associated measures to formalise these activities such as an amnesty for the many foreign workers working undeclared as private nurses.

Box 13: Subsidies for private geriatric nurses, Austria ([1])

In Austria, older people often engage foreign workers on an undeclared basis for private nursing care at home. To bring this into the declared realm, in 2007, the Nursing in the Home Act (Hausbetreuungsgesetz, HbeG) offered two alternatives for geriatric nurses. Firstly, the person requiring care can employ either one or two geriatric nurses under the terms of the existing Private Household Workers' Act (Hausgehilfen- und Hausangestelltengesetz). Secondly, nurses have the option of becoming self-employed under the new 2007 legislation, which means that they need to apply for a general trading licence and register with the Social Insurance Association for Entrepreneurs and Self-Employed Workers (Sozialversicherungsanstalt der gewerblichen Wirtschaft, SVA).

The purchaser can claim subsidies for these formal workers of up to €400 per nurse each month under the former legislation and up to a maximum of €112.50 per self-employed nurse each month. Only persons requiring 24-hour stand-by care, and who do not possess assets worth over €5 000 (excluding their house), can claim these wage subsidies.

The measure has not been evaluated. According to the Federal Ministry of Economy and Labour Affairs (Bundesministerium für Wirtschaft und Arbeit, BMWA), 15 000 people have entered the self-employment scheme and applied for a general trade licence under the HBeG.

According to estimates from the Federal Ministry of Social Affairs and Consumer Protection (Bundesministerium für Soziales und Konsumentenschutz, BMSK), effective monthly costs of the new 24-hour care schemes amount to €1 500–€2 000 in the case of self-employment and to €2 600–€2 850 for regular employment. For many older people, these costs are still not affordable; as a result, they are forced to continue engaging the services of undeclared foreign workers for private nursing care at home.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/at001.htm

• Service vouchers (notably in the household services sector)

Many countries have developed service voucher schemes to encourage customers to purchase from the declared economy in areas where undeclared work occurs frequently such as in household services. Service vouchers are a form of a direct intervention with the user paying only part of the real cost (close to the price on the informal black market) and the difference paid by the public authorities. In this way it encourages suppliers of these services to enter the formal labour market.

Vouchers are seen as flexible, and easy to use, tools, making them especially attractive to the elderly people in need of assistance. They also simplify administrative procedures, allow for a continuous verification of where support has been given, and favour local businesses since they are usually targeted at specific tasks ([60]). Box 14 presents an example from Belgium.

([60]) See also European Commission (2012a).

Box 14: Service Vouchers, Belgium ([1])

Service vouchers in Belgium can be used for activities done at home (cleaning, laundry and ironing, cooking, sewing) and outside the house (shopping, ironing, assistance with transportation under certain conditions). In 2013, the user pays €8.50 per hour for the first 400 vouchers (one voucher being used for one hour of work) and €9.50 for the next 100, but the real cost is €22.04 and the difference is financed by the government. Each individual is allowed to buy 500 vouchers a year, or 1 000 vouchers for each family ([2]). Up to €1 350 per year is tax deductible.

Every voucher can be used to pay for an hour of work from certified companies that hire unemployed people. At first, the unemployed person can be hired by the company on a part-time, temporary basis. After six months, the company has to offer the worker a permanent employment contract for at least part-time employment if the person was registered as unemployed.

In 2011, the total cost of the voucher scheme in 2011 was some €500 million; per employee net costs amounted to €3 520 in 2011 ([3]).

During 2011, around 150 000 persons were employed through the voucher system. Only 4.6 % of employees (10.2 % in Brussels) stated that they started working in the voucher system to avoid the undeclared economy. Examining the labour force of the voucher system, it is mainly women (97 % of all the employees) aged 30–55 with low educational levels. This profile is growing stronger over time; the proportion aged 50 and over is growing (11 % in 2006, 19 % in 2011), as is the proportion that are non-Belgian nationals. Some 20 % of all voucher workers (55 % in Brussels) are non-Belgian EU-28 nationals, and a further 10 % are from outside the EU-28. In 2007 only 14 % of the voucher workers were non-Belgian ([4]).

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/be004.htm

([2]) Some categories, like single parents or young mothers starting to work, are allowed more vouchers.

([3]) Gerard, M., Neyens, I. and Valsamis, D. (2012).

([4]) Peeters, A., Pelt, A. van and Valsamis, D. (2008).

Box 15: Amnesty for undeclared workers, Spain ([1])

On 26th May 2011, the Spanish Parliament enacted a Royal Decree (5/2011) to tackle undeclared work. In the first phase, an amnesty was granted allowing employers to register any undeclared employees with the Social Security authorities and to sign a contract of employment with them lasting at least six months, regardless of whether it is fixed-term or open-ended. Businesses following these procedures before 31st July 2011 were not penalised and did not have any backdated social security contributions charged. They were only required to pay social security contributions from the point of registration onwards.

In the second phase starting 31st July 2011, new measures and sanctions were applied to businesses continuing to employ undeclared workers. Sanctions became stricter with offences punished with a fine of between €3 126 and €6 250 for minor infractions (a fivefold increase), €6 251 and €8 000 for medium offences and €8 001 and €10 000 for major infringements (1.5 times as high as it used to be). The fines for 'very serious offences' did not change. They remain at €10 001 to €25 000 for minor infractions, €25 001 to €100 005 for medium offences, and €100 006 to €187 515 for major breaches. Any enterprise sanctioned as a result of a serious or very serious offence will not be eligible to apply for public contracts for a period of five years. No evaluation is currently available of the outcomes of this amnesty.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/es015.htm

Other countries have developed service voucher schemes covering similar services, the system in France (CESU vouchers) ([61]) being an example.

- **Amnesties and gradual formalisation schemes**

Society-wide amnesties on an individual basis for those who voluntarily disclose that they have been working undeclared can sometimes be an effective way of transforming undeclared work into declared work. However, they should be one-off, and coupled with measures (e.g. more effective enforcement and stronger deterrence) that ensure that they will not morph into successive rounds of amnesties, where tax avoidance and undeclared work persists amid strong expectations of further amnesties. Box 15 presents an example from Spain.

In Italy, for example, a six-month amnesty in 2001 generated €1.4 billion of additional tax revenue, adding some 0.4 % to total tax revenues ([62]). However, such an amount needs to be compared to the revenue foregone originally, and furthermore a tax amnesty can create incentives for future tax avoidance.

4.3. Commitment approach

In contrast to the approach outlined above, the commitment approach seeks to foster commitment to working in a declared way, and to contributing to the society through the payment of taxes. In other words, there is a shift from compliance to commitment.

Since the onset of recession, measures to foster such commitment have grown throughout the EU as governments and social partners have sought to educate and raise awareness about the importance of paying taxes, fostering decent working conditions and generally seeking to strengthen the psychological 'contract' between the State and its citizens.

4.3.1. Normative appeals to people to declare their activities

Whether appeals are effective at eliciting a change in behaviour depends, not only on the nature of the appeal, but also on the individuals addressed, their perceptions of the social norms, the fairness of the tax system, and whether procedural justice is embedded in the tax administration.

In Estonia, for example, an initiative was undertaken that appears to have been relatively successful given that there has been a significant increase in the perceived risk of being caught relative to other countries, and also a significant decrease in the proportion of formal employees receiving envelope wage payments (see Box 16).

([61]) CESU voucher (Cheque Emploi service Universel): http://www.cesu.urssaf.fr/cesweb/home.jsp

([62]) Schaltegger, C. A. and Torgler, B. (2005).

Box 16: Normative appeals on envelope wages, Estonia ([1])

In January 2008, the Estonian Tax and Customs Board (Maksu-ja Tolliamet) sent notification letters to companies with low wage levels compared to the average level in the region and their respective business sector, which might suggest that 'envelope wages' were present. The notification letters informed the employers of the low competitiveness of their wage levels compared with average wage levels. Letters were sent to 2 000 employees and 1 000 enterprises in three groups — letters were sent either only to employees, only employers or both the employers and employees of the same company. Employees were informed about the risks that accompany undeclared wages, such as losing social guarantees. Firms were first given an opportunity to make necessary corrections in their declarations voluntarily. Strict control measures were then employed for the firms which did not formalise their practices after receiving notification letters.

According to the audit department of the Tax and Customs Board, 46 % of enterprises that received the notification letters in 2008 adjusted their wage levels and started paying more taxes. 43 % did not react to the letters and in 8 % of the companies their tax behaviour worsened. After four months, the notification letters had brought an additional EEK 10 million (about €640 000) of tax income, including EEK 8.8 million from notifications sent to enterprises and EEK 1.2 million from those sent to individual employees.

When comparing different methods of sending notification letters, the most successful in terms of improved tax behaviour was when both the employer and employees received the letters. 56 % of such enterprises improved their tax behaviour and just 36 % did not react.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/ee001.htm

Box 17: Awareness-raising campaign, Lithuania

The VDI campaign embarked on a fundamental change of approach for tackling undeclared work, placing greater emphasis on business consulting, public information and awareness-raising. These activities were implemented through various media channels, such as radio, television, press, the internet, information screens in shopping centres and public transport. According to the VDI, this reduced the tolerance towards undeclared work in Lithuania. As a result, a growing number of alerts are made by members of the public about undeclared workers. In 2011, 2 400 people reported incidents of undeclared work anonymously. More than 50 % of the total registered anonymous calls proved to be valid.

Box 18: Awareness-raising campaign, Latvia

In October 2011, the Latvian Employers' Confederation Latvijas Darba Deveju Konfederacija (LDDK) conducted an awareness-raising and educational campaign 'Against the shadow economy — for fair competition' ([1]). It included an online test for measuring the impact of one's undeclared activity on public welfare. Answering 11 questions in the test, individuals could become aware of their undeclared behaviour in shops, markets and with service providers (taking or leaving a receipt when purchasing), in hospitals (extra payments to doctors), transport (extra payments to officers), employment (working with or without an employment contract, undeclared income from work and accepting 'envelope wages') and its effects on the quality of public services and the efficiency of the State management.

Around 12 000 individuals participated in the online test. Participants were advised how to reduce their own undeclared economy impact, for example by paying official prices for services, acquiring a receipt in shops and other shopping places, ensuring that a taxi meter was working, and only purchasing certified car fuel.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/lv015.htm

4.3.2. Awareness-raising campaigns

Awareness-raising and educational campaigns have been pursued in many Member States in order to improve tax morale and encourage a better understanding of the benefit of contributing fully through the payment of taxes. Such campaigns typically focus on the costs and risks of undeclared work and the benefits of declared work.

Many examples exist of awareness-raising campaigns implemented since the onset of the recession. Box 17, Box 18 and Box 19 present examples from Lithuania, Latvia and Bulgaria. In Lithuania, for example, the EB 2013 reports that its citizens perceived the risks of being caught as being much higher than in most other Member States. Not least, this can be a result of a public information and awareness-raising campaign ([63]) by the Lithuanian State Labour Inspectorate (VDI) launched in 2009.

4.3.3. Changing perceptions of distributive fairness

Taxes are the price paid for the goods and services provided by governments. Citizens see themselves as more justified in breaking the psychological contract with the government, if they do not believe that the price is fair and/or they do not adhere to the distributive principles of the government. In other words the tax system needs to be perceived as fair by citizens, who also need to know how their money is being spent.

A 2009 survey in Estonia ([64]) revealed that awareness of the services people receive from the State was relatively low; 26 % of respondents did not know what kind of services they received from the State, while around half of those (11 %) said that they received nothing. In 2010 and 2011 an information campaign, 'Unpaid taxes will leave a mark', was implemented by the Estonian Tax and Customs Board with the aim of raising awareness among the population regarding how tax payer money is used by the State by explaining why it is important to pay taxes and what each citizen receives in return (see Box 20).

([63]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/lt015.htm

([64]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/ee015.htm

Box 19: Example of Bulgaria

The Bulgarian National Rules for Business Centre ([1]) was established in 2010 to change the attitudes of employers and employees towards undeclared work and to increase public awareness of its damaging impact and consequences. The target groups were employers and employees, as well as State employees engaged in the detection and prevention of undeclared work.

The pilot sectors included mechanical engineering, electrical engineering, information technology, infrastructure construction, light industry, perfumery and cosmetics, dairying, tourism, non-bank financial services and services of general interest. The total project budget was some BGN 8.9 million (€4.5 million) covering the following activities:

- national representative surveys and branch and company audits were conducted;
- round tables and national and regional awareness-raising campaigns were organised;
- an information system, including a distance learning platform, a forum on the web, a hotline for reporting informal economy practices and e-alerts, was established;
- a draft strategic plan for the restriction and prevention of the informal economy was elaborated.

([1]) https://eurofound.europa.eu/areas/labourmarket/tackling/cases/bg015.htm

Box 20: Changing perceptions, Estonia

The campaign was implemented in two parts. The first part was conducted in nine Estonian cities during 2010. The main message of the campaign was: 'Unpaid taxes will leave a mark. You like highways in order, a good ambulance, fire and police service. So do we.' For instance, a message was displayed on the back of buses together with a picture of rescue workers 'Should we take the trolley bus to an emergency call-out? This can happen if you do not pay your taxes.' In addition, a thank you message was attached to rescue cars in Tallinn, Harju and Virumaa counties and ambulance cars in Tallinn saying that these cars have been bought with tax payers' money. The aim was to raise awareness of what is financed by tax income and to bring to the fore the services citizens receive for their tax payments. Thus, even after the campaign ended, the adverts remained visible on rescue and ambulance cars.

The second part of the campaign was conducted in eight Estonian cities during October 2011. Next to the main message 'Unpaid taxes will leave a mark' it included sub-messages relevant to the Estonian context. For instance, the lack of facilities for children in schools and the provision of childcare and kindergarten places were widely held to be important problems by the Estonian population. Accordingly, a sub-message pointed out the number of computers that could be bought or the number of new kindergartens (almost 300) that could be built if taxes were fully paid. Given that it was the 100th anniversary of the Estonian film industry, a further sub-message pointed out that 722 domestic films could be produced each year instead of the current three films.

Compared to other State campaigns, the average results of the 'unpaid taxes will leave a mark' campaign were relatively good. The second part of the campaign was noticed by 59% of the respondents aged 15–74 which compared well with an average result of 45% for other campaigns. Overall 65% of respondents found that the campaign was suitable for increasing awareness of unpaid taxes.

5. Conclusions

Undeclared work (UDW) does not appear to account for a significant part of the average income of the average citizen or household unit in the EU. However, it remains a disruptive form of tax evasion in the labour market, with nearly 1 in 20 citizens admitting to occasionally acting as a supplier of undeclared goods and services, and 1 in 30 being paid partly in cash by his or her employer — a practice known as 'envelope wages' or 'cash-in-hand'.

As these are the figures revealed by face-to-face interviews of individuals, and do not include other types of (legal or otherwise) tax evasion at the level of companies, apart from the payment of envelope wages, the real incidence of undeclared work is generally assumed to be considerably higher.

Besides losses in tax revenue – which are significant in some sectors in particular – the main concern associated with undeclared forms of payment is that they tend to undermine the general workings of the economy and the social consensus over taxation and public services, if they are not challenged and addressed.

This chapter has focused particularly on the findings from the Eurobarometer (EB) surveys held before and during the economic and financial crisis (respectively in 2007 and 2013) which, while they may not capture the true scale of tax evasion, do provide timely information and provide the necessary research material to enable a reliable assessment to be made of the strength and relative importance of the various factors that lead to the existence of undeclared work. It should nevertheless be stressed that the survey method does not lend itself to mapping all forms of UDW originating within the enterprise sphere (e.g. through subcontracting).

The EB surveys show that:

- the general belief that UDW is more widespread in Southern, Central and Eastern European countries, due to the lack of jobs or lack of trust in the welfare state, tends to be confirmed in the case of envelope wages, while some continental or Northern European countries rank above the

EU average for the private supply and demand of UDW;

- UDW, when privately supplied, typically takes the form of repair and renovation, various household and personal services (cleaning, gardening, babysitting, tutoring), and waiter services, but trading activities also generate undeclared income; the composition of these activities differs between groups of countries;

- UDW tends to be undertaken more frequently by students and the unemployed, as well as those facing financial difficulties;

- envelope wages, or cash-in-hand, are relatively marginal phenomena, and mostly paid as a top-up of normal pay.

Among the stated reasons for doing undeclared work are the lack of jobs, insufficient income or perceived high tax burden, but the most cited reason is the sense that parties benefit mutually from UDW, suggesting the importance of personal favours.

When comparing the latest EB survey with its predecessor from just before the crisis, the extent of UDW appears rather stable, but there are distinct country developments which appear not to be necessarily related to the impact of the recession:

- some countries with a high level of UDW (e.g. LV) saw a strong reduction while a few others (e.g. ES, SI) saw a limited increase;

- the demand for UDW remained stable, but a spectacular increase was noted in EL and SI;

- the incidence of envelope wages has reduced during the crisis, especially in countries of Central and Eastern Europe, although it increased in EL.

An analysis of country results investigated the extent to which the different national situations brought about by the crisis, whether in terms of unemployment, poverty, the fiscal context or trust in the welfare state, affected the incidence of UDW. The comparison of national results of the EB suggested the following:

- there is some evidence that the weakening of the labour market since 2007 has led to an increase in the private supply of UDW, but the link between growing poverty and the private supply of UDW is much less apparent;

- however, both higher unemployment and growing poverty seem to have the capacity to increase the acceptance of envelope wages;

- taxation does not appear to be a strong driver in itself but much seems to depend on whether citizens believe their governments are making good use of their taxes.

When the various pieces of micro-data from the survey are pooled and analysed, however, the expected influences of the economic, social and labour market context come out more strongly, such as:

- financial hardship appears to be a strong factor in individual behaviour;

- SMEs are particularly exposed to envelope wages.

Behind the above factors, the impact of policy may well have been an important determining factor in recent trend changes. Moreover, given that a high proportion of undeclared work appears to be embedded in familial and community relations and solidarity, there is considerable scope for policy to, not simply discourage undeclared work but rather transform it into regular work in line with the wider goals such as economic growth, fuller employment and social cohesion.

Several successful measures are reviewed, ranging from the introduction of new categories of work status, use of technological and regulatory innovations, better tax and social protection systems, and initiatives by public authorities and social partners to raise public awareness and commitment.

The overall conclusion appears to be that there is no individual 'cure-all' measure but that success depends on an effective mix of various tools if undeclared work is to be combated successfully, and this mix is very much country-specific. For example, governments may choose to simplify regulatory compliance as well as introduce incentives to enable people to move into the declared realm; at the same time, they may implement tougher sanctions for those who fail to comply. At any time, these might be complemented by awareness-raising campaigns to elicit greater commitment amongst the public.

Importantly, the right mix depends on the effective organisation of the public administration, the structure of the labour market and the special characteristics of the undeclared economy. Tackling an undeclared economy dominated by a system of envelope wage payments will require a different approach from that required to deal with an undeclared economy dominated by small-scale paid favours between close social relations related to the provision of domestic services. Hence, further research and evaluations could usefully focus on the effectiveness of measures already taken in different Member States, including an assessment of their potential transferability.

Annex 1: Questionnaire

Target: population 15+

Coverage: EU-27 + HR

Total question units: 25.5 QU
DK = don't know/no answer — always spontaneous
(OUR COUNTRY) will be replaced by the name of the country in each country
(NATIONALITY) will be replaced by the nationality of the country in each country
Q1 is always the question about nationality
SPLIT BALLOT: ([65]) not needed
(M) stands for a modified item or wording
(N) stands for a new item.

Usual socio-demographic variables:
D7 — Marital status of the respondent
D8 — Age of end of education of the respondent
D10 — Gender of the respondent
D11 — Age of the respondent
D15a — Current occupation of the respondent — TO BE ASKED AT THE BEGINNING OF THE QUESTIONNAIRE
D15b — If no current occupation, the last occupation of the respondent — TO BE ASKED AT THE BEGINNING OF THE QUESTIONNAIRE
D25 — Subjective urbanisation
D40 — Household composition
D43 — Telephone availability
D46 — Equipment of the household
D60 — Difficulties in paying bills
D61 — Self-positioning on the social scale
D62 — Use of the Internet by the respondent
D63 — Social level belonging

The following questions are of a sensitive nature and I would like to confirm you that all the information collected is handled in strict confidentiality and anonymity. Your answers to the following questions therefore will remain absolutely ANONYMOUS. (M)

It is widely known that part of the population is engaged in undeclared work, in the sense of activities which avoid partly or entirely declaration to tax authorities or social security institutions, but which are otherwise legal. This could be people working in certain sectors of activity like construction, transport or agriculture for example but also in hotels, restaurants and cafes. Often it concerns only part of their income from work like remuneration of overtime or other extras. Undeclared work is also common in a whole range of household services — such as gardening, babysitting and elderly care —, personal services — like hairdressing, cosmetic or medical treatment — and repair services for cars, clothes or computers. (M)

([65]) A Split Ballot is a procedure where a sample is divided into two halves and each receives a slightly different questionnaire — ESOMAR definition.

ASK ALL

Q1	Do you personally know any people who work without declaring their income or part of their income to tax or social security institutions? (ONE ANSWER ONLY)	
	Yes	1
	No	2
	Refusal (SPONTANEOUS)	3
	DK	4

1 QU EB67.3 QB2

Q2	What sanction, if any, do you imagine someone would receive if the authorities find out that they receive an income from work which was not declared to tax or social security authorities? (ONE ANSWER ONLY)	
	Normal tax or social security contributions due	1
	Normal tax or social security contributions due, plus a fine	2
	Prison	3
	Other (SPONTANEOUS)	4
	Refusal (SPONTANEOUS)	5
	DK	6

1 QU NEW (BASED ON EB67.3 QB4)

Q3	People who work without declaring income, run the risk that tax or social security institutions find out and issue supplementary tax bills and perhaps fines. How would you describe the risk of being detected in (OUR COUNTRY)? (M) (READ OUT — ONE ANSWER ONLY)	
	Very high	1
	Fairly high	
	Fairly small	
	Very small	2
	Refusal (SPONTANEOUS)	3
	DK	4

1 QU EB67.3 QB3

Q4a Q4b	What are in your opinion the reasons for doing undeclared work? Firstly? And secondly? (SHOW CARD — ONE ANSWER PER COLUMN)	
(READ OUT)	**Q4a** FIRSTLY	**Q4b** SECONDLY
Bureaucracy or red tape for a regular economic activity is too complicated (M)	1	1
Bureaucracy or red tape for minor or occasional economic activities is too complicated (N)	2	2
Lack of control by authorities	3	3
Sanctions are too weak	4	4
In certain sectors or regions there is no real alternative	5	5
Salaries in the regular businesses are too low	6	6
Lack of regular jobs on the labour market	7	7
The State does not do anything for the people, so why should they pay taxes	8	8
Nobody would buy these goods or services at normal market prices (M)	9	9
Taxes and/or social security contributions are too high	10	10
It is difficult to live on social welfare benefits (N)	11	11
Other (SPONTANEOUS	12	12
Refusal (SPONTANEOUS)	13	13
DK	14	14

1.5QU EB67.3 QB7a&b TREND MODIFIED

It is widely known that many people to some extent accept 'undeclared work' — i.e. activities which are not declared to tax authorities or social security institutions. As mentioned earlier this work can include a variety of goods and services — such as gardening, babysitting, hairdressing, and many other things. (M)

Q5	Have you in the last 12 months paid for any goods or services of which you had a good reason to assume that they included undeclared work (e.g. because there was no invoice or VAT receipt)? (M) (ONE ANSWER ONLY)	
	Yes	1
	No	2
	Refusal (SPONTANEOUS)	3
	DK	4

1QU EB67.3 QB8 TREND MODIFIED

ASK Q6 TO Q9 IF 'YES', CODE 1 IN Q5 – OTHERS GO TO Q10

Q6	Which of the following goods or services have you paid for during the last 12 months, where you had a good reason to believe that they included undeclared work, i.e. that the income was not completely reported to tax or social security institutions? (SHOW CARD — READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	Babysitting at your home	1
	Babysitting outside of your home	2
	Healthcare services	3
	Cleaning your home	4
	Ironing clothes	5
	Repairs or renovations of your home	6
	Gardening	7
	Tutoring	8
	Help moving house	9
	Assistance for a dependant or elderly relative	10
	Administrative or IT assistance	11
	Car repairs	12
	Buying food (e.g. farm produce)	13
	Buying other goods	14
	Buying other services	15
	Refusal (SPONTANEOUS)	16
	DK	17

1 QU NEW

Q7a	And approximately how much have you spent on all these undeclared goods and services in the last 12 months (M) (WRITE DOWN — ONE ANSWER ONLY) (NO DECIMALS — IF 'DON'T REMEMBER' CODE '99997' — IF 'REFUSAL' CODE '99998' — IF 'DON'T KNOW' CODE '99999')	
		EUROS

1 QU NEW (BASED ON EB67.3 QB11)

Q7b	When considering only the undeclared services which you buy most frequently, how much do they cost you approximately per hour? (WRITE DOWN — ONE ANSWER ONLY) (NO DECIMALS — IF 'NEVER BUY SERVICES' CODE '99996' — IF 'DON'T REMEMBER' CODE '99997' — IF 'REFUSAL' CODE '99998' — IF 'DON'T KNOW' CODE '99999')	
		EUROS

1 QU NEW NEW (BASED ON EB67.3 QB11)

Q8	Among the following, could you please indicate from whom did you buy these goods or services? (M) (SHOW CARD — READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	Friends, colleagues or acquaintances	1
	Relatives	2
	Neighbours	3
	Healthcare providers (N)	4
	Other private persons or households	5
	Firms or businesses	6
	Other (SPONTANEOUS) (M)	7
	Refusal (SPONTANEOUS) (M)	8
	DK	9

1 QU EB67.3 QB12 TREND MODIFIED

Q9	From the following, what made you buy it undeclared instead of buying it on the regular market? (SHOW CARD — READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	Lower price	1
	Faster service	2
	Better quality	3
	In order to help someone who is in need of money	4
	It was a favour amongst friends, relatives or colleagues (M)	5
	The good or service is not or hardly available on the regular market (M)	6
	Other (SPONTANEOUS) (M)	7
	Refusal (SPONTANEOUS) (M)	8
	DK	9

1 QU EB67.3 QB13

ASK Q10 TO Q13 IF 'DEPENDENT EMPLOYEES', CODE 10 TO 18 IN D15a — OTHERS GO TO Q14

Q10	Sometimes employers prefer to pay all or part of the salary or the remuneration (for extra work, overtime hours or the part above a legal minimum) in cash and without declaring it to tax or social security authorities. Has your employer paid you any of your income in the last 12 months in this way? (M) (ONE ANSWER ONLY) (PLEASE REMIND THE INTERVIEWEE THAT ALL ANSWERS WILL REMAIN ANONYMOUS)	
	Yes	1
	No	2
	Refusal (SPONTANEOUS)	3
	DK	4

1 QU EB67.3 QB15 TREND MODIFIED

ASK Q11 AND Q12 IF 'YES', CODE 1 IN Q10 — OTHERS GO TO Q13

Q11	Was this income part of the remuneration for your regular work, was it payment for overtime hours or was it both? (ONE ANSWER ONLY)	
	Part of the remuneration of the regular work	1
	Overtime, extra-work	2
	Both regular and overtime work	3
	Refusal (SPONTANEOUS)	4
	DK	5

1 QU EB67.3 QB16

Q12	Approximately what percentage of your gross yearly income in your main job did you get this way? (WRITE DOWN — ONE ANSWER ONLY) (NO DECIMALS — IF 'DON'T REMEMBER' CODE '997' — IF 'REFUSAL' CODE '998' — IF 'DON'T KNOW' CODE '999')	
		%

1 QU EB67.3 QB17

Q13	Thinking about the organisation you work for, APPROXIMATELY how many employees does it have (including both full and part time)?	
	1-4	1
	5-9	2
	10-19	3
	20-49	4
	50-99	5
	100-499	6
	500 or more	7
	Refusal (SPONTANEOUS)	8
	DK	9

1 QU NEW

ASK ALL

Q14	Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months? (M) (READ OUT — ONE ANSWER ONLY) (PLEASE REMIND THE INTERVIEWEE THAT ALL ANSWERS WILL REMAIN ANONYMOUS)	
	Yes	1
	No	2
	Refusal (SPONTANEOUS)	3

Q14	Apart from a regular employment, have you yourself carried out any undeclared paid activities in the last 12 months? (M) (READ OUT — ONE ANSWER ONLY) (PLEASE REMIND THE INTERVIEWEE THAT ALL ANSWERS WILL REMAIN ANONYMOUS)	
	DK	4

1 QU EB67.3 QB19 TREND MODIFIED

ASK Q15a TO Q18 IF 'YES', CODE 1 IN Q14 — OTHERS GO TO Q19

Q15a	Which of the following activities have you carried out undeclared in the last 12 months? (SHOW CARD — READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	Babysitting	1
	Cleaning	2
	Ironing clothes	3
	Repairs or renovations	4
	Gardening	5
	As a waiter or waitress	6
	Tutoring	7
	Help moving house	8
	Assistance for a dependant or elderly relative	9
	Administrative or IT assistance	10
	Car repairs	11
	Selling food (e.g. farm produce)	12
	Selling other goods	13
	Selling other services	14
	Refusal (SPONTANEOUS)	15
	DK	16

1 QU NEW

Q15b	APPROXIMATELY how much money have you earned from these undeclared activities in the last 12 months?? (WRITE DOWN — ONE ANSWER ONLY) (NO DECIMALS — IF 'DON'T REMEMBER' CODE '99997' — IF 'REFUSAL' CODE '99998' — IF 'DON'T KNOW' CODE '99999')	
		EUROS

1 QU NEW

Q16	Would you please indicate for whom you carried out any of these activities?(M) (READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	Friends, colleagues or acquaintances	1
	Relatives	2
	Neighbours	3
	Other private persons or households	4
	Firms or businesses	5
	Other (SPONTANEOUS)	6
	Refusal (SPONTANEOUS)	7
	DK	8

1 QU EB67.3 QB29 TREND MODIFIED

Q17	Among the following, what were the reasons for doing these activities undeclared? (SHOW CARD — READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	The person(s) who acquired it insisted on the non-declaration	1
	Bureaucracy or red tape for a regular economic activity is too complicated	2
	Bureaucracy or red tape for minor or occasional activities is too complicated	3
	You could not find a regular job	4
	You were able to ask for a higher fee for your work	5
	Both parties benefited from it	6
	Taxes and/or social security contributions are too high	7
	Working undeclared is common practice in your region or sector of activity so there is no real alternative	8
	The State does not do anything for you, so why should you pay taxes	9
	It is difficult to live on social welfare benefits	10
	You have no other means of income	11

Q17	Among the following, what were the reasons for doing these activities undeclared? (SHOW CARD — READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	Other (SPONTANEOUS)	12
	Refusal (SPONTANEOUS)	13
	DK	14

1 QU NEW BASED ON EB67.3 QB30

Q18	Apart from financial considerations, did you experience any of the following consequences when working undeclared? (SHOW CARD — READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	A higher risk of accidents as compared to a regular job	1
	Lack of insurance against accidents	2
	Harder physical working conditions as compared to a regular job	3
	A higher risk of losing your job	4
	No social security entitlements (N)	5
	Other (SPONTANEOUS)	6
	None (SPONTANEOUS) (N)	7
	Refusal (SPONTANEOUS)	8
	DK	9

1 QU EB67.3 QB18b TREND MODIFIED

ASK ALL

Q19	Does the following apply to you? (READ OUT — MULTIPLE ANSWERS POSSIBLE)	
	(ONLY IF 'DEPENDENT EMPLOYEE') You are employed WITHOUT a formal written contract	1
	(ONLY IF 'DEPENDENT EMPLOYEE') Your salary is variable, with a substantial part based on results	2
	You work unpaid (either part or full-time) for a partner or family business	3
	Other (SPONTANEOUS)	4
	Refusal (SPONTANEOUS)	5
	DK	6

1 QU NEW

Q20	Now I would like to know how you assess various behaviours. For each of them, please tell me to what extent you find it acceptable or not. Please use the following scale: '1' means that you find it 'absolutely unacceptable' and '10' means that you find it 'absolutely acceptable'. (SHOW CARD WITH SCALE — ONE ANSWER PER LINE)												
	(READ OUT)	1 Absolutely unacceptable									10 Absolutely acceptable	Refusal (SPONTANEOUS)	DK
1	Someone receives welfare payments without entitlement	1	2	3	4	5	6	7	8	9	10	11	12
2	Someone uses public transport without a valid ticket	1	2	3	4	5	6	7	8	9	10	11	12
3	A private person is hired by a private household for work and he or she does not report the payment received in return to tax or social security institutions although it should be reported	1	2	3	4	5	6	7	8	9	10	11	12
4	A firm is hired by a private household for work and it does not report the payment received in return to tax or social security institutions	1	2	3	4	5	6	7	8	9	10	11	12
5	A firm is hired by another firm for work and it does not report its activity to tax or social security institutions	1	2	3	4	5	6	7	8	9	10	11	12
6	A firm hires a private person and all or a part of the salary paid to him or her is not officially registered	1	2	3	4	5	6	7	8	9	10	11	12
7	Someone evades taxes by not or only partially declaring income	1	2	3	4	5	6	7	8	9	10	11	12

4 QU EB67.3 QB32

Annex 2: Logistic regression parameter estimation results

Table 20: Logistic regression parameter estimation. Dependent variable: Q14 (Apart from regular employment, have you yourself carried out undeclared activities in the last 12 months?); with country effects

		Parameter estimation	Odds Ratio relative to reference	Sig.	Confidence interval 95 %	
					Lower threshold	Upper threshold
Country	BE	-.50	.61	.04	-.98	-.03
	DK	.53	1.70	.01	.12	.94
	EL	-1.72	.18	.00	-2.24	-1.20
	ES	-.59	.56	.01	-1.04	-.14
	FI	-.96	.38	.00	-1.54	-.37
	FR	-.51	.60	.02	-.95	-.07
	IE	-1.49	.22	.00	-2.08	-.91
	IT	-1.35	.26	.00	-1.93	-.77
	LU	-.35	.71	.25	-.95	.25
	NL	.45	1.57	.02	.07	.84
	AT	-.37	.69	.12	-.84	.10
	PT	-1.69	.19	.00	-2.31	-1.06
	SE	.11	1.11	.64	-.34	.55
	DE WEST	-1.05	.35	.00	-1.63	-.47
	DE EAST	-.62	.54	.04	-1.20	-.04
	UK	-1.16	.31	.00	-1.73	-.58
	NIE	-2.01	.13	.01	-3.44	-.59
	BG	-.45	.64	.05	-.88	-.01
	CY	-1.70	.18	.00	-2.43	-.97
	CZ	-.57	.56	.01	-1.02	-.13
	EE	.71	2.04	.00	.34	1.09
	HU	-.61	.54	.01	-1.06	-.15
	LV	.40	1.49	.03	.04	.76
	LT	.07	1.07	.72	-.32	.46
	MT	-2.50	.08	.00	-3.92	-1.08
	PL	-.68	.51	.01	-1.20	-.16
	RO	-.59	.55	.01	-1.06	-.13
	SK	-.32	.73	.16	-.76	.12
	SI	-.06	.94	.76	-.47	.35
	HR	Reference		.	.	.
D10 Gender.	Male	.87	2.38	.00	.73	1.00
	Female	0a		.	.	.
D11 How old are you?	15-24	1.80	6.05	.00	1.53	2.07
	25-39	1.29	3.63	.00	1.08	1.50
	40-54	.86	2.35	.00	.65	1.06
	55+	Reference		.	.	.
D8 How old were you when you stopped full-time education?	15-	.11	1.12	.37	-.13	.36
	16-19	.05	1.05	.52	-.11	.21
	20+	Reference		.	.	.
D25 Would you say you live in a...?	Rural area or village	.19	1.21	.03	.02	.37
	Small or middle size town	.08	1.08	.38	-.10	.25
	Large town	Reference		.	.	.
D40a Could you tell me how many people aged 15 years or more live in your household, yourself included?	1 living in household	.29	1.34	.02	.05	.54
	2 living in household	-.04	.96	.76	-.26	.19
	3 living in household	.11	1.11	.41	-.15	.36
	4+ living in household	Reference		.	.	.
Q3 People who work without declaring income, run the risk that tax or social security institutions find out and issue supplementary tax bills and perhaps fines. How would you describe the risk of being detected in (OUR COUNTRY)?	HIGH risk of detection	-.60	.55	.00	-.75	-.44
	SMALL risk of detection	Reference		.	.	.

		Parameter estimation	Odds Ratio relative to reference	Sig.	Confidence interval 95 %	
					Lower threshold	Upper threshold
D60 During the last twelve months, would you say you had difficulties to pay your bills at the end of the month...?	Most of the time	1.20	3.32	.00	1.01	1.40
	From time to time	.61	1.84	.00	.45	.78
	Almost never / never	Reference		.	.	.
D15a What is your current occupation?	Self-employed	.44	1.55	.00	.20	.67
	Employed	-.26	.77	.00	-.43	-.09
	Not working	Reference		.	.	.

Source: DG EMPL calculations based on Eurobarometer 2013.

Table 21: Logistic regression parameter estimation: Question Q14 — without country effects, but with Corruption Index 2012 (as covariate)

		Parameter estimation	Odds Ratio relative to reference	Sig.	Confidence interval 95 %	
					Lower threshold	Upper threshold
Amnesty International: Corruption Perception Index 2012 (CPI 2012)		.006	1.01	.010	.001	.011
D10 Gender.	Male	.82	2.28	.00	.69	.96
	Female	Reference		.	.	.
D11 How old are you?	15-24	1.69	5.40	.00	1.42	1.95
	25-39	1.20	3.33	.00	1.00	1.41
	40-54	.82	2.26	.00	.61	1.02
	55+	Reference		.	.	.
D8 How old were you when you stopped full-time education?	15-	-.32	.72	.01	-.56	-.09
	16-19	-.04	.96	.60	-.19	.11
	20+	Reference		.	.	.
D25 Would you say you live in a...?	Rural area or village	.26	1.30	.00	.09	.43
	Small or middle size town	.09	1.09	.32	-.08	.25
	Large town	Reference		.	.	.
D40a Could you tell me how many people aged 15 years or more live in your household, yourself included?	1 living in household	.36	1.43	.00	.12	.60
	2 living in household	.03	1.03	.82	-.19	.25
	3 living in household	.15	1.16	.23	-.10	.40
	4+ living in household	Reference		.	.	.
Q3 People who work without declaring income, run the risk that tax or social security institutions find out and issue supplementary tax bills and perhaps fines. How would you describe the risk of being detected in (OUR COUNTRY)?	HIGH risk of detection	-.64	.53	.00	-.79	-.50
	SMALL risk of detection	0a		.	.	.
D60 During the last twelve months, would you say you had difficulties to pay your bills at the end of the month...?	Most of the time	1.02	2.78	.00	.84	1.21
	From time to time	.51	1.66	.00	.35	.67
	Almost never / never	Reference		.	.	.
D15a What is your current occupation?	Self-employed	.29	1.34	.01	.07	.52
	Employed	-.25	.78	.00	-.41	-.09
	Not working	Reference		.	.	.

Source: DG EMPL calculations based on Eurobarometer 2013.

Table 22: Logistic regression parameter estimation. Dependent variable: Q10 (part of or whole remuneration paid undeclared in cash), with country effects

		Parameter estimation	Odds Ratio relative to reference	Sig.	Confidence interval 95 %	
					Lower threshold	Upper threshold
Country	BE	-0.52	0.60	0.20	-1.30	0.27
	DK	-0.87	0.42	0.08	-1.85	0.12
	EL	-0.75	0.47	0.05	-1.51	0.00
	ES	-0.38	0.69	0.35	-1.16	0.41
	FI	-1.83	0.16	0.01	-3.13	-0.53
	FR	-1.65	0.19	0.00	-2.67	-0.62
	IE	-1.97	0.14	0.00	-2.94	-1.01
	IT	-1.50	0.22	0.00	-2.34	-0.67
	LU	-0.13	0.88	0.78	-1.05	0.79
	NL	-0.34	0.71	0.42	-1.18	0.49
	AT	-1.53	0.22	0.00	-2.49	-0.57
	PT	-1.65	0.19	0.00	-2.50	-0.79
	SE	-1.37	0.26	0.04	-2.64	-0.09
	DE WEST	-1.87	0.15	0.00	-3.11	-0.62
	DE EAST	-1.61	0.20	0.03	-3.10	-0.12
	UK	-1.57	0.21	0.00	-2.60	-0.53
	NIE	-1.48	0.23	0.16	-3.54	0.59
	BG	-0.10	0.90	0.76	-0.76	0.55
	CY	-2.55	0.08	0.00	-3.71	-1.39
	CZ	-0.66	0.52	0.06	-1.34	0.02
	EE	-0.24	0.79	0.49	-0.91	0.43
	HU	-0.46	0.63	0.17	-1.13	0.20
	LV	0.34	1.41	0.24	-0.23	0.91
	LT	-0.47	0.63	0.18	-1.15	0.21
	MT	-21.38	0.00	.	-21.38	-21.38
	PL	-0.37	0.69	0.32	-1.09	0.36
	RO	0.43	1.54	0.19	-0.22	1.08
	SK	-0.06	0.95	0.86	-0.68	0.57
	SI	-0.40	0.67	0.32	-1.18	0.39
	HR	Reference		.	.	.
D10 Gender.	Male	0.55	1.73	0.00	0.32	0.78
	Female	Reference		.	.	.
D11 How old are you?	15-24	0.91	2.50	0.00	0.40	1.43
	25-39	0.66	1.93	0.00	0.24	1.07
	40-54	0.33	1.39	0.12	-0.09	0.75
	55+	Reference		.	.	.
D8 How old were you when you stopped full-time education?	15-	0.11	1.11	0.69	-0.43	0.65
	16-19	0.34	1.41	0.01	0.08	0.61
	20+	Reference		.	.	.
D25 Would you say you live in a...?	Rural area or village	0.00	1.00	0.99	-0.29	0.29
	Small or middle size town	0.04	1.04	0.79	-0.24	0.32
	Large town	Reference		.	.	.
D40a Could you tell me how many people aged 15 years or more live in your household, yourself included?	1 living in household	0.05	1.05	0.82	-0.37	0.47
	2 living in household	-0.01	0.99	0.97	-0.36	0.35
	3 living in household	0.39	1.48	0.04	0.01	0.76
	4+ living in household	Reference		.	.	.
Q19 You are employed WITHOUT a formal written contract?	NO	-1.88	0.15	0.00	-2.24	-1.53
	YES	Reference		.	.	.
Q19 Your salary is variable, with a substantial part based on results?	NO	-1.15	0.32	0.00	-1.40	-0.90
	YES	Reference		.	.	.
Q19 You work unpaid (either part or full time) for a partner or family business	NO	-1.92	0.15	0.00	-2.57	-1.28
	YES	Reference		.	.	.

		Parameter estimation	Odds Ratio relative to reference	Sig.	Confidence interval 95 %	
					Lower threshold	Upper threshold
Q3 People who work without declaring income, run the risk that tax or social security institutions find out and issue supplementary tax bills and perhaps fines. How would you describe the risk of being detected in (OUR COUNTRY)?	HIGH risk of detection	-0.10	0.90	0.39	-0.34	0.13
	SMALL risk of detection	Reference		.	.	.
D60 During the last twelve months, would you say you had difficulties to pay your bills at the end of the month...?	Most of the time	1.15	3.16	0.00	0.82	1.48
	From time to time	0.61	1.84	0.00	0.34	0.87
	Almost never / never	Reference		.	.	.
Q13 Thinking about the organisation you work for, APPROXIMATELY how many employees does it have?	1 to 4	1.09	2.98	0.00	0.57	1.62
	5 to 9	1.31	3.72	0.00	0.79	1.84
	10 to 19	1.25	3.49	0.00	0.74	1.76
	20 to 49	0.88	2.40	0.00	0.35	1.40
	50 to 99	0.42	1.52	0.16	-0.17	1.01
	100 to 499	0.30	1.35	0.31	-0.28	0.88
	500 and over	Reference		.	.	.

Source: DG EMPL calculations based on Eurobarometer 2013.

Table 23: Logistic regression parameter estimation. Question Q10 — without country effects, but with Corruption Index 2012 (as covariate)

		Parameter estimation	Odds Ratio relative to reference	Sig.	Confidence interval 95 %	
					Lower threshold	Upper threshold
Amnesty International: Corruption Perception Index 2012 (CPI 2012)		-0.03	0.97	0.00	-0.03	-0.02
D10 Gender.	Male	0.51	1.67	0.00	0.29	0.74
	Female	Reference	.	.	.	.
D11 How old are you?	15-24	0.87	2.39	0.00	0.37	1.37
	25-39	0.59	1.81	0.00	0.19	1.00
	40-54	0.32	1.37	0.13	-0.09	0.73
	55+	Reference	.	.	.	.
D8 How old were you when you stopped full-time education?	15-	-0.26	0.77	0.31	-0.77	0.25
	16-19	0.30	1.35	0.02	0.05	0.55
	20+	Reference	.	.	.	.
D25 Would you say you live in a...?	Rural area or village	0.10	1.10	0.50	-0.18	0.37
	Small or middle size town	-0.02	0.98	0.91	-0.29	0.25
	Large town	Reference	.	.	.	.
D40a Could you tell me how many people aged 15 years or more live in your household, yourself included?	1 living in household	0.13	1.13	0.54	-0.28	0.53
	2 living in household	0.05	1.05	0.76	-0.29	0.40
	3 living in household	0.40	1.49	0.03	0.03	0.77
	4+ living in household	Reference	.	.	.	.
Q19 You are employed WITHOUT a formal written contract?	NO	-1.47	0.23	0.00	-1.80	-1.15
	YES	Reference		.	.	.
Q19 Your salary is variable, with a substantial part based on results?	NO	-1.24	0.29	0.00	-1.48	-0.99
	YES	Reference		.	.	.
Q19 You work unpaid (either part or full time) for a partner or family business	NO	-1.81	0.16	0.00	-2.43	-1.20
	YES	Reference		.	.	.
Q3 People who work without declaring income, run the risk that tax or social security institutions find out and issue supplementary tax bills and perhaps fines. How would you describe the risk of being detected in (OUR COUNTRY)?	HIGH risk of detection	-0.15	0.86	0.21	-0.37	0.08
	SMALL risk of detection	Reference	.	.	.	.

		Parameter estimation	Odds Ratio relative to reference	Sig.	Confidence interval 95 %	
					Lower threshold	Upper threshold
D60 During the last twelve months, would you say you had difficulties to pay your bills at the end of the month...?	Most of the time	0.93	2.53	0.00	0.62	1.24
	From time to time	0.48	1.61	0.00	0.22	0.73
	Almost never / never	Reference	.	.	.	.
Q13 Thinking about the organisation you work for, APPROXIMATELY how many employees does it have?	1 to 4	1.00	2.73	0.00	0.49	1.52
	5 to 9	1.18	3.26	0.00	0.67	1.69
	10 to 19	1.19	3.30	0.00	0.69	1.70
	20 to 49	0.89	2.43	0.00	0.37	1.40
	50 to 99	0.45	1.56	0.13	-0.13	1.03
	100 to 499	0.35	1.42	0.23	-0.22	0.93
	500 and over	Reference	.	.	.	.

Source: DG EMPL calculations based on Eurobarometer 2013.

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Chapter 5

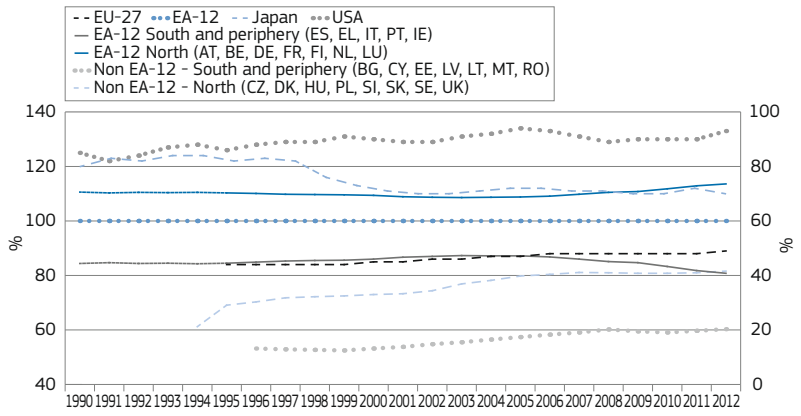
Convergence and divergence in EMU - employment and social aspects[1]

1. Introduction

One of the fundamental objectives of the EU is to improve the lives of its citizens by promoting convergence. This chapter reviews convergent and divergent socio-economic movements in the euro area since the beginning in 1999 of the third stage of Economic and Monetary Union (or EMU [2]), for a selection of the Member States who have been part of it since the early 2000s.

Over past decades, in line with the predictions of the Solow growth model (see Box 1), Europe had experienced convergence in GDP per capita as well as unemployment rates. It has become clear, however, that, since the onset of the economic crisis in 2008, the Union has experienced diverging trends.

Chart 1: GDP per capita in EU-27 and EA-12 (base 100), Japan and US



Source: Eurostat.

Notes: all values are expressed in relative terms to EA-12 average (100%). Averages weighted by groups - all values are on left scale except Non EA South and periphery (right scale). The two vertical bars represent the adoption of the Euro and the beginning of the economic crisis. Some missing data for 1990-95.

In particular, the long-term trend of convergence and catching-up of GDP per capita (GDPpc) in the first decade of the euro (1999-2007) appears to have stopped and even, to some extent, reversed, as reflected in the substantial divergence of GDP per capita within the euro area between Northern and Southern euro-area Member States that had actually started around 2005 (Chart 1).

Since the onset of the crisis, Northern euro-area countries have further increased their GDP per capita levels compared to the EA-12 average, following a similar pattern to that observed in the US (while the levels in Japan stalled in the second half of the 1990s and have not grown much since then). However, Southern euro-area Member States have seen a significant downwards adjustment of their GDP per capita, which has more than cancelled out the convergence achieved since the adoption of the euro. Convergence in non-euro-area Member States which had been further reinforced before the crisis has essentially remained stable since.

These developments raise a number of questions with respect to employment and social experiences. How much did euro-area countries actually converge in employment and social terms over the period 1999-2007? Were there any signals of growing imbalances? What are the drivers behind the divergence observed since the onset of the financial crisis? Have imbalances accumulated before the financial crisis contributed to the post-2008 divergence? What are the key policy lessons for the design employment and social policies play in a monetary union?

(1) By Olivier Bontout and Guy Lejeune.

(2) The first stage of Economic and Monetary Union began on 1 July 1990. All 28 EU Member States are members of EMU, which implies that they are all expected to adopt the euro one day, with the exceptions of the Denmark and United Kingdom which have received an opt-out.

Box 1: Economic convergence and growth models

Economic growth has traditionally been attributed to the accumulation of human and physical capital, and increased productivity arising from technological innovation. The most basic growth model, the Solow model (also called the neoclassical growth model), emphasises the role of capital accumulation whereas technological innovations are taken as exogenous. The model assumes that capital and labour have diminishing returns.

The model implies that increasing capital relative to labour creates economic growth (since people can be more productive given more capital) and economies eventually reach a steady state, i.e. a point where any increase in capital no longer creates economic growth (because of diminishing returns to capital). A third implication is that poor countries with less capital per person grow, in general, faster (because of diminishing returns to capital, each investment in capital produces a higher return than rich countries with ample capital). This implies convergence in the levels of GDP over time. There is, however, no conclusive evidence to confirm all of the model's implications.

In the Solow model, GDP depends on the production factors capital (factories, machines, etc.) and labour (expressed in number of employees or hours worked), augmented with technology. Total factor productivity (TFP) is, by definition that part of the output increase which cannot be explained by changes in the input factors. Therefore this residual is seen as a measure of skill, knowledge and technical progress.

In empirical analysis, capital and TFP are not easy to separate. This is due to the fact that technical progress is often embodied in new capital goods. One would underestimate the effect of TFP when assuming that growth is the result of capital accumulation. Differences in TFP are seen as substantial to explain differences in income and growth between countries, particularly in the long run, when countries can overcome the steady state and continue growing by inventing new technology.

The chapter focuses on the trends observed since 1999 within the twelve Member States who have joined the euro in the period up to 2001 (the original eleven plus Greece that joined in 2001). It then reviews and compares dispersion trends in the euro-area countries over the period 1999-2007 with subsequent developments up to 2012 ([3]) for the main labour market and social aspects, against the given macroeconomic background in the EU as a whole and individual euro-area Member States (in terms of such factors as interest rates, inflation or price competitiveness). The main labour market dimensions considered are employment and unemployment, as well as wages. The main social dimensions considered are household incomes and debt, poverty and inequalities. The chapter reflects notably on the five key indicators aimed at detecting major employment and social challenges in the EU which are identified in the Communication on the strengthening of the social dimension of EMU (COM(2013) 690) and that the Commission put forward and analysed in the draft Joint Employment Report.

([3]) Slovenia, the thirteenth euro-area country, joined in 2007.

2. Functioning of Monetary Unions

2.1. Brief overview of theory of monetary unions

The so-called *optimum currency area* (OCA) theory identifies the costs and benefits (in terms of micro-economic efficiency and macro-economic stability) of adopting a common currency when countries decide to relinquish their monetary and exchange rate policy autonomy ([4]).

Regarding micro-economic efficiency, the main benefits are greater price transparency (fostering more competition) and a reduction in intra-area exchange rate uncertainty and in transaction costs (enhancing resource allocation). This has to be weighed against the changeover costs.

([4]) See the seminal contributions of Mundell (1961), McKinnon (1963) and Kenen (1969). See also Mongelli (2002) who provides an extensive survey of OCA literature presenting its evolution since the 1960s. See also Mongelli (2008) and Session 5 'Panel: optimal currency areas — an academic view' in European Central Bank (2009).

Regarding macro-economic stability, the main benefits are price stability and access to broader and transparent financial markets. This has to be weighed against the loss of control of monetary and exchange rate policy and constraints on fiscal policy ([5]).

The OCA theory also identified the conditions needed to fully reap these benefits of a currency union, including sufficient price and wage flexibility and factor mobility ([6]), integrated financial markets, coordinated fiscal policies and convergent inflation rates.

The conditions that make a currency union optimal can be endogenous to the formation of the area itself (Frankel and Rose (1997)). In other words, by joining a monetary union, countries trigger a process of deeper integration that may enhance the transformations needed to make an optimal currency area. However, because of path dependence in specialisation, these economies would be more prone to be hit by asymmetric shocks ([7]).

2.2. Specificities of the euro area; institutional comparisons with other monetary unions and with non-euro Member States

2.2.1. Specificities of the euro area

The euro adoption was made conditional on nominal convergence criteria established in the Maastricht Treaty ([8]). The idea was that adherence to nominal convergence would create a culture of stability and reform that would steer the euro area towards being an optimum currency area.

This subsection briefly discusses those features that can have relevance from a labour market and social perspective,

([5]) See 2.2 on the logic behind the constraints on Member States' fiscal policy in a monetary union.

([6]) The relevant production factors here are labour and capital.

([7]) See Krugman (1993) and Krugman and Venables (1996).

([8]) See Article 109 j of the Maastricht Treaty. The Maastricht criteria are about convergence in inflation, interest rates, exchange rate variability and fiscal variables. See Sapir's panel statement in European Central Bank (2009) on the economic and political reasons behind this choice.

namely price and wage flexibility, labour mobility and fiscal coordination ([9]).

In a monetary union, the absence of nominal exchange rate flexibility for an individual euro-area Member State shifts the focus to the flexibility of the real exchange rate, and, consequently, of prices and wages. However, price flexibility is low in the euro area. For example, Pisani-Ferry (2013) notes that, since 2008, in the hardest-hit Member States except for Ireland, "price adjustment is barely noticeable. Firms, especially in sectors sheltered from international competition, have retained market power and have increased prices in response to the rising cost of capital."

Low wage flexibility is also an important factor behind the lack of price flexibility ([10]). For example, the European Central Bank (2012) finds "some tentative evidence of downward wage rigidities in the euro area (i.e. a lower responsiveness of wages with respect to unemployment during downturns), although this result applies to all downturns and not just to the recent crisis period."

Evidently, measures that enhance wage flexibility have to take into account the institutional characteristics of the wage-setting mechanisms as well as the double role of wages to support both competitiveness and domestic demand.

Labour mobility remains limited in the euro area, in proportion of the labour force as well as in comparison to the US (see Box 2) even when mobility between regions inside Member States is taken into account. Many barriers have been identified such as country differences in language and culture, administration, taxation, social security systems and transferability of professional qualifications ([11]). Other obstacles to geographical mobility (including inside countries) that are quoted in the literature ([12]) include housing market regulations and the rise in home ownership, the lack of information about vacancies, as well as the prevalence of a dual-earner model in Europe.

While geographical mobility between EU-27 Member States has strongly increased over the last decade, this was mainly through post-enlargement mobility and not mobility between euro-area countries. This may be due to the fact that the main driver of mobility has been the differences in relative income levels ([13]), which have been quite limited in the euro area. However, unemployment as a push factor and rising mobility intentions could lead to increases in mobility from the most affected euro-area countries ([14]). Indeed, the recent crisis and its strong impact in terms of unemployment have substantially affected mobility flows towards, between and from euro-area countries ([15]). These changes have contributed, in some countries of origin, to partly offset the increase in unemployment ([16]).

Recent analysis ([17]) confirms the rising role played by mobility as an adjustment variable, notably in comparison to the US. For instance, mobility flows from Southern euro-area countries have strongly increased since the onset of the crisis ([18]). Nevertheless, this adjustment remains limited in comparison to the size of the labour force or the unemployed populations in Southern euro-area countries. Moreover, it has occurred mainly through changes in movements from/to Central and Eastern EU Member States and non-EU countries (reflecting both declines in inflows and increases in outflows through return migration) rather than through intra-euro-area movements (see Box 3).

Therefore, mobility between euro-area countries has not played a large adjustment role until now in offsetting imbalances between euro-area countries ([19]) and this is thought to be unlikely to change significantly in the near future, even if divergence in unemployment rates and a progressive removal of institutional barriers do lead to some further increases in the mobility rate ([20]), given the inherent costs of geographical mobility (especially cross-border mobility) for the workers and their families, as well for the society as a whole ([21]).

EMU is a unique structure in that it combines a single monetary policy with national, but co-ordinated, fiscal policies. This co-ordination is needed in order to avoid imprudent fiscal policies in one Member State having negative spillover effects on the rest of the monetary union. The co-ordination also encourages the working of automatic stabilisers to smooth the effects of the cycle. At the same time, however, the central EU budget is small (about 1 % of EU GDP) and is not intended to supplement the working of national automatic stabilisers.

In this respect, Mongelli (2002) points out that some smaller and more homogeneous monetary unions have been able to function proficiently with a very limited federal budget. Nevertheless, some claim that national buffers and common backstops are needed for a smooth functioning of a currency area ([22]) and that a supranational fiscal risk-sharing mechanism could play a complementary role to the national level ([23]).

([9]) Financial integration (the banking union) is beyond the scope of this chapter.

([10]) See also Jaumotte and Morsy (2012) on how price flexibility is influenced by labour market institutions.

([11]) See, for example, Mongelli (2002), Eurofound (2008) and Bonin *et al.* *(2008).*

([12]) See, for example, OECD (2012) and Zimmermann (2009).

([13]) See European Commission (2011a).

([14]) See EPC (2013).

([15]) See European Commission (2013e).

([16]) See Deutsche Bank (2011).

([17]) See Jauer *et al.* (2014).

([18]) See European Commission (2013d).

([19]) ECB (2012) also pointed out that, contrary to conventional wisdom, mobility across euro-area countries could only play a limited role in alleviating the (rising) skills mismatches since this is mainly a structural problem, not particularly related to a lack of mobility. It says that the proportion of skills mismatched 'that could potentially be solved with perfect mobility of workers across countries has fallen in recent years, suggesting a high degree of integration between national labour markets'.

([20]) See EPC (2013).

([21]) See notably Eurofound (2008), European Parliament (1998) and Mongelli (2002). These costs can be of diverse nature such as: retraining costs; risk of over-qualification among movers and resulting 'brain waste'; long-run impact in the origin countries on demography, human capital and sustainability of social security systems; distributional impact of mobility inflows in destination countries.

([22]) IMF (2012).

([23]) See Allard *et al.* (2013).

Box 2: Is geographical mobility playing a larger role in adjustment in the US? Some recent evidence

Lower mobility rates in the EU/euro area, even when taking inter-regional mobility into account

The US is often considered as an example of how geographical mobility contributes to offset economic imbalances between the states. Estimations by the OECD ([1]) confirmed that the annual mobility rate ([2]) between the US States (2.4%) was, in 2010, much higher than between EU Member States (0.29%). This gap was even larger a few years ago when post-enlargement mobility had not yet boosted the rate in the EU ([3]).

However the comparison is biased by the use of States as a unit of comparison. Some US States are rather small ([4]), while the population in the EU is quite concentrated in a few very large countries ([5]) inside which mobility also takes place. It has been estimated ([6]) that, in 2006, 85% of EU's internal labour mobility was due to movements between regions of the same country ([7]) and, according to Zimmermann (2009), these movements help to reduce regional imbalances in labour markets.

However, even at the inter-regional level, mobility in the EU is less developed than in the US ([8]). When grouping the 50 US States in four main regions, OECD (2012) estimated that the US annual mobility rate decreases to 1.24%. The gap with the EU rate is therefore reduced by half but remains substantial. Moreover, even if inter-regional mobility in the EU ([9]) is taken into account – which increases the EU mobility rate to almost 1% - this is still much below the US interstate rate.

Finally, while some studies ([10]) have argued that the high rate of interstate mobility in the US was not necessarily related to employment concerns but rather linked to housing, this seems to be mainly due to the inclusion of small-distance moves (e.g.: inside a county) in the calculations. In terms of inter-state mobility, employment is clearly the main driving factor, as evidenced in recent data on self-declared reason for moving ([11]): in 2012, 49% of the moves were motivated by employment reasons, 24% by family reasons and 23% by housing.

Larger obstacles to mobility in the EU

The substantial gap between US and EU mobility rates (even when taking into account the differences in the geographical scale) is due to many factors, above all language ([12]) and cultural differences between EU Member States that do not exist between US states, as well as costs or uncertainties induced by differences in administration, taxation and social rights ([13]). Other factors include housing regulations and taxes on property transactions combined with a rise in home ownership (which tends to reduce labour mobility) as well as a lack of information about job vacancies in other regions ([14]). While some studies point to an intrinsic lack of interest in mobility in the EU, Eurofound (2006) has argued that Europeans may simply be more likely to consider both the negative and positive sides of mobility and to attach more value to achieving a balance between their work and private life as well as social ties ([15]). Finally, due to the costs of cross-country mobility in Europe, OECD (1999) noted that it is an unlikely response to economic shocks in the short-term as it is rather permanent and motivated by other factors.

A minor role of adjustment for labour mobility in the euro area...

The lower rate of mobility in the EU compared to the US, between both regions and countries/states, has been seen from the very beginning of EMU ([16]) as problematic in terms of being able to adjust to any asymmetric shock, given that instruments such as monetary policy, exchange rates or fiscal transfers are no longer available to national governments under EMU.

This was already evident twenty years ago. While Blanchard and Katz (1992) found that local US labour markets adjusted relatively rapidly to asymmetric shocks, with migration playing a key role in this process, Decressin and Fatás (1995) found that labour adjustments through migration across 51 regions of the EU-15 were less important than they were in the US ([17]).

([1]) OECD (2012), Figure 2.1.

([2]) The annual mobility rate is the share of the population which changed their region/country of residence within the year.

([3]) According to European Commission (2008a), the mobility rate between EU countries was around 0.14% in 2005-06.

([4]) For instance, it does not require a long distance to move out of the State of Washington DC and to become an 'intra-US mover'.

([5]) The six largest EU Member States accounted for 70% of the EU active population in 2012.

([6]) See European Commission (2008).

([7]) Nevertheless, Puhani (1999) pointed out that there are large differences across the EU with levels of interregional mobility in Germany, France, the Netherlands and the UK more than twice higher than in Italy and Spain.

([8]) See European Parliament (1998) and Natixis (2011).

([9]) Between NUTS1 regions in EU-15.

([10]) See Theodos (2006) and Eurofound (2008).

([11]) Calculations made by Migration Policy Institute on the basis of US Census data.

([12]) The OECD (2012) estimates regarding Canada confirm that the mobility rate between the 10 provinces/territories is much higher (0.98) than mobility between French-speaking Quebec and the 9 other provinces/territories (0.39).

([13]) See Eurofound (2008).

([14]) See OECD (2011).

([15]) "The decision not to move, therefore, does not necessarily indicate an unwillingness to move, but probably reflects institutional and cultural factors, as well as the influence of networks and individual life-course trajectories and assessments."

([16]) See European Parliament (1998) and Puhani (1999). More recently, Natixis (2011) has pointed to the rising dispersion of unemployment rates across euro-area countries ('far higher than what it was at the time of the introduction of the single currency') compared to the US and argued that it was due to 'the insufficient mobility of the labour factor within the Union'.

([17]) In the EU, shocks to regional labour demand are mainly absorbed (in the short-term) by changes in labour market participation rather than by changes in net migration, contrary to the US.

Puhani (1999) confirmed this by pointing out that *'a high degree of factor mobility within Euroland is required to compensate for the loss of the exchange rate as an adjustment mechanism in the face of asymmetric shocks between Euroland's nation states'*. On the other hand, he also showed that, based on the situation in three large euro-area countries (France, Italy and Germany), the *'accommodation of a shock to unemployment by migration takes several years'*, concluding that labour mobility is extremely unlikely to act as a sufficient adjustment mechanism for asymmetric shocks in the euro area. This conclusion was similar to other reports, such as European Parliament (1998) ([18]), OECD (1999) and Mongelli (2002).

...but a rising role in recent periods, relative to the US...

L'Angevin (2007) has analysed the labour market adjustment dynamics and the labour mobility in both the euro area and the US in the period 1973-2005. While the comparison confirmed that labour mobility in response to asymmetric labour demand shocks is lower in the euro area, the estimates based on a shorter, more recent period (1990-2005) indicated that the gap has been reduced (i.e. reactions of labour markets to asymmetric labour demand shocks in the euro area have become closer to those observed in the US). However, the author considers that the increased migration response to shocks in the euro area may be driven more by a greater inflow of immigrants from outside the euro area than by flows between euro-area Member States ([19]).

...though mainly due to post-enlargement mobility and external migration...

A major contribution to the debate regarding the adjustment role of mobility in the EU/ euro-area area (and relative to the US) is Jauer *et al.* (2014) which compares *'pre- and post-crisis migration movements at the regional level in both Europe and the United States, and their association with asymmetric labour market shocks'*. Similar to previous studies, the paper investigates the statistical relationship between migration (approximated by population changes) and lagged regional unemployment and non-employment differentials (i.e. relative to the overall rates in the free-mobility area). It concludes that, while the migration response to labour market shocks prior to the crisis was stronger in the United States (in line with previous results in the literature), recent evidence suggests that migration in Europe has reacted quite strongly to changes in labour market conditions – more so than in the US, where internal mobility seems to have declined. However, the adjustment is mainly due to the post-enlargement mobility and no significant effect is found at euro-area level.

Moreover, part of the adjustment comes from changes in migration among third-country nationals ([20]), and not intra-euro-area movements. This is confirmed by the main empirical findings presented in Box 3 regarding recent in/outflows of workers in euro-area countries.

....and a relative fall of the adjustment role of mobility in the US

While mobility has increased at EU level, it has decreased in the US since the 1980s ([21]), resulting, according to some authors ([22]), in a rise in long-term unemployment compared with the past.

However, while there is a consensus on the decline of the inter-state mobility rate (even if partly due to a statistical bias ([23]), there is no agreement on the drivers of this change. The main factors cited are economic factors and housing, as well as the rise of dual income couples and tax rates.

Focusing on the most recent period of crisis, the adverse situation of the housing market is presented as an explanatory factor ([24]) (i.e.: when house prices decline significantly, households in negative equity may be unable to refinance their mortgage in order to move to a more prosperous region or may be unwilling to sell their home at a loss). However, Molloy *et al.* (2011) point out that the decline has been widespread across demographic and socio-economic groups and they found only *'limited roles for the housing market contraction and the economic recession in reducing migration recently'*.

Also seeking to understand the long-run decline in interstate migration in the US, Kaplan and Schulhofer-Wohl (2013) point to the importance of economic factors, such as the *'decline in the geographic specificity of returns to occupations, together with an increase in workers' ability to learn about other locations before moving there, through information technology and inexpensive travel'*. Finally, Molloy *et al.* (2013) suggest that it is related to a *'downward trend in labour market transitions - i.e. a decline in the fraction of workers moving from job to job, changing industry, and changing occupation - that occurred over the same period'*.

([18]) The European Parliament (1998) has pointed out that, in Europe, "the costs of large-scale labour movement generally outweigh the advantages" and therefore, that even if "labour mobility might be marginally increased by the removal of artificial barriers caused by differences in tax and social security systems, residence restrictions, nationality limitations on recruitment in the public sector, inflexible housing markets, ...", it would be "unlikely to form a major mechanism of adjustment to asymmetric shocks within the euro area".

([19]) L'Angevin pointed out notably that the net migration rate of the euro area as a whole, relatively to the US, had strongly increased since the beginning of the 1990s.

([20]) This is in line with Von Weizsäcker (2008) who argues that mobility between euro-area countries is relatively low but that external immigration could help assure the labour market adjustment process within the euro area.

([21]) See, for example, Molloy *et al. (2011).*

([22]) For example Katz (2010).

([23]) Kaplan and Schulhofer-Wohl (2011) argues that interstate mobility was probably overestimated in the past and that the change in data-handling procedures explains nearly half of the reported decrease in interstate migration between 2000 and 2010.

([24]) See for instance OECD (2011), Chapter 4: "Housing and the Economy: Policies for Renovation".

Box 3: Recent trends in labour mobility between euro-area countries

A relatively low level of mobility between EU countries - which has however increased in the last decade due to enlargements...

Many studies have indicated that geographical labour mobility between EU countries is limited both in terms of the labour force and in comparison to other economic blocks (see Box 2) despite the right to free movement of workers and continuous policy actions at EU level to remove barriers to mobility. At the end of 2012, EU mobile citizens (of all ages) represented around 2.8% of the total population in the EU ([1]), much below the share taken by third-country nationals (4%).

The extent of intra-EU mobility of citizens and workers has changed in-depth over the last decade, however. The number of EU mobile citizen has increased by more than 50% since the end of 2003, when they represented only 1.6% of the total EU population. Part of this increase may be attributed to the progressive reduction in obstacles to mobility, thanks to coordinated action at EU level. However, there is no doubt that the main drivers of the surge in intra-EU mobility in the last decade have been the 2004 and 2007 enlargements which boosted the inflows of citizens from Central and Eastern Member States towards EU-15 ([2]) Member States. Indeed, mobility from EU-12 countries represented around ¾ of the overall net increase in the 'stock' of EU mobile citizens ([3]).

...while mobility between euro-area countries has been limited since the end of the 1990s...

While most recent studies on mobility at EU level have focused on the EU-27 and the impact of post-enlargement mobility, the rising divergence between euro-area countries has generated a number of papers on the (need for) mobility at the euro-area level ([4]). Nevertheless, concrete figures on intra-euro-area mobility remain scarce, with most studies measuring the size of the adjustment through labour mobility (i.e.: quoted in Box 2) using approximations of net migration flows (i.e.: population changes). Using recent data from the EU-Labour Force Survey, the following patterns emerge concerning mobility between euro-area (EA-12) countries:

- In 2012, 2.6 million EA-12 ([5]) workers were residing in another EA-12 country, representing 1.7% of the overall EA-12 active population, compared to 2.0% for the other EU mobile workers (0.3% for the three other EU-15 countries ([6]), 1.7% for EU-12) and 5.8% for third-country nationals. Moreover, most of the EA-12 mobile citizens have been established in their current country of residence for a long time ([7]).
- Consequently, EA-12 mobile workers made up around 47% of the whole population of EU mobile workers – much below the overall weight of EA-12 countries in the EU-27 active population (64%)- and at the same level as the share taken by EU-12 citizens (46%);
- Since the start of the third stage of EMU (1999), the number of economically active 'EA-12 mobile citizens' has increased from around 2.2 million in 1999 to 2.6 million in 2012 but their share of the overall active population of EA-12 has been rather stable (from 1.6% in 1999 to 1.7% in 2012).
- Moreover, Chart 2 confirms that the main changes in mobility in EA-12 countries over the last decade have been the increases due to enlargements (rising share of EU-12 citizens in the euro-area active population from 0.6% in 2004 to 1.7% in 2012) and external migration (i.e.: from non-EU countries).

Most of the increase in mobility across EU Member States recorded over the decade occurred in an East to West direction and if labour mobility **between EU countries** is said to be limited, it is in fact even more the case as far as mobility **between euro-area countries** is concerned. Several papers have pointed out that relative income levels seem to have been key push factors behind intra-EU mobility and that unemployment rates (in the countries of origin) have played a rather limited role ([8]). This could explain why most mobility flows in the EU occurred in the East-West direction – while flows between EA-12 countries (with smaller differences in terms of GDP per capita) remained limited, at least until recently. OECD (1999) also pointed out the income convergence and reduced wage differentials across euro-area countries as having lowered the incentives to migrate, compared to the 1950s and 1960s when large flows from Southern to Northern Europe had occurred.

([1]) DG EMPL estimates based on Eurostat migration statistics and the EU-LFS, same method used as in European Commission (2011a), Chapter 6, Tables 3 and 4.

([2]) 'EU-15' refers to the EU Member States before 2004, 'EU-10' to those having joined the EU in 2004, 'EU-2' to those having joined the EU in 2007 (Bulgaria and Romania) and 'EU-8' to 'EU-10' without Cyprus and Malta.

([3]) From 7.7 million at the end of 2003 to 14.1 million at the end of 2012 (DG EMPL estimates based on Eurostat migration statistics and the EU-LFS).

([4]) See, for example, Natixis (2011), Deutsche Bank (2011), European Commission (2013d), Jauer *et al. (2014), see also Box 2.*

([5]) Defined as those EA-12 citizens residing in an EA-12 country other than their own and being economically active. This definition therefore excludes mobility of non-EA-12 citizens such as other EU citizens or third-country nationals.

([6]) Those EU-15 countries not belonging to the euro area, i.e.: Denmark, Sweden and the UK

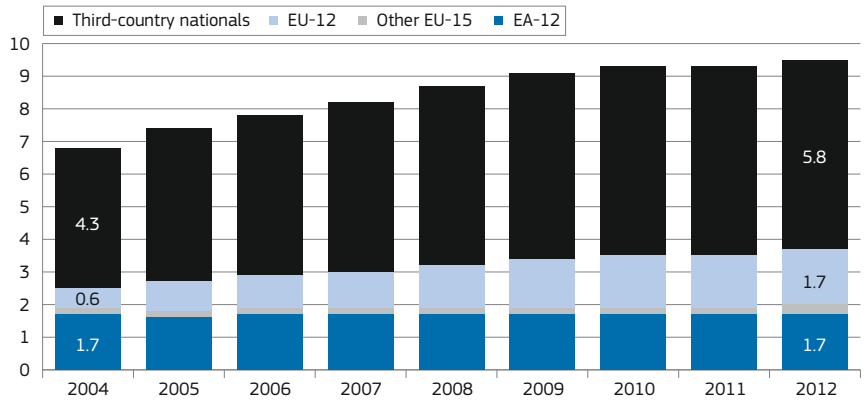
([7]) Around half (53%) of the overall stock of 2.6 million intra-EA-12 movers had been established for 10 years or more and a further 15% were even born in their current residing country - on the contrary, two thirds of EU-12 citizens had been there less than 10 years.

([8]) See for instance European Commission (2008b) and European Commission (2011a).

...and no substantial increase since the crisis, despite rising divergences inside the euro area

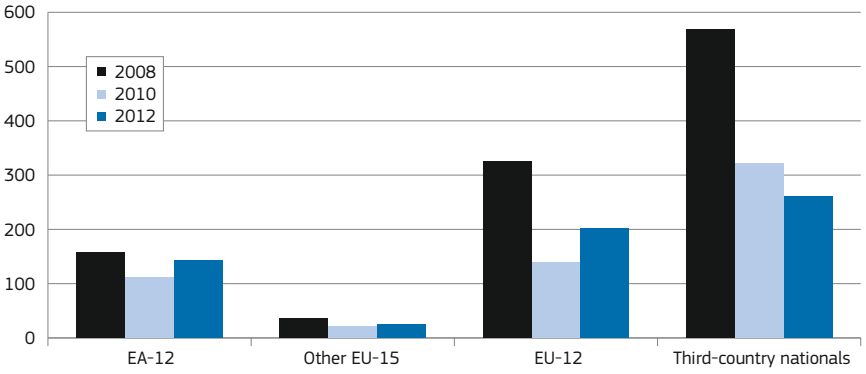
The current share of EA-12 mobile citizens in the total EA-12 active population is similar to that in 2008 (1.7%) suggesting that the crisis did not generate more mobility between euro-area countries, at least among euro-area citizens. As indicated in other recent analyses ([9]), mobility and migration flows towards EU countries have rather declined with the crisis, especially in the first period (2009-10) when most destination countries were affected by the economic recession. In contrast, the most recent period has seen a partial recovery in intra-EU mobility flows and some changes in the distribution across origin and receiving countries, in line with the asymmetric economic developments ([10]).

Chart 2: Economically active foreigners residing in EA-12 countries, by group of citizenship, as % of overall active population in EA-12



Source: DG EMPL calculations based on Eurostat, LFS.

Chart 3: Economically active foreigners, residing for less than 2 years in an EA-12 country (in thousands), by group of citizenship



Source: DG EMPL calculations based on Eurostat, LFS (BE not included as a destination country due to problems with the variable 'Years of residence').

In terms of **flows**, the main lessons that can be drawn from the analysis of EU-LFS data for the EA-12 countries are the following:

- In 2009-10, EA-12 countries saw large decreases in inflows, especially from EU-12 (-43%) and non-EU countries (-57%), see Chart 3;
- Intra-euro-area flows have also decreased but recovered somewhat in the recent period (+28%). As a consequence, intra-euro-area movers in 2012 represented 40% of the recent EU movers (to euro-area countries), compared to 30% before (2007-2008). Nevertheless, EU-12 citizens still constituted the majority (55%) of recent EU movers to euro-area countries.
- The most recent period (2011-12) has been characterised by uneven changes across EA-12 countries due to the varying labour market impacts of the crisis with flows from Southern EA-12 countries affected by the crisis having increased. For example, mobility flows to other euro-area countries increased quickly in the case of Spain (+36%) and Greece (+109%).

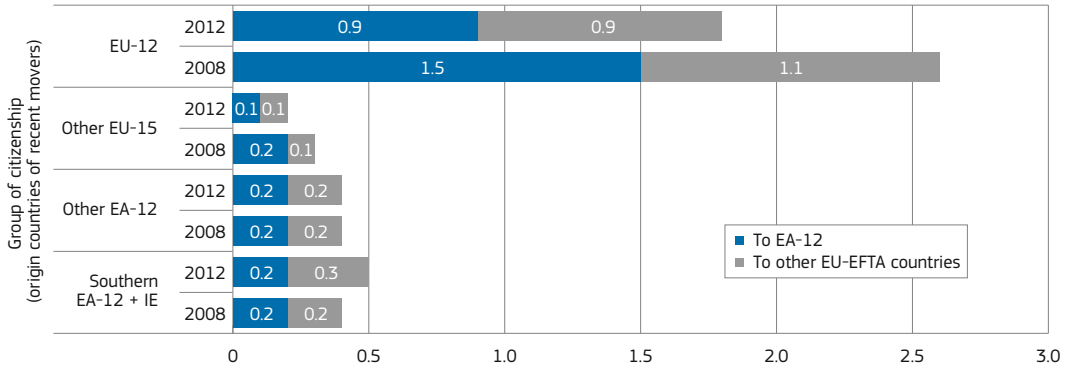
([9]) See International Organisation for Migration (2010), EPC (2013).

([10]) See Chapter 6, 'Intra-EU labour mobility and the impact of enlargement' in European Commission (2012c) and European Commission (2013d).

However, the increase in flows has been much greater towards non-euro-area countries ([11]) which attracted 61% ([12]) of recent flows from Southern euro-area countries (+ Ireland) compared to 47% before the crisis. This demonstrates that, in euro-area countries affected by high unemployment, adjustments through increased mobility have occurred chiefly through increasing flows to non-euro-area countries.

- Moreover, in proportion to the labour force in countries of origin (see Chart 4 ([13])), mobility outflows from Southern euro-area countries (+ Ireland) to other euro-area countries stayed at the same low level (0.2%) as before the crisis (and were similar to the level for other euro-area countries). In contrast, mobility to **non-euro-area countries** increased slightly (from 0.2 to 0.3%). Overall, even when considering all EU-EFTA destination countries, 'mobility rates' from euro-area countries (both Southern and Northern) were around 0.4-0.5%, much below those recorded from EU-12 countries (around 2%).

Chart 4: Mobility rates to EA-12 and other EU-EFTA countries, by group of citizenship (number of economically active recent movers (<4 years) as% of labour force in *countries of origin*)



Source: DG EMPL calculations based on Eurostat, LFS (BE not included as a destination country due to problems with the variable 'Years of residence').

Note: Southern EA-12: ES, EL, IT and PT; other EA-12: BE, DE, FR, LU, NL, AT and FI, other EU-15: DK, SE and UK. EU-EFTA: EU-27 Member States + CH, IS and NO.

The main trends described above are confirmed by analyses ([14]) of administrative data for Germany, the main destination country in the euro area of movers from the Southern euro-area countries affected by unemployment ([15]). While there has been a rise of almost +20% in the number of citizens from Southern Member States working in Germany over the period 2010-2013, the increase in absolute terms is limited, especially compared to the overall unemployed population in Southern Member States (a ratio around 0.7%, with variations from 0.2% in Spain to 2.0% in Greece). In other words, until now, mobility to Germany has played a relatively minor role in relieving the pressure of unemployment for those countries ([16]).

To sum up, evidence from the EU-LFS and other data ([17]) points to the fact that, as a result of the crisis that has affected euro-area countries since 2008, there has been an adjustment in the euro area through mobility/migration, but it has been limited in terms of the% of active population of origin or destination countries. Moreover, while outflows from euro-area countries have increased, those to non-euro-area countries have increased even more.

The main adjustments through mobility occurred through changes in flows from/to EU-12 countries and non-EU countries (decrease in the overall inflows, increasing outflows through return migration and changes in the distribution across destination countries) and not through intra-euro-area movements. These conclusions are in line with the recent OECD analysis ([18]) which compares the size of the labour market adjustment through mobility/migration in the EU and the US over the recent crisis (see Box 2).

Transnational labour mobility has been playing only a very limited role as far as adjustments to asymmetric shocks in EMU are concerned.

([11]) Including the EFTA countries (Norway, Iceland, Liechtenstein and Switzerland) as they can be considered as part of the European area of free movement of workers, even if the legal rules governing free movement of workers vary. Overall, in 2011-12, the main non-euro-area recipient countries of recent (<2 years) movers from the euro-area countries affected by the crisis (Southern euro area + Ireland) were the United Kingdom, and, to some extent, Switzerland.

([12]) 67% of flows from Spain, 54% for Greece, 89% from Ireland, 55% for Italy and Portugal.

([13]) These mobility rates are calculated over a four-year period as one measure for a given year, the number of economically active foreigners established for less than 4 years (Variable 'Years of residence').

([14]) See European Commission (2013d).

([15]) In 2012, 48% of recent (<2 years) movers from Southern euro-area countries to other euro-area countries were established in Germany.

([16]) Elsner and Zimmermann (2013) also conclude on the basis of a descriptive overview of migration flows to Germany and economic conditions, that while there has been an increase in immigration from countries hardest hit by the crisis, the flows in question are too small to have a large impact on reducing unemployment in origin countries.

([17]) See European Commission (2013d).

([18]) Jauer *et al.* (2014).

2.2.2. Theoretical comparisons with other monetary unions and with adjustments in non-euro Member States

The obvious candidate for a theoretical comparison of the euro area with another monetary union of similar size is the US ([24]).

The US is a political union, a federal state, with a federal government, a federal parliament and a federal budget. The history of development of the monetary unions in Europe and the US is different: while the creation of EMU is part of the process of economic integration and spurred under the initiative of the EU Member States, monetary institutions in the US have evolved in response to specific needs, in particular following the financial crises of the early 1900s.

The second main difference is the banking union in the US (supervision, deposit insurance and backstop are all at the federal level) which avoids the lethal feedback loop between banking and sovereign problems seen in the euro area ([25]).

The third main difference is the mandate of the central bank. The Federal Reserve (the US central bank) has a dual mandate of maximum employment and stable prices ([26]). Recently, the Federal Reserve has tied its monetary policy to a numerical target for the unemployment rate (and price stability).

The task of the European System of Central Banks (ESCB), as laid down in the Treaty, is to maintain price stability. Without prejudice to price stability, the ESCB supports the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union, as laid down in Article 3 of the Treaty, namely sustainable development based on balanced economic growth and price stability, and a highly competitive social market economy, aiming at full employment and social progress.

Consistent with its mandate, the 'ECB's monetary policy stance continues to be geared towards maintaining the degree of monetary accommodation warranted by the outlook for price stability' ([27]). Through its announcement of the 'Outright Monetary Transactions' (OMT) in summer 2012, the ECB supported overall confidence, while creating the incentives for governments to pursue prudent economic policies.

In the EU, fiscal policy is the responsibility of Member States as set out in the Stability and Growth Pact, and subject to the provisions of the Treaty. The US fiscal system is very different, with a federal level collecting about two thirds of all taxes and bringing significant cyclical stabilisation, while the State level generally abides by self-imposed, pro-cyclical balanced budget rules ([28]).

The US federal level also has no obligation to bail out States, which protects taxpayers from moral hazard risk ([29]). The States' balanced budget rules are the natural counterpart to the assumption of these stabilisation roles by the federal level. These rules vary in strictness ([30]) and enforcement and imply a pro-cyclical effect, which counteracts (partially) the cyclical stabilisation from the federal level. As the rules are self-imposed and self-enforced, the fiscal behaviour of one State has no influence on the behaviour of another (contrary to what happened with the Stability and Growth Pact). There is, at the same time, significant cyclical stabilisation from the federal level, whether discretionary ([31]) or automatic (through social security, unemployment benefits, but also the variation in taxes paid to the federal level). However, compared to the EU, the US has much less widespread public social protection ([32]).

3. Labour market and social convergence in 1999-2007

3.1. Introduction

This section addresses labour market and social developments in the first nine years of EMU. The basic evidence is first presented in the form of scatter diagrams plotting changes between 1998 and 2007 against the initial position in 1998 ([33]). In terms of convergence, the observations would be expected to show a negatively sloped trend-line, with Member States with the lowest initial levels catching up most ([34]).

The focus is on the 12 Member States who adopted the euro up to 2001 ([35]), with the analysis focused on the period 1999-2007. No comparison is made concerning the situation before the adoption of the single currency. Most comparisons with other EU Member States and with non-EU countries are made in sections 2.2 and 4.2.

Even after fixing the time and space constraints of the analysis, convergence analysis can still take different forms: convergence in levels (Beta-convergence) or in variability (Sigma-convergence) - see Box 4. A final distinction is between nominal and real convergence. Entry into the euro is conditional on fulfilling the Maastricht criteria, which can be seen as nominal convergence (convergence in inflation, interest rates, exchange rate variability and fiscal variables). In the context, the euro is nevertheless intended to support real convergence, defined in terms of per capita GDP, by fostering economic integration (see European Commission (2008c)).

([24]) An empirical comparison with the US can be found in section 4.2.

([25]) See Mongelli (2013).

([26]) In fact, the mandate is wider, as the Federal Reserve should "promote effectively the goals of maximum employment, stable prices and moderate long-term interest rates." (Federal Reserve Act)

([27]) Draghi (2013).

([28]) See HM Treasury (2003), O'Rourke and Taylor (2013) and Henning and Kessler (2012) on which the following is based.

([29]) Over time, States have been through fiscal distress and even default (O'Rourke and Taylor (2013)).

([30]) For example, overly optimistic macro-economic forecasts can allow for an ex-ante balanced budget forecast. Note also that the rules generally allow borrowing for long-term public investment.

([31]) Such as through the 'American Recovery and Reinvestment Act' of 2009.

([32]) In counterpart, the US has much higher private health expenditures, see Bontout and Lokajickova (2013).

([33]) 1998, the last pre-euro-area year is considered as the base year; the focus is on changes *during* 1999-2007.

([34]) As the scatter diagram has only 12 or 13 observations and also in view of the heterogeneity in the size of Member States' economies, the estimations of the coefficients and the correlation coefficient have only a very limited value.

([35]) Evidently, analysis at regional level is beyond the scope of this chapter.

Box 4: Measures of convergence

In the current context, Sigma-convergence refers to a reduction of disparities over time between countries in terms of indicators such as level of income, and usually measured in terms of the standard deviation or coefficient of variation (the ratio of the standard deviation to the mean).

Beta-convergence refers to a situation such as where incomes in poorer countries grow faster than those in richer ones, which is usually measured in terms of changes in incomes in poor countries over time against their initial income levels.

The two concepts of convergence are closely related with Beta-convergence being necessary but not sufficient in order to achieve Sigma-convergence ([1]). Other indices exist (for instance the Gini coefficient, the Atkinson index, the Theil index and the Mean Logarithmic Deviation). It is recommended "to compute a variety of measures to draw firm conclusions about changes in the extent of disparities" (Monfort (2008)).

In this chapter we restrict ourselves to the coefficient of variation as a measure of sigma-convergence.

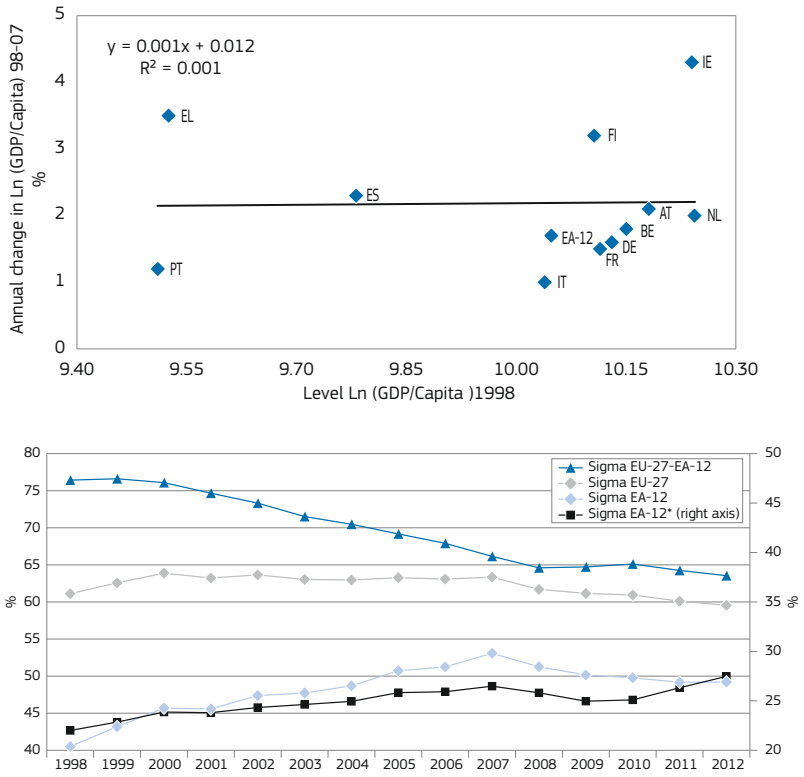
([1]) See, for example, Young, Higgins and Levy (2008) and Monfort (2008).

3.2. Evidence of convergence (1999-2007)

Average annual real GDP growth averaged 2.2% in EA-12 during the period 1999-2007, while GDP per capita (GDPpc) averaged 1.7%. In effect, reasonably robust growth overall in EA-12 was accompanied by some slight divergence in terms of GDPpc, while EU-27 acknowledged an overall stability and the rest of EU-27 was showing some convergence (Chart 5, right-hand panel).

Rates of growth of GDPpc were very close in Germany, France, Italy, Belgium, the Netherlands and Austria, close to the EA-12 average, but weaker in Portugal and Italy (around 1%), stronger in Spain (2.3%) and stronger again in Greece (3.5%). There was also stronger growth in Finland, Ireland and Luxembourg.

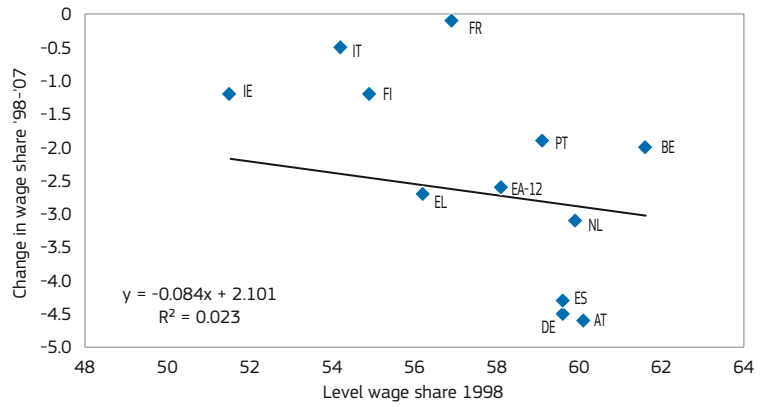
Chart 5: GDP per capita in EA-12 and EU-27 (1998-2012)



Source: Eurostat.

Notes: GDP in Euro and real values, LU not included in left Chart due to atypical levels. Weighted averages. EA-12* refers to EA-12 except LU.

Chart 6: Wage share (1998-2007)



Source: AMECO: Adjusted wage share: total economy: as percentage of GDP at current market prices (ALCD0).

Note: EA-12 weighted average.

In effect, during the first decade of the euro, the catching-up process appears to have been slower within the euro area than it was Member States outside the euro area (see also European Commission (2008c)). It should be noted however that the dispersion showed a slight divergent trend within EA-12 (see Chart 5, left-hand panel) and that these within-EA-12 movements in dispersion have been accompanied by a significant average catching up of Southern EA-12 Member States ("between" convergence, see Chart 1). These trends contrast with the relative stability of the overall EU-27 dispersion observed since 2007 (Chart 5, right-hand panel), which has then been accompanied by some divergence between the Northern and Southern euro area (Chart 1).

While GDP growth averaged 2.2% a year in EA-12 over the period 1997-2007, there was a decline in the overall wage

share of 2.8 percentage points on average, as a result of wages growing at a slower pace than GDP, with potential consequences for the future sustainability of growth ([36]).

The decline in the wage share overall was accompanied by some weak convergence within EA-12 Member States, with more significant declines in Austria, Germany and Spain, some stability in Italy, with wage share in Greece, the Netherlands and Belgium moving in line with the EA-12 average.

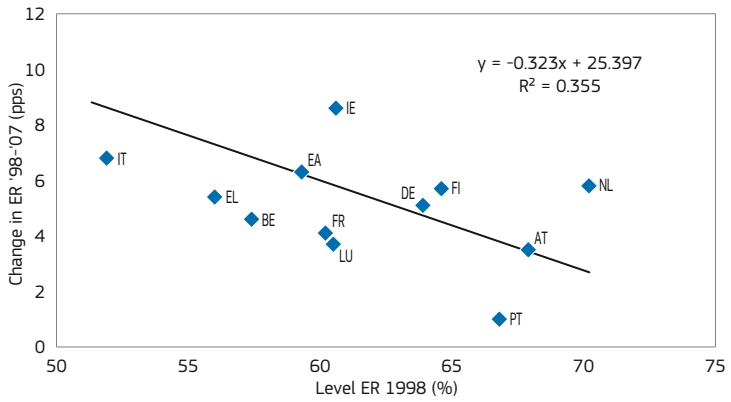
While wages developed at a slower pace than GDP, employment increased by around 5 points on average. Moreover there was robust convergence with employment growth stronger in most Southern or periphery Member States, including Spain, Italy, Greece and Ireland, while it was weaker in most Northern Member States, notably in Belgium, Luxembourg and Austria. While it was also weaker in Portugal, this was from an initial high level.

A decomposition of the changes in GDPpc growth into employment and labour productivity provides some insight into the nature and causes for these changes (see also European Commission (2008c)). On the one hand, the pace of job creation accelerated over the decade in the EA ([37]), notably in Spain (which accounted for 36 % of the increase). On the other hand, average yearly labour productivity growth slowed markedly to 0.75 %, with particularly low rates in Spain, Italy and Portugal.

The overall increase, and robust convergence, in employment rates resulted in a significant decline in unemployment rates of nearly 2 pps, accompanied by strong convergence. Reductions in unemployment were particularly notable in Spain, Italy, Greece, all of which had experienced particularly high rates, as well as in Finland and France. However, unemployment did not decline much in some Northern Member States with relatively high levels, such as Belgium and Germany, and increased significantly in Portugal, albeit from relatively low initial levels.

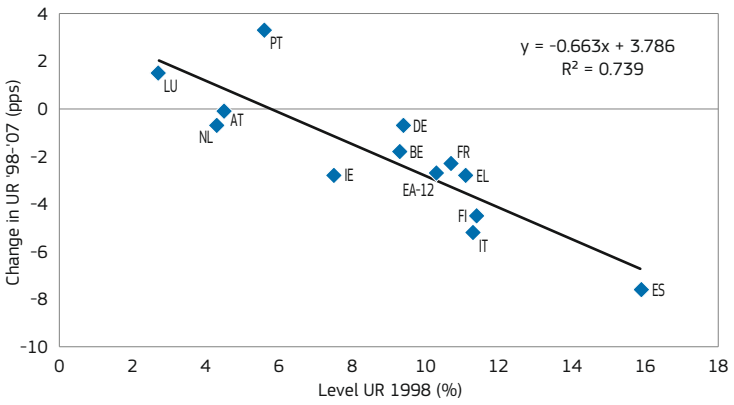
Youth unemployment rates fell even more than the average (-2.6 points) and was accompanied by strong convergence, with sharp declines in Spain, Italy and Greece. However, the weak labour market situation in Portugal resulted in a worsening of the situation of the young people as it did but to a lesser extent in Luxembourg.

Chart 7: Employment rates (1998-2007)



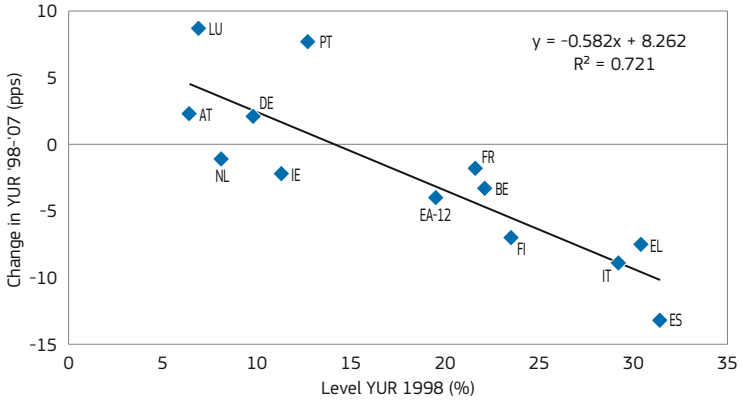
Source: Eurostat [lfsi_emp_a].
Note: EA-12 weighted average.

Chart 8: Unemployment rates (1998-2007)



Source: Eurostat [une_rt_a].
Note: EA-12 weighted average.

Chart 9: Youth unemployment rates (1998-2007)



Source: Eurostat [une_rt_a].
Note: EA-12 weighted average.

([36]) See notably Onaran and Galanis (2012) on the wage-led versus profit-led growth regimes and Box 1, 'Conditions affecting the setting and adjustment of wages' in Chapter 5 of European Commission (2013a) on the impact of wages on the demand side.

([37]) There was a particular role for female employment, which contributed 63 % of the overall increase.

Over the sub-period 2004-2007 ([38]) overall positive developments in the labour market translated into only a small average improvement in the extent of employment polarisation across households within countries (which overall remained constant, it even decreased by 0.6 point), while there was some convergence in terms of the proportion of jobless households, with significant reductions in Italy and Belgium, but also increases in Austria and Ireland.

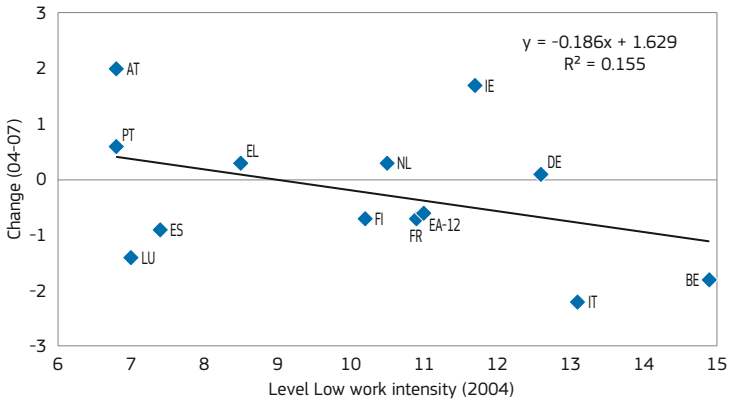
Over the period 1999-2007, overall GDP growth enabled household incomes per capita to increase at an average rate of 1.1 % a year in real terms, with significant convergence in terms of notably higher growth in some Southern Member States (Greece and Spain, but not in Portugal and Italy) and slower than average growth in richer Northern Member States, such as Germany and the Netherlands.

This average growth in GHDI (Gross Household Disposable income) per capita was accompanied by an overall stability of income inequalities over 2004-2007 (actually a slight increase) and strong convergence in EA-12 with declines in Southern Member States that initially experienced higher levels, notably Portugal and Italy, but also Ireland) and an increase in Germany, where initial levels were relatively low.

Over the same period, the risk of poverty and exclusion remained more or less constant overall in EA-12, but with strong convergence. This included a significant decline in Member States that had initially seen higher levels, notably Greece, Portugal, Ireland and Spain, while, there was a significant increase in Germany.

Over the same period, while relative monetary poverty ([39]) remained more or less constant over the period in EA-12, showing some signs of convergence (Chart 14, left-hand panel), anchored poverty ([40]) showed some decline together with a more robust convergence.

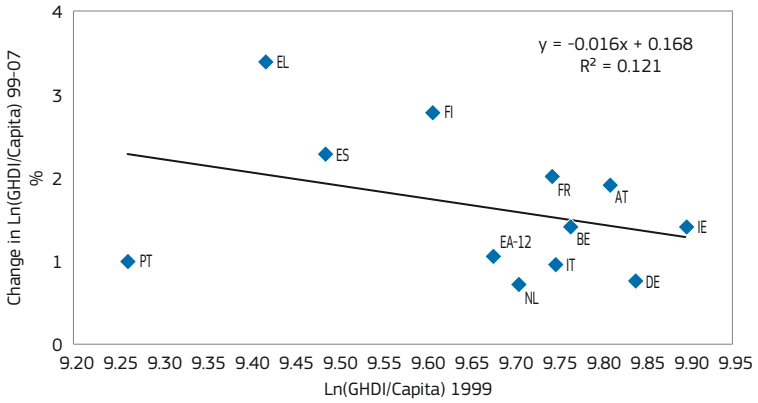
Chart 10: Jobless households (2004-2007)



Source: Eurostat.

Note: EA-12 weighted average, population 18-59. Households with zero or very low work intensity.

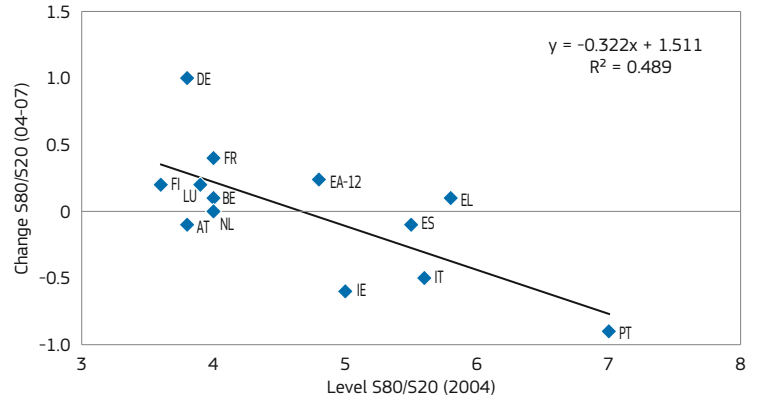
Chart 11: GHDI per capita (1999-2007)



Source: Eurostat.

Notes: in Euro and volumes. LU not displayed since data available only for 2008-2011. Data not available for IE (1999-2001), EL (1999), ES (1999), and LU (1999-2007). EA-12 weighted average.

Chart 12: S80/S20 (2004-2007)



Source: Eurostat.

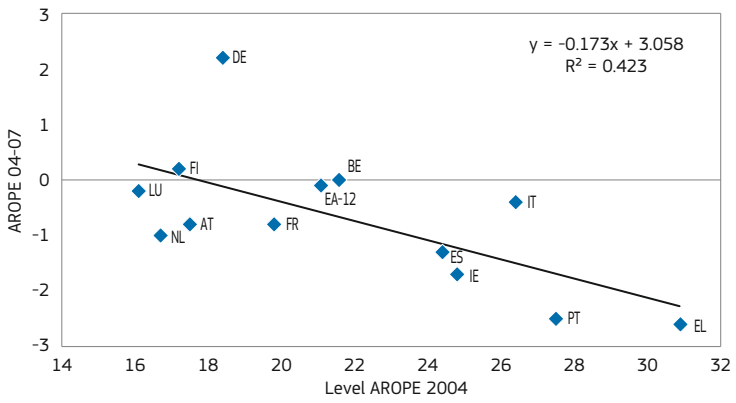
Note: EA-12 weighted average.

([38]) Data since 2004 are based on the EU-SILC surveys, which are not available before. For earlier periods, other surveys are available such as the EHCP, or national surveys, which implies breaks in series.

([39]) Measured relative to 60 % of the median equivalised disposable income.

([40]) Measured on the basis of a threshold with a real value fixed at a moment in time (here in 2007).

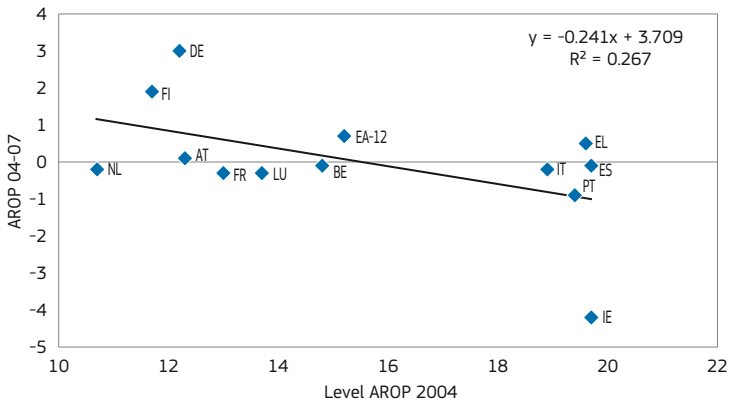
Chart 13: Poverty and exclusion rate (2004-2007)

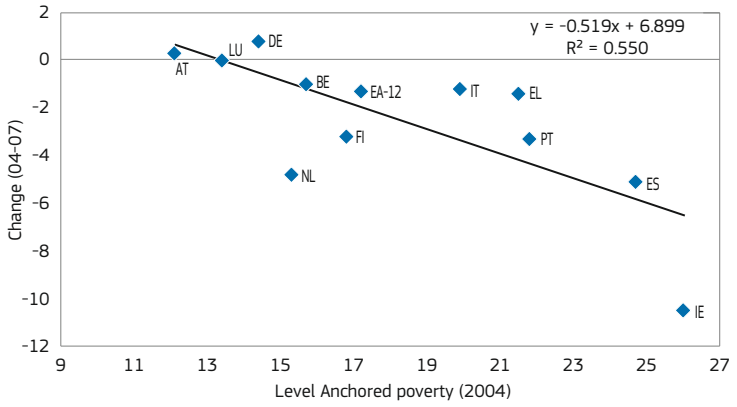


Source: Eurostat.

Notes: EA-12 weighted average. DE and LU not available in 2004.

Chart 14: AROP and anchored AROP (2004-2007)





Source: Eurostat.

Note: EA-12 weighted average.

Table 1: Average and dispersion trends (1999-2007)

Variable	Average trend	Dispersion trend
GDP per capita	+	=/+
Wage share	-	-
Employment rate	+	--
Unemployment rate (youth)	- (-)	-- (---)
Low work intensity	-	-
GHDI per capita	+	-
S80/S20	=	--
Poverty and exclusion	=	-

Source: DG EMPL.

The 1999-2007 period was characterised by relatively strong average growth in GDPpc in EA-12 but with a slight dispersion, accompanied by some decline and convergence in the wage share.

Overall, some consistent and significant convergence (notably between Northern and Southern Member States) was seen in terms of labour market and social outcomes. The significant improvement in the employment and unemployment performance was accompanied by strong convergence, particularly with respect to the young. Likewise, household incomes benefited from these trends and converged somewhat in terms of inequalities and poverty levels.

3.3. Imbalances and warning signals 1999-2007

The convergence documented above with respect to employment and social indicators can be viewed as positive. However it was partly the result of unbalanced GDP growth, fuelled notably by the decline in interest rates observed in some Member States. This was often associated with unbalanced employment growth (segmentation) and a neglect of longer-term fundamentals such as productivity growth, competitiveness and human capital investment.

3.3.1. Unbalanced GDP growth due to lower interest rates (and other factors)

One of the most significant changes in the economic environment that resulted from the adoption of the euro was the reduction in nominal interest rates. Compared to the average of the previous nine years, average interest rates ([41]) during 1999-2007 were lower in all 12 Member States. Some Member States experienced a particularly large drop in their interest rates as markets adjusted their country risk assessments following the adoption of the euro ([42]) (in Table 2 and the following text, the drop in the average nominal interest rate is labelled "interest rate gain").

([41]) This concerns short-term as well as long-term rates.

([42]) Identifying the drivers of this re-assessment and determining whether or not this is a market failure (see Soros (2013)) would be beyond the scope of this publication.

Table 2: Average nominal interest rates during 1999-2007 and the nine previous years

	ISN 90-98	ISN 99-07	ISN gain 99-07	ILN 90-98	ILN 99-07	ILN gain 99-07	IR gain 99-07
Belgium	6.3	3.2	3.1	7.5	4.5	3.0	3.1
Germany	6.0	3.2	2.8	6.9	4.3	2.5	2.7
Ireland	8.1	3.2	4.8	7.8	4.4	3.4	4.1
Greece	19.0	4.4	14.6	16.8	4.8	12.0	13.0
Spain	9.8	3.2	6.6	9.9	4.4	5.5	6.0
France	6.9	3.2	3.7	7.3	4.4	2.9	3.3
Italy	9.8	3.2	6.6	10.6	4.6	6.0	6.3
Luxembourg	6.3	3.2	3.1	6.9	4.0	2.9	3.0
Netherlands	5.9	3.2	2.7	6.9	4.4	2.5	2.6
Austria	6.0	3.2	2.8	6.9	4.4	2.5	2.6
Portugal	11.4	3.2	8.2	10.6	4.5	6.1	7.1
Finland	7.7	3.2	4.5	9.0	4.4	4.6	4.5
EA-12	7.6	3.2	4.4	8.2	4.4	3.8	4.1

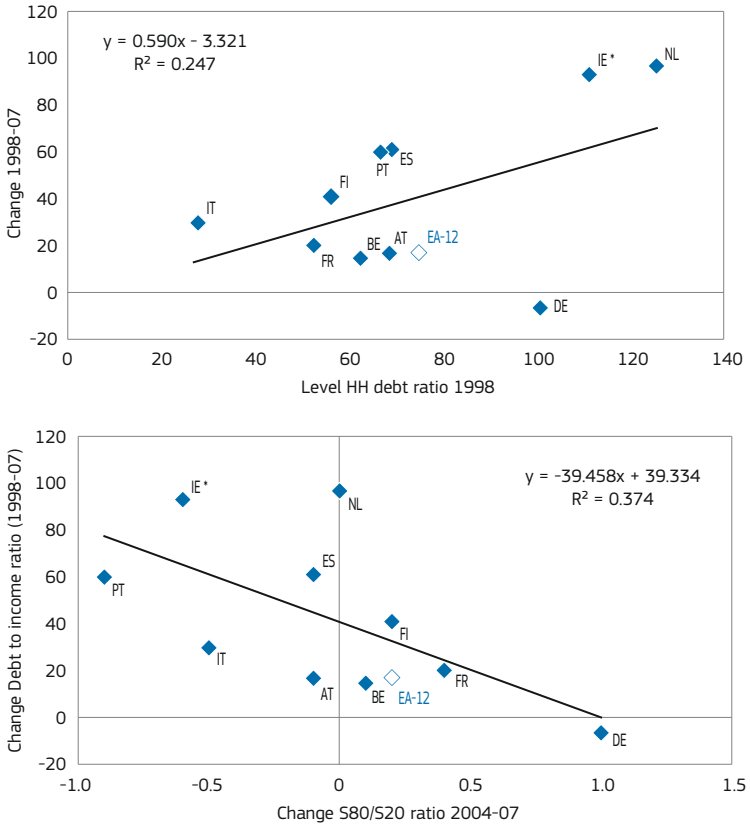
Source: Own calculations on the basis of AMECO [ISN, ILN].

Notes: IR is the average of short-term (ISN) and long-term rates (ILN).

In most of the Member States where the interest rate gain was large, activities that are particularly sensitive to interest-rate levels and changes (construction, consumption of durable goods, finance) boomed and credit expanded strongly. As a result of cross-border lending, financial sector activity was also boosted in other Member States.

Growth based on increased indebtedness ([43]) is recognised to be unsustainable, but the interest rate gain (together with a global sense of reduced risk, "the great moderation") helped to set in motion a typical boom and bust cycle (see also De Grauwe (2013), pp. 1-2). Typically, higher indebtedness makes economies more sensitive to shocks, due to the subsequent need for deleveraging, resulting in a tightening of access to credit (in particular for lower incomes). The large capital inflows into Southern euro-area Member States and their subsequent reversal in the wake of the 2008 financial crisis represented a large asymmetric shock that was endogenous to EMU as it was aided by its single monetary policy.

Chart 15: Household debt to income ratio (1999-2007)



Source: Eurostat.

Note: EL, LU not available; *IE not available 1999-2001.

The credit boom occurred in all sectors of the economy, however, in the private sector, it was not only due to the interest rate gain. Lax supervision of the banking sector, rising house prices and excessive bank liquidity ([44]) also played an important role (Boltho and Carlin (2013)). As a result, too much unproductive investment took place and EMU was not yet able to produce a more efficient capital allocation (Wunsch (2013)).

However, the household credit boom over the period 1999-2007 developed at a very different pace across EA-12, with an average increase of around 20 points in the household debt to income ratio, with much larger increases seen in some Northern (Ireland and the Netherlands), as well as in some Southern Member States (Spain and Portugal).

While it has been argued that growing inequalities fuelled the development of household indebtedness in the US (see, for example, Stiglitz (2011) and Rancière and Kumhof (2011)), this seems to have played a more modest role in the EA-12, given that increases in household debt seem to

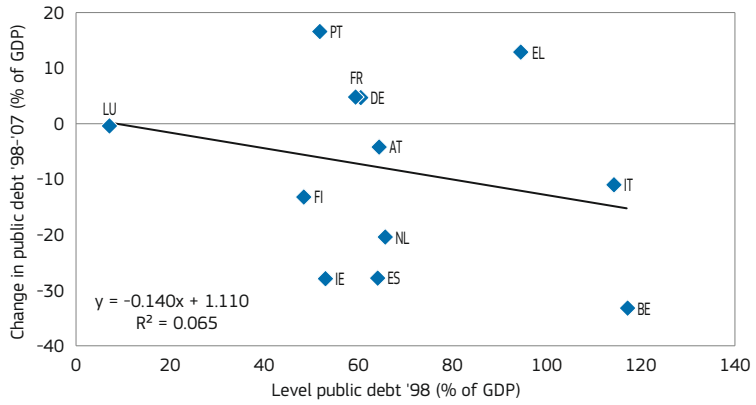
([43]) GDP growth was also based on poor productivity growth. We will come back to this below.

([44]) Excess bank liquidity came to a large extent from euro-area countries with current-account surpluses.

have occurred more in Member States with stable or lowering levels of inequality (as measured by the change in the S80/S20).

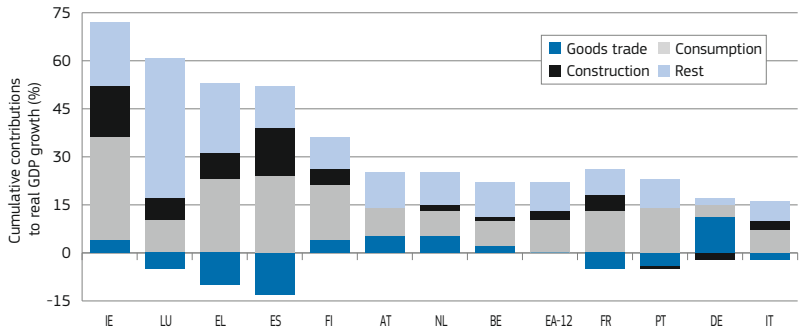
The origins of Member States' fiscal problems differed strongly before and after 2007. In the period 1999-2007, only Portugal and Greece could be seen as euro-area Member States with significantly aggravating fiscal problems, while Belgium and Italy were seen to be lowering their high levels of public debt (Chart 16; developments post-2007 are described in 4.1.1).

Chart 16: Public debt to GDP (1998-2007)



Source: Eurostat, Government deficit/surplus, debt and associated data [gov_dd_edpt1].

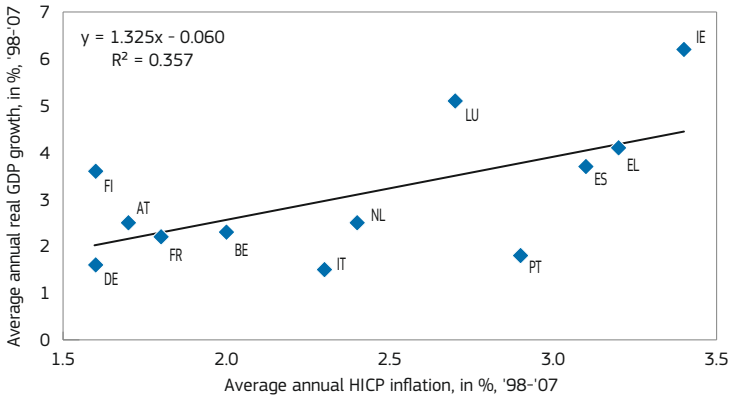
Chart 17: A decomposition of GDP growth (1998-2007)



Source: Own calculations on the basis of Eurostat, National accounts [nama_gdp_k], [nama_pi6_k] and [nama_exi_k].

Notes: Contributions calculated as the growth rate of the component multiplied by its average weight over the period. EL: 2000 instead of 1998.

Chart 18: Inflation and GDP growth (1998-2007)



Source: Own calculations on the basis of Eurostat, National accounts [nama_gdp_k] and prices [prc_hicp_aind].

In Chart 17 GDP growth is decomposed into the contributions from two interest-rate sensitive components (construction and consumption ([45])), trade in goods (which is sensitive to price competitiveness) and a residual term. GDP was boosted by booms in construction and consumption in Ireland, Greece and Spain, while net exports made a clear negative contribution in the latter two Member States. Among the Member States with large interest rate gains, however, Italy and Portugal stand out with below-average GDP growth. In Italy, all the GDP components were weak, with private consumption growth below the euro-area median and no impetus from net exports of goods. In Portugal, the contributions from construction and from the net exports of goods were both negative.

The concern that a single monetary policy with different national inflation rates could have spurred growth differentials within the euro area is not supported by the evidence.

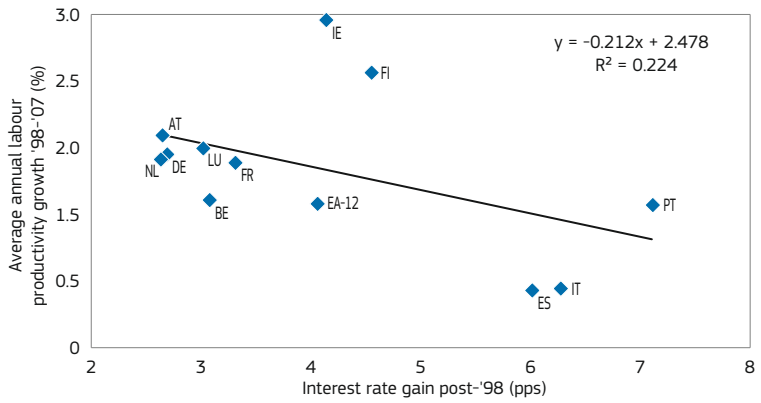
Mongelli and Wyplosz (2009) find that, during the euro's first decade, the competition channel (lower inflation rates implying a real exchange rate depreciation) likely counteracted the real interest rate channel (lower inflation rates implying higher real interest rates), thereby limiting further divergence in Member States' inflation rates (although persistent inflation differences remain a problem in the euro area).

The high correlation between inflation and growth in Chart 18 reflects this two-way causality between these variables. In the case of Italy and Portugal, notwithstanding substantial capital inflows and above-average inflation, growth remained low partly due to competitiveness issues.

In general, Member States where the interest rate gain was large took comfort from the strong growth these rates brought, typically in the non-tradable sector. At the same time, growth in their

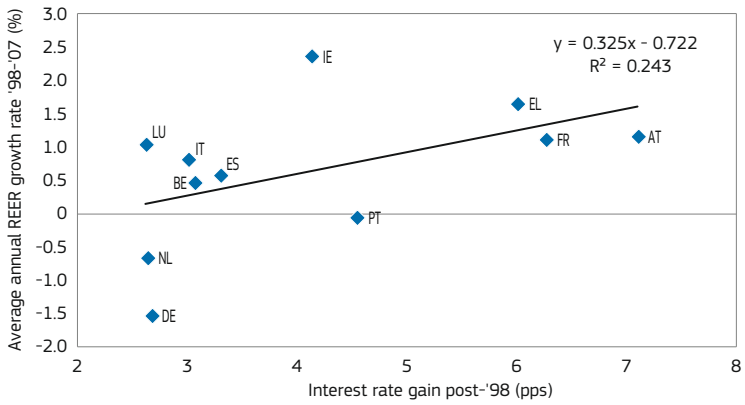
([45]) Private consumption acts as an approximation for durable consumption, because of data issues.

Chart 19: Interest rate gain and labour productivity



Source: Own calculations on the basis of AMECO [ISN, ILN, OVGD, NETD, and NLHA].
Notes: Labour productivity expressed per hour.

Chart 20: Interest rate gain and price competitiveness



Source: Own calculations on the basis of AMECO [ISN, ILN, XUNRQ].

tradable sector was hampered by a lack of price competitiveness as inflationary pressures increased. Very strong demand boosted wages in the non-tradable sector which spilled over into the tradable sector. Strong growth and the absence of the disciplining effect of the foreign exchange market led many Member States to neglect the key issues of productivity, competitiveness and, to some extent, education. Productivity and competitiveness is analysed in more detail in the following two subsections.

Member States with large interest rate gains had, in general, a less favourable evolution in terms of labour productivity, with the exception of the 'high-tech' economies of Finland and Ireland ([46]) where productivity increased the most, in spite of the above-average interest gain.

Member States with large interest rate gains had, in general, a less favourable evolution in terms of price competitiveness (as measured in terms of the real effective exchange rate or REER – see 3.3.2 for its definition) ([47]).

In considering different national developments in terms of private and public indebtedness, productivity and competitiveness, labels such as 'periphery' to group the experiences of the most stressed euro-area Member States, should be avoided in so far as such descriptions "simplistically lump together very different cases" (Mongelli (2013)).

Boltho and Carlin (2013) also analyse and emphasise the role of asymmetric behaviour by different euro-area Member States in causing the present problems ([48]), tracing the lack of convergence in wage (and hence price) competitiveness and differences in governance practice back to "deep-seated differences in institutions, culture and trust". A case in point is the evolution of wages in Germany, which followed a markedly different path than the rest of the euro area ([49]).

3.3.2. Unbalanced growth and the neglect of productivity

To analyse the sources of growth, real GDP growth can be decomposed into growth in employment and growth in real labour productivity per person employed. The latter can, in turn, be decomposed into growth in hours worked (per person employed) and real growth labour productivity per hour worked. The latter measure is more precise, as differences in productivity per person can be influenced by differences in the incidence of part-time work and short-time working arrangements.

Spain and Italy stand out in Table 3 as laggards within EA-12 in terms of labour productivity growth (on both measures). Ireland and Finland, in contrast, had the highest labour productivity growth over this period.

Differences in productivity growth between countries also have an important sectoral component, which is particularly notable in the case of Spain where the boom in the low-productivity construction sector dragged down overall productivity, illustrating the earlier point that, during the credit boom insufficient attention was paid to the productive value of alternative investments.

Besides such compositional effects, cross-country differences in labour productivity growth are seen to result from 'capital deepening', human capital investment and accumulation and the quality of institutions and policies (see OECD (2007), Chapter 2).

([46]) Greece is not shown on the graph in view of its very high interest rate gain (13 pps). Greek labour productivity increased by 2.5 %, making the country an exception in this story of linking labour productivity with the interest rate gain.

([47]) Greece is not shown on the graph in view of its very high interest rate gain (13 pps). Greece's REER appreciated by a mere 0.6 %, making the country an exception in this story of linking price competitiveness with the interest rate gain.

([48]) A point also emphasised by Allard *et al. (2013): "In fact, not only have there been larger and more frequent idiosyncratic shocks but also more idiosyncratic policies."*

([49]) In Germany, nominal wages increased 1.1 % on average per year between 1998 and 2007, versus at least twice that rate in all other EA-12 countries.

Table 3: Labour productivity per hour and per person employed, growth between 1998 and 2007

	GDP	GDP / empl	GDP / hour	Hours/empl	Empl
EA-12	**19.9%**	**7.8%**	**11.6%**	**-3.8%**	**12.1%**
BE	20.5%	10.8%	11.9%	-1.1%	9.7%
DE	14.7%	10.3%	15.6%	-5.3%	4.4%
IE	55.7%	21.6%	26.3%	-4.6%	34.0%
EL	36.4%	23.4%	25.6%	-2.2%	13.0%
ES	33.0%	0.3%	4.6%	-4.3%	32.7%
FR	19.5%	9.3%	14.9%	-5.6%	10.2%
IT	13.8%	1.4%	4.8%	-3.4%	12.4%
LU	44.9%	11.3%	16.1%	-4.7%	33.6%
NL	22.2%	11.6%	15.2%	-3.6%	10.6%
AT	22.6%	13.7%	17.1%	-3.4%	9.0%
PT	15.7%	10.4%	11.5%	-1.1%	5.3%
FI	31.5%	19.0%	22.1%	-3.1%	12.6%

GDP	Gross domestic product at 2005 market prices
GDP / empl	Real labour productivity per person employed
GDP / hour	Real labour productivity per hour worked
Hours/empl	Average annual hours worked per person employed
Empl	Employment, all domestic industries (National accounts)

Source: Own calculations on the basis of AMECO, [NLHA] (average annual hours worked per person employed), [NETD] (employment, all domestic industries, national accounts) and [OVGD] (GDP at 2005 market prices).

Capital deepening involves an increase in the capital-to-labour ratio, or capital intensity, which means that workers are using more machinery or equipment as part of their work. A related concept is total factor productivity (TFP), which measures how efficiently capital and labour are used, and is, in effect, the increase in GDP that cannot be explained by increases in either capital or labour ([50]).

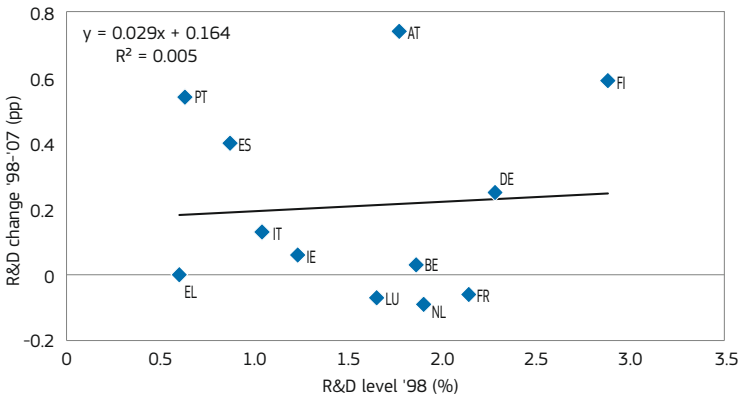
While improvements in human capital are not captured in the labour input (whether expressed in hours of work or numbers of persons), they are picked up in TFP, which also reflects the benefits arising from the use of new technologies and the best working practices. However, while such factor efficiency is considered to be a key driver of TFP in the short- to medium-term, knowledge investments is seen to play the major role in a long-term perspective (European Commission (2011b)) and we will come back to the link between human capital and TFP below.

In the EA-12 in 1999, cross-country differences in the capital-to-labour ratio ([51]) were fairly limited, with the laggards being Greece (at 80% of the EA-12 average) and Portugal (at only 43%). Some convergence was achieved in the period 1999-2007, with the largest increase in the capital-to-labour ratio being in Portugal.

([50]) See also Box 1 on the Solow model and the related production functions with TFP.

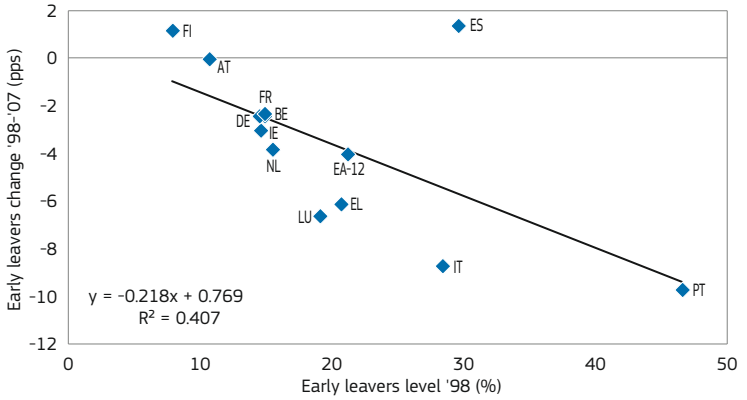
([51]) Commission estimates retrieved from AMECO, [RKNDE].

Chart 21: R&D expenditure as a share of GDP (1998-2007)



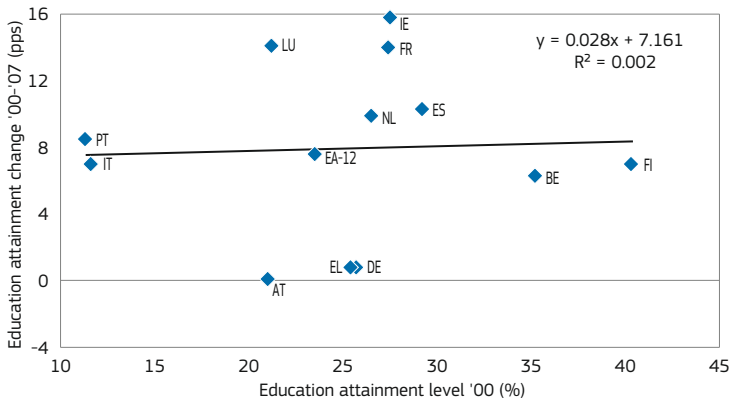
Source: Eurostat, Gross domestic expenditure on R&D as a percentage of GDP [t2020_20].
Note: Series start in 1999 for Greece and 2000 for Luxembourg.

Chart 22: Early school leavers (1998-2007)



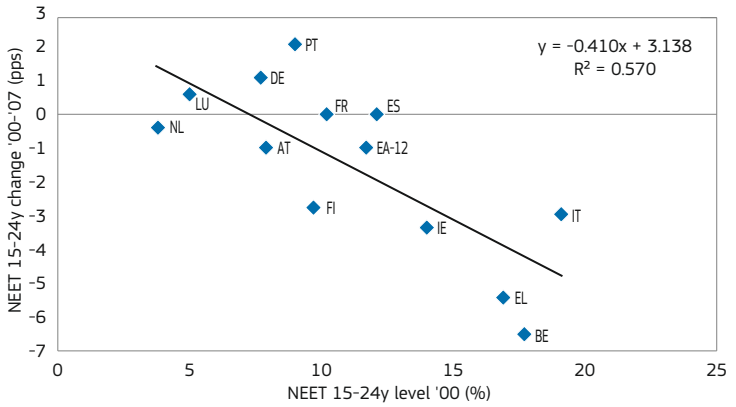
Source: Eurostat, Labour Force Survey [edat_lfse_14].

Chart 23: Educational attainment (2000-2007)



Source: Eurostat, Labour Force Survey, [edat_lfse_07].

Chart 24: NEET rates (2000-2007)



Source: Eurostat, Labour Force Survey, [edat_lfse_20].
Note: Ireland: series starts in 2002.

During this period, TFP growth ([52]) was particularly high in Finland, Greece and Ireland, very low in Italy and Portugal and negative in Spain. Overall, however, TFP growth in EA-12 was only 4.5 % over this eight-year period with the average being exceeded only by Germany out of the four largest EA-12 Member States ([53]).

Institutions and policies affect productivity growth mostly indirectly, for example by influencing the incentives to innovate or through measures that affect the cost of doing business.

Given that knowledge is such an important determinant of TFP growth - see European Commission (2011b) - we look next at key indicators of knowledge building. This can be seen from the perspective of firms, with the focus on their knowledge investment decisions, but another point of view concerns human capital development ([54]) within households, looking at issues of educational attainment, with particular concern about losses due to early school leavers and about those who are neither in employment nor in education and training (NEET) ([55]). As we will see below, the Member States with the weakest TFP performance (namely Spain, Italy and Portugal) are also those which underperform in terms of human capital formation.

On the side of firms, Chart 21 shows a lack of convergence in expenditure on research and development, with significant increases in Member States which already had R&D expenditure above the average (Germany, Austria and Finland), while there was some catch-up in Spain and Portugal.

From the household perspective, while Chart 22 shows a clear convergence across the Member States between 1998 and 2007 in terms of the indicator for early school leavers ([56]), the levels in Portugal and Italy remained (very) high at the end of the period. Spain proved to be the worst case, however, with an initial high level of early school leavers increasing still further over the period, which may be explained by departures from school in order to work in booming sectors at that time, notably construction.

More generally, however, no convergence was recorded in terms of educational attainment ([57]) (Chart 23). While the Member States with the lowest levels of educational attainment, Italy and Portugal, did make improvements in line with the EA-12 average, even much larger improvements were recorded in Member States already doing better than average in 2000, specifically Ireland and France. An apparent stagnation in the performance of Germany and Austria is to some extent, a reflection of their strong vocational education, which is held in high regard, but which does not facilitate moves from vocational education towards tertiary level education.

Evidently, the Europe 2020 indicator on educational attainment looks only at one type of educational achievement for a five-year tranche of the population. While that indicator focuses on tertiary education, the rate of completion of upper secondary education is also worth analysing as it "is considered as the minimum requirement for achieving adequate skills for a successful integration into the labour market" (European Commission (2012b)).

([52]) Commission estimates retrieved from AMECO, [ZVGDF].

([53]) European Commission (2011b) links the weak performance since 1999 to the skill composition of the labour force (increasing share of low-skilled) and the deceleration in knowledge spill-overs from the US.

([54]) Human capital can be defined as "the knowledge, skills, competencies and other attributes embodied in individuals that are relevant to economic activity" (OECD (1998), p. 9).

([55]) NEET is the indicator on young people neither in employment nor in education and training. The indicator, corresponds to the percentage of the population of a given age group (in the case of Chart 24: 15-24 years old) and sex who is not employed and not involved in further education or training.

([56]) Early leavers from education and training denotes the percentage of the population aged 18-24 having attained at most lower secondary education and not being involved in further education or training. This is a Europe 2020 indicator.

([57]) Measured by the Europe 2020 indicator "persons with tertiary education attainment 30-34 years old". The series starts in 2000.

On completion of upper secondary education, a significant catch-up was achieved between 2000 (first year of data) and 2007 for the age group 25-64. Nevertheless, levels in Portugal and Spain (respectively 14% and 21.5%) remained very low compared to Germany and Austria (above 60%). For the age group 20-24, the rate fell in Spain and in six other Member States between 2000 and 2007. However, the level of Spain was already one of the lowest and reached only 40% in 2007 (against above 80% in Austria and Finland). The rate increased most in Portugal, which was lagging most in 2000 (and reached 45.6% in 2007).

Overall, it can be seen from the above human capital indicators that large capital inflows into countries with important interest gains were not matched by sufficient convergence in human capital and productivity developments. Over the medium-term, this would have important implications for these countries' non-price competitiveness.

Many other indicators could be considered here, see for example the seven "Education and Training 2020 benchmarks" analysed in the "Education and Training Monitor" (European Commission (2013a)). Finally, educational attainment has its limitations as a measure of human capital and should be complemented by direct measures of skills ([58]). Such detail is, however, beyond the scope of this chapter.

While the NEET rates converged, some Member States converged less than others, notably those Member States furthest from the trend line in Chart 24, namely Portugal, Spain and Italy ([59]).

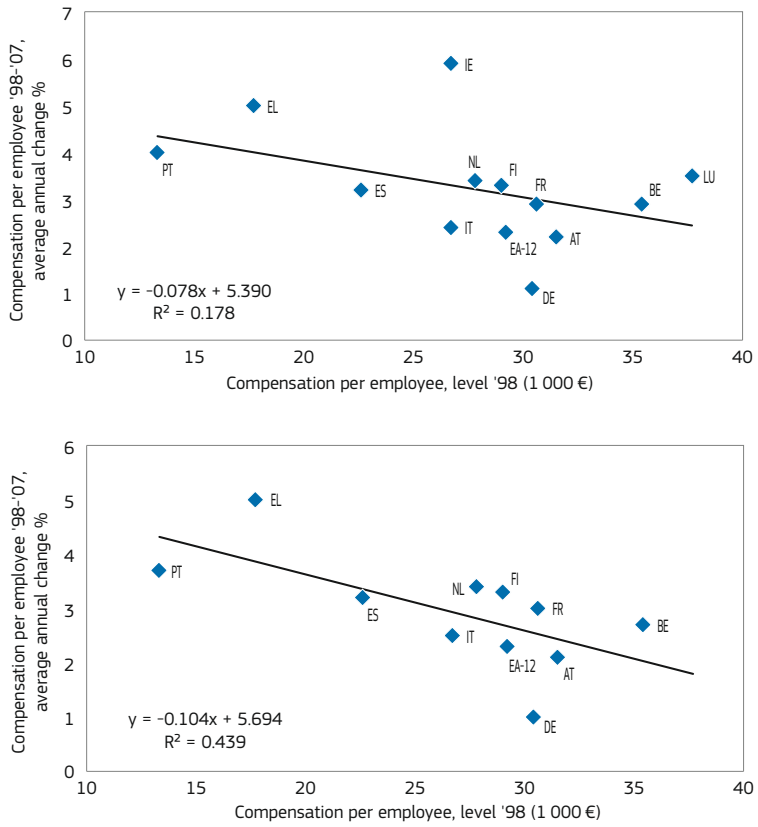
3.3.3. Unbalanced growth and the neglect of competitiveness

Chart 25 shows that there was a catch-up in the average wage level between 1998 and 2007, with the correlation between the change in compensation per employee and the 1998 level becoming more significant if two smaller countries are excluded (namely Ireland and Luxembourg, see right-hand panel chart). Among the remaining Member States, the outliers are then Greece on the upside and Germany on the downside.

([58]) See OECD (2013c), pp. 103-104.

([59]) A more detailed analysis of NEET rates will follow under segmentation (3.3.4).

Chart 25: Compensation per employee (1998-2007)



Source: Eurostat, National Accounts by 10 branches - employment data [nama_nace10_e] and compensation of employees [nama_nace10_c].

Note: Greece, Spain and EA-12: series starts in 2000. Greece: break in 2005.

The data on nominal compensation per employee can be adjusted for labour productivity per employed person in order to arrive at the nominal unit labour cost (NULC) whose evolution provides an indication of domestic cost-push inflationary pressures. Since relative costs (or prices) between countries are subject to nominal exchange rate fluctuations ([60]), relative price (or cost) competitiveness is measured by adjusting relative prices (measured in domestic currency) by the nominal exchange rate, to produce the real effective exchange rate (REER ([61])).

([60]) Even for euro-area Member States, exchange rate movements matter for comparing their relative price / cost competitiveness, in view of their different shares of trade with non-euro-area countries.

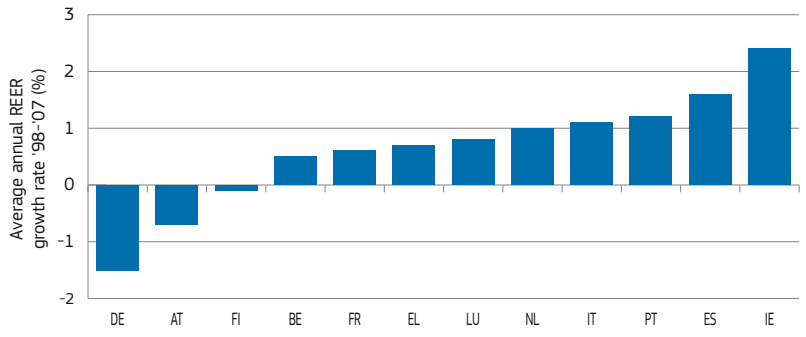
([61]) The REER is usually defined as the nominal effective exchange rate times the domestic NULC over the appropriately weighted average of foreign NULC. An appreciation (depreciation) of the REER is a loss (gain) of international cost competitiveness. Other deflators than the NULC could also be used. Depending on the deflator used, developments in the REER can be quite dissimilar. A difference between the evolution of, on the one hand, the REER based on export prices and, on the other, the REER based on unit labour costs or the GDP deflator indicates differences between relative prices of tradables and non-tradables.

While competitiveness is a broader concept than the REER, there is no clear consensus on how widely to define and measure it. As an example, when the European Commission (2009b) defined competitiveness as "the ability of a nation to generate relatively high income and employment, while being exposed to external competition", this implies also an important role for non-price factors in competitiveness, which we will come back to below.

Cost competitiveness encompasses other costs besides wages. For example, in its annual euro-area report, IMF (2013) recommends boosting competitiveness also by "tackling vested interests in the product markets - including measures to increase competition in the transportation, energy and other network industries ...". Moreover, the cost (and availability) of finance can vary considerably between Member States ([62]).

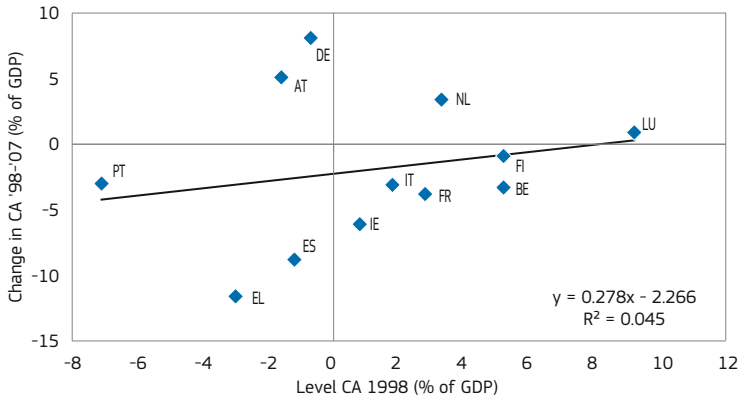
([62]) The REER based on ULC or other deflators provides a useful insight into the developments in international competitiveness in the short run. In the medium term, as capital stocks adjust, a broader definition is required to guide policy making (see 'Wage developments in the European Union during a severe economic downturn', Chapter 5 in European Commission (2013b)).

Chart 26: Price competitiveness (1998-2007)



Source: AMECO, Real effective exchange rates, based on unit labour costs (total economy), performance relative to the rest of the 36 industrial countries: double export weights: EU-27, TR CH NR US CA JP AU MX NZ [XUNRQ].

Chart 27: Current account balance (1998-2007)



Source: Eurostat, Balance of Payments [bop_q_gdp].

Returning to price competitiveness based on the NULC, REER developments diverged up until 2007, with most EA-12 Member States losing price competitiveness, mainly due to the nominal appreciation of the euro ([63]) (see also Wyplosz (2013)). However, Germany and Austria managed to improve their price competitiveness, mainly due to wage moderation (see Chart 26 ([64])), but also due to a more intense offshoring of parts of their production to the new Member States in Eastern Europe (Marin (2010)).

Among the remaining Member States, it is clear that other factors than the euro appreciation were at play. The largest average annual increases in the NULC were seen in the Member States posting the highest increase in the REER (Ireland, Spain, Italy and Portugal ([65])), as a result of labour costs ([66]) increasing much more than labour productivity in these countries.

A decomposition of GDP developments over this period (Chart 17) shows that those Member States which gained overall price competitiveness (namely Germany and Austria) also recorded the largest positive growth contributions from net exports in goods. Conversely, large negative growth contributions from net exports were recorded in Greece and Spain.

Chart 27 shows the lack of convergence in Member States' current account balances ([67]). Divergences in export performance are often linked to the evolution of Member States' current account balances. However, an analytical consensus has emerged that large current account deficits are mostly due to excessive demand (Wyplosz (2013)). Several authors also point to the role of the regime shift of euro adoption for financing large external imbalances. For example, Chen *et al.* (2012) see "a special role for intra-euro area financial integration in allowing for persistent current account imbalances" (see also Jaumotte and Sodsriwiboon (2010)).

In effect, these "excessive demand" and financing explanations downplay the possible role of price competitiveness in explaining the evolution of current account deficits in 1999-2007 ([68]). However, the build-up of external imbalances and the ensuing accumulation of foreign debt require trade surpluses which, *ceteris paribus*, could be achieved by means of competitiveness gains.

In principle, a single currency should reinforce the single market by strengthening price transparency and reducing transaction costs. As a result, it should increase competition ([69]), and reinforce the importance of competitiveness issues. However, given that devaluation is not an option under the single currency, changes in price competitiveness have to come through price adjustments, which take time to materialise, specifically in the euro area where price rigidity is fairly high (an issue to which we will return in Section 4).

Apart from concern regarding price (and cost) competitiveness, attention should also be paid to non-price competitiveness, which is again a concept without clear definition. Non-price factors could

([63]) According to the broadest measure available (against 41 trading partners), the nominal effective exchange rate of EA-17 appreciated 17% (Eurostat, [ert_eff_ic_a]). Please note that we use in this chapter price and cost competitiveness as synonyms. This is a simplification as the REER based on the NULC is a cost competitiveness indicator, while the REER based on export prices is price competitiveness indicator. In general, NULC, output and export prices which affects price competitiveness.

([64]) Productivity growth in Germany and Austria exceeded the EA-12 average only by a little margin (see Chart 19).

([65]) Greece is an exception, with an above-average increase in the NULC translating into a fairly modest REER appreciation. This is due to its different geographical distribution of trade.

([66]) On top of higher wage increases, payroll taxes also played a significant role in the rise in labour costs (Working Group on Econometric Modelling of the European System of Central Banks (2012)).

([67]) An alternative representation of this graph would be to put foreign debt in 1999 (is equivalent to the cumulated current account deficits up to then) on the X-axis against the current account deficits cumulated over 1999-2007 on the Y-axis.

([68]) "...current account developments were not necessarily related to price competitiveness effects." (Working Group on Econometric Modelling of the European System of Central Banks (2012)).

([69]) In addition to other competition-increasing trends such as intensifying globalisation and technological progress.

be product quality, technology, business conditions, the quality of human capital, the quality of industrial relations and so on, along with structural factors such as the geographical and sector specialisation of exports. Among the latter, Chen *et al.* (2012) point to the divergent impact on the external balances of different Member States of the rise of China, the integration of Central and Eastern European countries with the rest of Europe, and rising oil prices ([70]).

In all these respects, Estrada *et al.* (2012) find only a limited correlation between the dispersion in euro-area Member States' current account balances and price and cost competitiveness indicators. Instead, they find a stronger relationship with non-price competitiveness factors, concluding that "internal devaluation policies may have limited success at reducing external imbalances unless accompanied by structural reforms that boost some of those non-price factors."

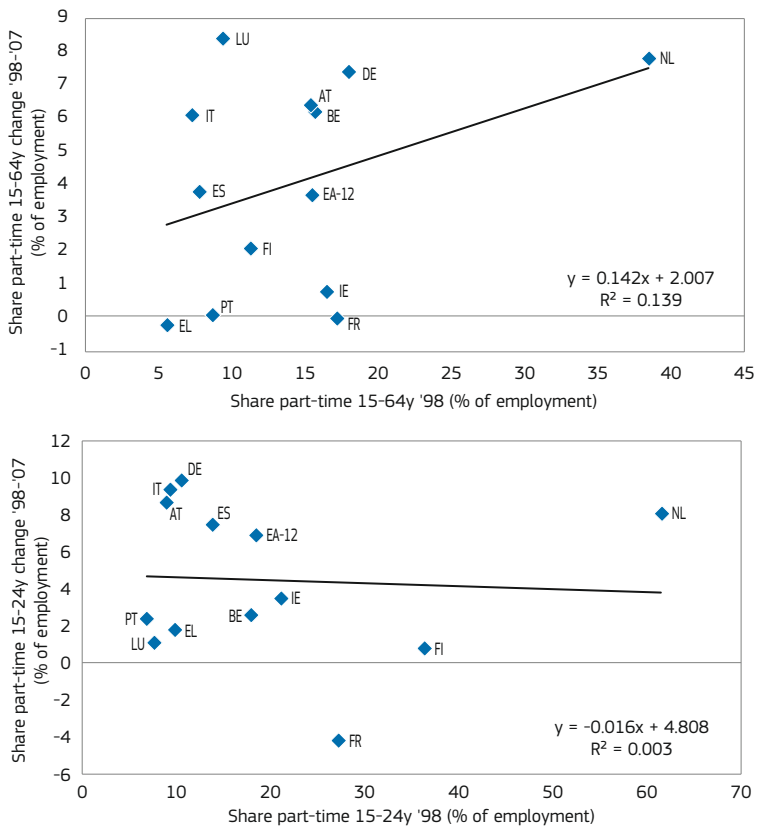
3.3.4. Unbalanced employment growth, segmentation

Employment growth in the euro area during the period 1999 to 2007 was not only achieved at the price of low productivity performance and unbalanced sectoral specialisation, but it was also accompanied by increased labour market segmentation. Labour market segmentation can take the shape of low-wage traps, part-time traps, sectoral or occupational segregation, etc. and has resulted in the creation of a large workforce on temporary contracts with weak transition possibilities to permanent jobs.

Labour markets were already segmented before EMU, as during the 1990s temporary contracts were deregulated, while restrictions on permanent contracts were maintained. As permanent contracts are more heavily protected than temporary ones, a workforce based on temporary contracts is more easily expanded in times of economic boom and reduced in times of downturn. Therefore, employers might be induced to hire more temporary workers in order to have a better control of their workforce, labour expenditure, and output. EMU has increased competition and has likely stimulated firms

([70]) See also Box 1: 'The "China Shock" to Italy and Portugal' in Ahearne and Pisani-Ferry (2006).

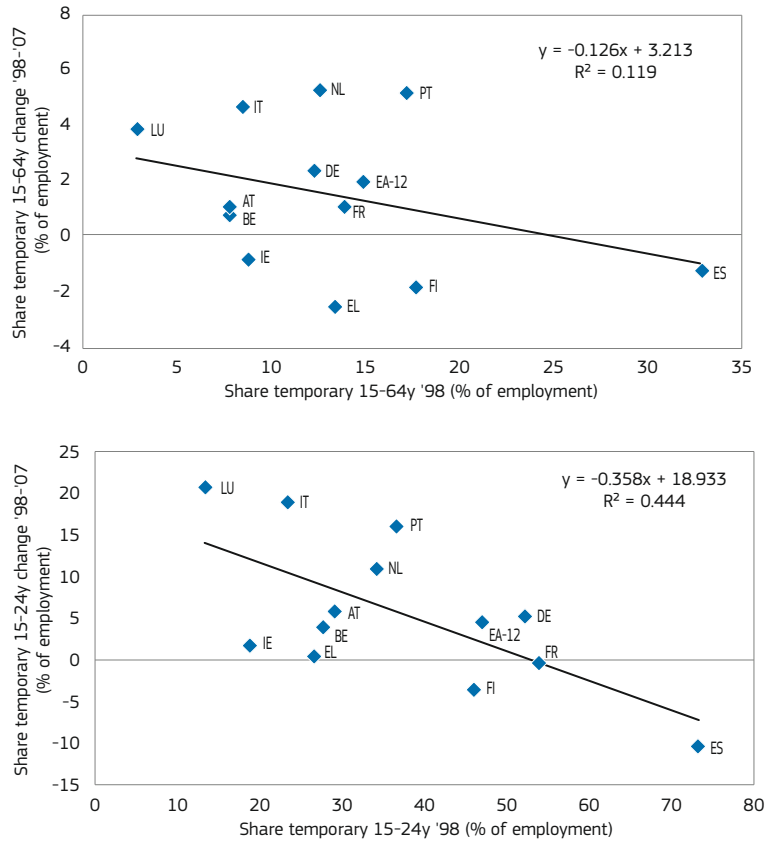
Chart 28: Part-time employment (1998-2007), total and young



Source: Eurostat, Labour Force Survey [lfsa_eppga].

Note: Breaks in series for IE (2009), ES (2005), IT (2004) and AT (2004). Some unreliable data for specific years for BE, IE and LU.

Chart 29: Temporary employment (1998-2007), total and young



Source: Eurostat, Labour Force Survey [lfsa_etpga].

Note: Breaks in series for ES (2005), IT (2004) and AT (2004).

further to look for more labour cost containment and flexibility.

The degree of labour market segmentation is difficult to measure because it cannot be observed directly. For a starter, the evolution of the share in total employment of three atypical forms of employment (part-time, temporary and self- employment) is analysed here.

The euro-area average share of part-time employment in 1999-2007 was almost 3 pps above its average level over the previous eight years, with increases in all EA-12 countries, exceeding 6 pps in Germany, Luxembourg, Belgium and the Netherlands.

For youngsters (15-24 years old), the average increase between these two periods was somewhat larger, keeping the gap with the overall employment share of part-time fairly contained. The Netherlands is a specific outlier, pointing to the role of social preferences as a determinant of the part-time share and, consequently, its low value as an indicator of segmentation. No convergence is seen for the overall part-time share, while clear convergence is seen for youngsters, when excluding the Netherlands.

In the euro area, the average share (in the total) of temporary employment in 1999-2007 was about 2 pps above its average level of the previous eight years, with increases above 4 pps seen in the Netherlands, Italy and Portugal (and declines only in Spain and Ireland).

For youngsters, the average increase between these two periods was much larger, at about 5 pps at the euro-area level, with double-digit increases in Belgium, the Netherlands, Luxembourg, Germany, Italy and Portugal. There were declines only in Ireland and Spain, where two-thirds of all jobs for youngsters were temporary ones in 1999-2007. The euro-area average came close to 50%, exceeding 45% in Germany, France, Portugal and Finland. Chart 29 shows convergence in the share of temporary employment between 1999 and 2007, specifically for youngsters, notwithstanding the large increases for Portugal.

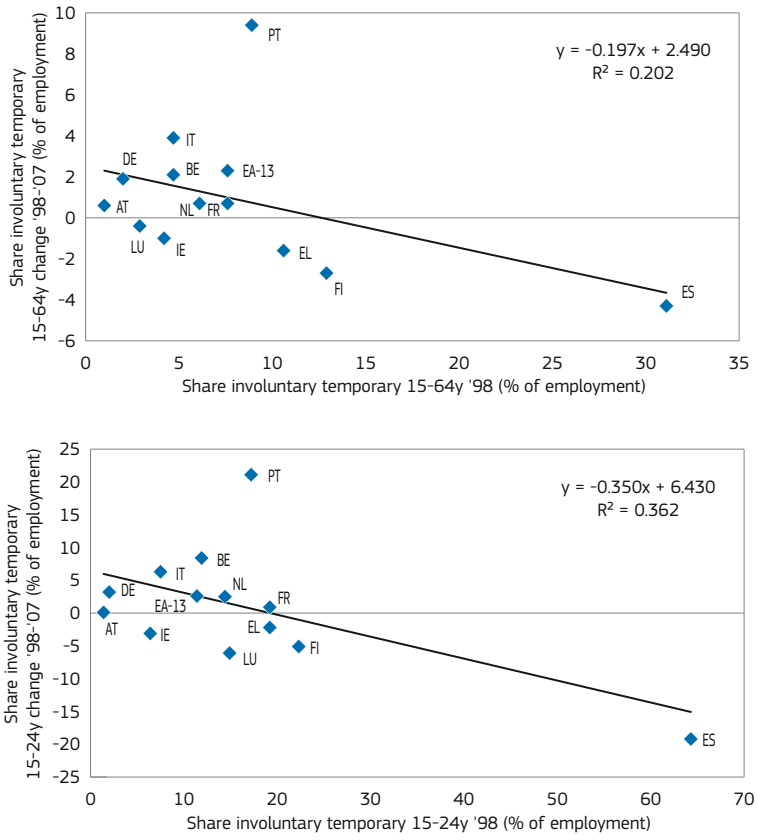
The third atypical form of employment is the self-employed person, who generally is also less protected than an employed person in a permanent job. The average share of self-employed in total employment in 1999-2007 was generally below its average level of the previous eight years. It only increased in Germany, the Netherlands and Austria.

The overall share of temporary contracts is not a good indicator for segmentation as in some countries temporary contracts are associated with apprenticeships, traineeships, and probation periods. Thus, a temporary job could be used as a stepping stone for a better career. The share of involuntary temporary contracts or transition rates between temporary and permanent employment have been found better for approximating labour market segmentation.

There are significant issues with the data on involuntary temporary contracts ([71]).

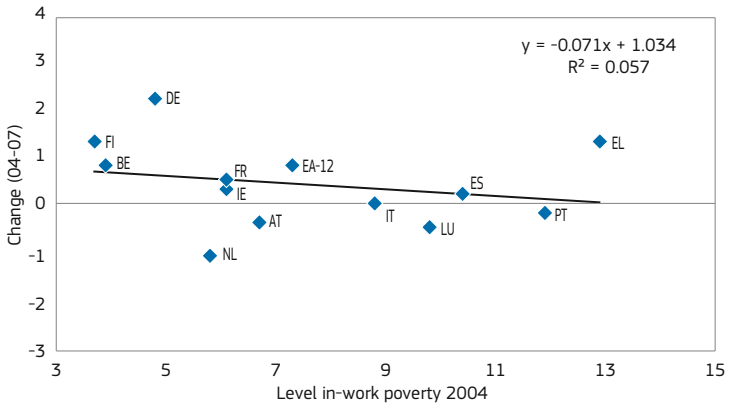
([71]) Most Member States and euro-area data are classified as "unreliable" by Eurostat for most of the period analysed. Moreover, data for Ireland, Italy, the Netherlands and Portugal have a break.

Chart 30: Share of involuntary temporary contracts in total employment (1998-2007), total and young



Source: Eurostat, Labour Force Survey [lfsa_etgar] and [lfsa_etpga].

Chart 31: In-work poverty (2004-2007)



Source: Eurostat. *Note:* weighted average.

Table 4: Main adverse developments in 1998-2007

	Public debt	Private debt	Productivity	Competitiveness	Segmentation
BE					
DE					
IE		☹		☹	
EL	☹				
ES		☹	☹	☹	☹
FR					
IT			☹	☹	
LU					
NL		☹			
AT					
PT	☹			☹	☹
FI					

Under this caveat, data on the share of persons who indicate they work part-time as they cannot find a permanent job showed already a North-South divide in the first eight years of the euro, with rates below 40% in the North and above 50% in the South (but also in Belgium, France and Finland). For youngsters, this share exceeded 65% in the period 1999-2007 in Portugal, Greece, Belgium and Spain.

The share of involuntary temporary contracts in total employment exceeded 10% in Greece, Finland, Portugal and Spain, while it was below 3% in Austria, Ireland, Germany and Luxembourg. Chart 30 shows clear convergence, with the exception of Portugal where the share doubled to 18.3% in 2007 (second highest after 26.8% in Spain). A similar picture can be seen for youngsters, with respective shares of 38% and 45% in 2007 for Portugal and Spain.

The higher share of involuntary temporary contracts indicates a more serious problem of labour market segmentation in Southern Member States. While temporary contracts potentially could be stepping stones towards permanent positions and are useful as screening devices for employers, they also come with drawbacks, as they tend to be associated with less pay and low training possibilities and are typically hardest hit during recessions ([72]).

The extent and impact of temporary work by Member State is linked to its labour market institutions and is different for countries with strong vocational education (Germany and Austria). The impaired human capital formation because of a more intense use of temporary contracts weighs on potential growth.

Apart from its wider economic implications, unbalanced employment growth did not help in tackling in-work poverty in EA-12 which actually increased by nearly 1 percentage point over the period 2004-07 ([73]). Furthermore, no significant improvements occurred in countries with relatively higher levels such as Greece, were it actually increased further, while increases were also observed in Member States such as Germany, Finland and Belgium.

Furthermore, since atypical employment is generally associated with more limited access to unemployment benefits, this tends to make the economies concerned more fragile in the face of adverse shocks since income smoothing is more limited, thereby weakening the stabilising impact of unemployment benefits on aggregate demand.

3.3.5. Conclusions

The EA-12 Member States which were hardest hit post-2008 were those with the most significant imbalances built up before 2008. However, there were differences in the nature of these imbalances, suggesting the need for different cures.

Imbalances in both productivity and competitiveness provided a problematic combination for Spain and Italy. For Spain, private debt issues and labour market segmentation came on top of these problems while Ireland and Greece had mainly debt imbalances (respectively, private and public debt) ([74]) and Portugal had a combination of public debt, labour market segmentation and competitiveness issues ([75]).

Table 4 summarises the findings regarding the main adverse developments during 1998-2007 ([76]).

4. Labour market and social divergence since 2007

4.1. Evidence of divergence

4.1.1. How the financial crisis morphed into a sovereign debt crisis, exposing the weakness of the EMU architecture

In this section, developments are assessed relative to the position in 2007 which is taken to be the last pre-crisis year, even though it was not until the Lehman Brothers' default in September 2008 that the full extent of the crisis became clear ([77]). In this analysis, annual data for 2012 is generally compared to the 2007 average, but with two caveats: first, much 2012 data still has a provisional character and, second, attention may need to be paid to higher-frequency data.

Public debt levels increased between 2007 and 2012 by an average of +26 pps across the EA-12, with a minimum increase of 13 pps This was not because of fiscal profligacy (with the exception of Greece), but because the public sector in many Member States had been obliged to use fiscal stimulus packages to avoid recession turning into depression and to take part of the unsustainable private debt onto its own books in order to rescue banks.

([72]) The empirical literature has clearly pointed out the negative consequences of dual labour markets, in both efficiency and equity terms (Chapter 2, 'Protecting jobs, enhancing flexibility: A new look at employment protection legislation', in OECD (2013a)).

([73]) See also Chapter 4, 'Is working enough to avoid poverty? In-work poverty mechanisms and policies in the EU' in European Commission (2012b).

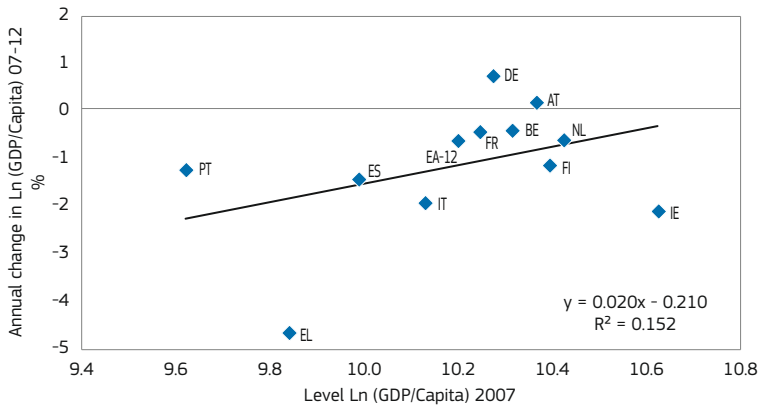
([74]) As the price competitiveness issue seems less problematic for Ireland in view of its higher wage flexibility and its attractiveness in terms of non-price competitiveness.

([75]) Portugal is a border case on productivity, with average performance in labour productivity per employed and per hour, but underperforming in TFP.

([76]) This stylised way of presenting developments over the period 1998-2007 should not be confounded with the formal 'Macroeconomic Imbalances Procedure Scoreboard'.

([77]) See European Commission (2009a).

Chart 32: Real GDP per capita (2007-2012)



Source: Eurostat. *Note:* LU not included due to atypical levels.

The financial and, ensuing, economic crisis turned into a euro-area sovereign debt crisis, first in Greece in late 2009, spreading risk aversion to other euro-area Member States considered to be vulnerable, and creating an adverse feedback loop between weakening sovereigns, fragile banks and shrinking economies ([78]).

Consolidation efforts were made and intensified on several occasions, but raised doubts among some observers ([79]) about the appropriateness of their speed and size, as well as their effectiveness (particularly in a period of very weak growth and zero-interest rates). The debate also took a technical turn, focusing on estimations of the size of fiscal multipliers ([80]) and of the output gap ([81]).

Martin and Philippon (2012) show that the responses of US States and euro-area Member States as regards employment developments were strikingly similar in the first phase of the crisis (2007-2009), but differed significantly afterwards due to the constraints put on government borrowing and transfers in the euro area.

In the meantime, substantial progress has been made on fiscal consolidation, allowing more emphasis to be put on growth-friendly measures and the modernisation of administration at all levels.

As a consequence of the crisis, GDPpc declined on average in EA-12 since 2007, with only Germany and Austria as exceptions, while a stronger than average decline was observed in so-called Southern or 'peripheral' Member States, notably Greece, Italy or Ireland, with a lesser impact in so-called Northern or 'core' Member States. As a result, the apparent overall stability in the dispersion of GDPpc since 2007 is actually the result of two factors: a growing North-South gap and a stable or narrowing dispersion *within* Northern and Southern areas.

4.1.2. Macro-economic divergence (and some convergence)

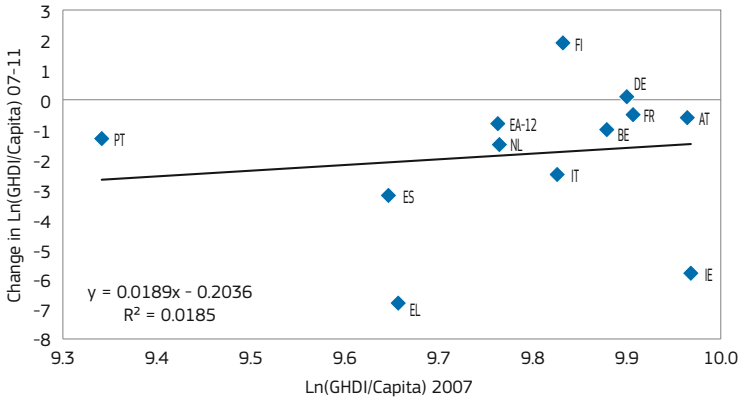
The deleveraging process of the private sector and drying up of bank liquidity (the so-called 'credit channel') played an important role in the contraction of GDP. In several Member States, this effect was compounded by other factors, including the need to enact credible fiscal consolidation and achieve gains in cost competitiveness through wage moderation.

Household incomes declined during this period in all EA-12 Member States except Finland and Germany, with large falls seen in Spain, Ireland and Greece (Chart 33). Similarly, the wage share declined by at least 1.5 pps in Portugal, Spain and Greece, while it rose in all other EA-12 Member States due to the larger drop in profits than in wages.

The average GHDI of Southern EA-12 dropped significantly after 2008, while that of Northern EA-12 remained broadly constant. This translated into a widening divergence in levels of per capita household disposable incomes. This had a negative impact on national aggregate demand, which, in turn, weighed on demand from other euro-area countries through the channel of trade.

The weakness in household income translated into a weakness of private consumption, which, in 2012, stood below its 2007 level in Portugal, Spain, Ireland and Greece, but also in Italy, the Netherlands and the EA-12 overall. With declines in private consumption of at least 5% in

Chart 33: GHDI in EA-12 (2007-2011)



Source: Eurostat.

Note: weighted average and Euro values, deflated at 2005 prices.

([78]) A good description of these developments can be found in Mongelli (2013).

([79]) For example De Grauwe and Ji (2013) argue that "fear and panic led to excessive, and possibly self-defeating, austerity …". See also the VoxEU debate on "Has Austerity Gone Too Far debate" (http://www.voxeu.org/debates/has-austerity-gone-too-far) and Paul Krugman's numerous posts on the topic on his NYT blog.

([80]) See the summary on p. 34 of European Commission (2013c).

([81]) Estimations of the output gap determine the structural budget deficit and are, as a result, the basis for determining the fiscal consolidation effort needed. See Wall Street Journal (2013), 'Europe's Austerity Hangs in Budget's Balance', 4 July 2013, http://online.wsj.com/article/SB10001424127887323899704578585661751307472.html.

Spain, Greece, Ireland, Italy and Portugal, it was no surprise that GDP levels also trailed the 2007 levels by at least 4% in these five Member States (since private consumption makes up, on average, 57% of GDP in EA-12, his leaves little room for other GDP components to compensate for these declines).

The decomposition of GDP growth over 2007-2012 (Chart 35) shows how, in Portugal, Spain, Ireland and Greece, net exports of goods nevertheless brought significant growth contributions (but mainly due to the large drop in imports) which were, however, insufficient to stop GDP falling significantly.

Given the shift of resources to non-tradable sectors (construction, finance, other services) that had occurred during the first nine years of EMU in many of the hardest-hit Member States, a shift back to tradable goods and services was seen as necessary in order to reduce their external deficits and thus ensure sustainability of public and private debt and restore confidence in their economies. For this purpose, the Member State has to regain cost competitiveness, which in a monetary union usually happens through the so-called "internal devaluation" policy ([82]).

This policy comes with a timing issue, as the negative demand effects of wage containment ([83]) precede the positive effects of improved export performance ([84]). Recently more signs of an improvement in exports have become visible in vulnerable Member States, specifically in Spain and Portugal.

The effectiveness of wage containment policies depends on a series of factors including the openness of the economy and the size of its manufacturing sector (Chart 36), the strength of external demand ([85]), and the presence of flanking policies enhancing non-cost competitiveness factors.

Developments in compensation per employee showed a high degree of divergence in the period 2007-2012, with those Member States that already had higher-than-average compensation levels showing faster growth than the others, with the exception of Ireland. As a result, nominal unit labour costs and real effective exchange rate increased most in the Member States with the smallest increase (or even decline) in the previous period (and vice versa).

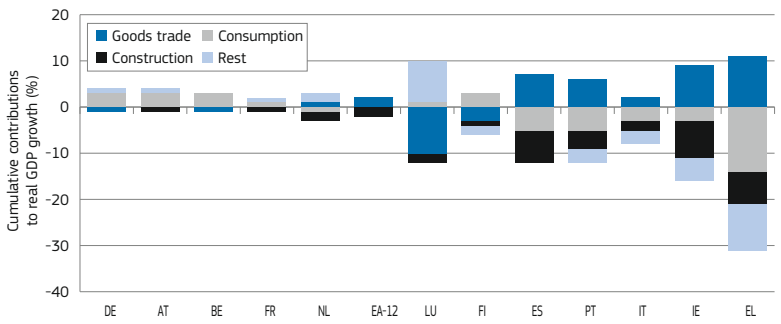
The resulting convergence in price competitiveness supported convergence in the current account balances (Chart 37), although much of this was due to falling domestic demand, including extremely weak productive investment.

Chart 34: GHDI in EA-12 (1999-2011) – Growth and Sigma convergence

Source: Weighted averages and Euro values, deflated at 2005 prices.

Note: Own calculations based on Eurostat. Weighted averages and Euro values, deflated at 2005 prices.

Chart 35: A decomposition of GDP growth (2007-2012)



Source: Own calculations on the basis of Eurostat, National accounts [nama_gdp_k], [nama_pi6_k] and [nama_exi_k].

Notes: Contributions calculated as the growth rate of the component multiplied by its average weight over the period.

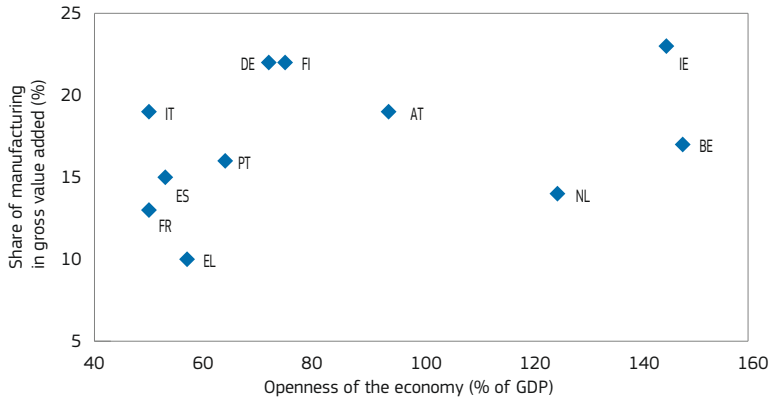
([82]) This is a reduction in nominal wages relative to productivity, so that unit labour costs decrease, trying to mimic the effects of a change in the exchange rate.

([83]) See also Barkbu *et al. (2012).*

([84]) Price adjustments take time to materialise, particularly in the euro area where price and wage rigidities are high. Moreover, domestic demand is affected more negatively when price adjustments do not sufficiently follow wage adjustments.

([85]) Fitzgerald (2011) flags that successful episodes of redressing of major imbalances in the past occurred against the backdrop of continuing demand growth among their trading partners, which was not the case for most euro-area countries.

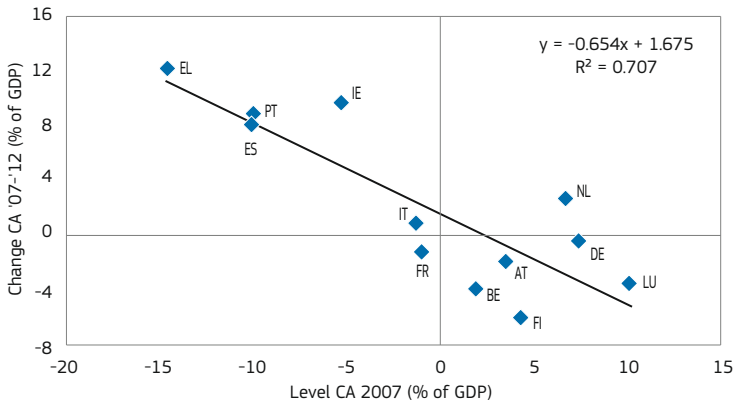
Chart 36: Openness of and share of manufacturing in EA-12 economies



Source: Eurostat, share of manufacturing in gross value added (at basic prices) [nama_nace10_c] and openness calculated as exports plus imports of goods and services divided by GDP, variables from annual national accounts [nama_gdp_k].

Notes: Averages for 1995-2012 (2000-2012 for Greece for both variables and for the manufacturing share in Spain). Luxembourg is not shown on the graph because of its very large openness (279%).

Chart 37: Current account balance (2007-2012)



Source: Eurostat, Balance of Payments [bop_q_gdp].

4.1.3. Labour market divergence

In the early days of the financial crisis the employment impact was muted since many firms decided to hoard labour, often through short-time working arrangements ([86]), rather than create redundancies since they expected only a sharp, but short, downturn. However, after the crisis turned into a euro-area sovereign debt crisis in late 2009, the employment reaction became more pronounced.

Over time, though, employment rates diverged significantly. Four Member States, namely Germany, the Netherlands, Austria and Finland, who had started from higher rates than the EA-12 average in 2007, saw their relative position improve even further by 2012. In contrast, employment rates fell 6 pps in Portugal and slightly above 10 pps in Ireland, Greece and Spain, against the average EA-12 reduction of 1.7 pps, with Ireland, Greece and Portugal ending up with rates 4½ to 5½ pps below their 1999 level, although Spain still saw an increase over this period. Italy, although starting from 7 pps below the EA-12 average in 2007, had still dropped almost further 2 pps by 2012.

The muted initial employment response in the early stages of the crisis led to a significant decrease in labour productivity in 2009 (particularly when expressed per person employed rather than in hours). However, the subsequent reduction in hoarding boosted labour productivity in both 2010 and 2011, but with more mixed results in 2012.

These labour productivity developments varied considerably across Member States varied considerably however, with significant increases in Spain and Ireland and, to a lesser extent, Portugal (see Table 5), driven in part by the sharp declines in construction employment and by the broader shift towards the tradable sector ([87]).

The decline in construction employment and, to a lesser extent in manufacturing, mainly hit low-skilled male workers. As a result, their employment rate, which was already low in 2007, fell 8 pps in the period to 2012, against only 1.7 pps for all workers. So, in addition to the divergence between Member States, there were also employment divergences by skill level, with the resulting skill mismatch problems.

Besides the three Member States mentioned above, productivity per employed decreased elsewhere (except in France). When corrected for hours worked, productivity growth is also seen to have turned positive in Germany and Austria. In contrast, the declines in productivity per hour in six Member States have raised concerns ([88]).

Given the low levels of investments by both firms and governments, it was not surprising that total factor productivity declined by 2.3% overall between 2007 and 2012 in EA-12, although this was much less the case in Ireland, Portugal and Germany, with an increase being recorded in Spain. The largest declines were seen however in Italy (already the weakest performer during the first nine years of EMU), Finland, Greece and Luxembourg.

With respect to early school leavers, large improvements were seen in Spain and Portugal. However, in the other Member State with an above-average rate in 2007, namely Italy, the improvement was below the EA-12 average.

([86]) See Chapter 2 in European Commission (2010).

([87]) See also Darvas (2012).

([88]) Darvas *et al.* (2013) point to a number of structural factors hampering productivity growth in the EU: banking problems, low integration in the global value chain, pro-cyclicality of business R&D expenditures, impediments to reallocation and the uncertain outlook.

Table 5: Labour productivity per hour and per person employed, growth between 2007 and 2012

	GDP	GDP / empl	GDP / hour	Hours / empl	Empl
EA-12	**-1.4%**	**0.6%**	**2.4%**	**-1.8%**	**-2.0%**
BE	2.1%	-1.7%	-2.7%	1.0%	3.8%
DE	3.5%	-0.8%	1.0%	-1.8%	4.3%
IE	-6.2%	9.2%	12.4%	-3.2%	-15.3%
EL	-22.4%	-5.9%	-5.8%	-0.1%	-16.5%
ES	-4.3%	11.0%	9.3%	1.7%	-15.3%
FR	0.0%	0.6%	1.2%	-0.6%	-0.6%
IT	-7.1%	-5.0%	-1.4%	-3.6%	-2.1%
LU	-0.1%	-12.9%	-9.2%	-3.7%	12.8%
NL	-0.3%	-1.2%	-1.1%	-0.2%	0.9%
AT	3.0%	-1.8%	2.6%	-4.4%	4.9%
PT	-5.8%	3.8%	4.9%	-1.1%	-9.6%
FI	-2.8%	-4.1%	-2.0%	-2.0%	1.2%

GDP	Gross domestic product at 2005 market prices
GDP / empl	Real labour productivity per person employed
GDP / hour	Real labour productivity per hour worked
Hours/empl	Average annual hours worked per person employed
Empl	Employment, all domestic industries (National accounts)

Source: Own calculations on the basis of AMECO, NLHA (average annual hours worked per person employed), NETD (employment, all domestic industries, national accounts) and OVGD (GDP at 2005 market prices).

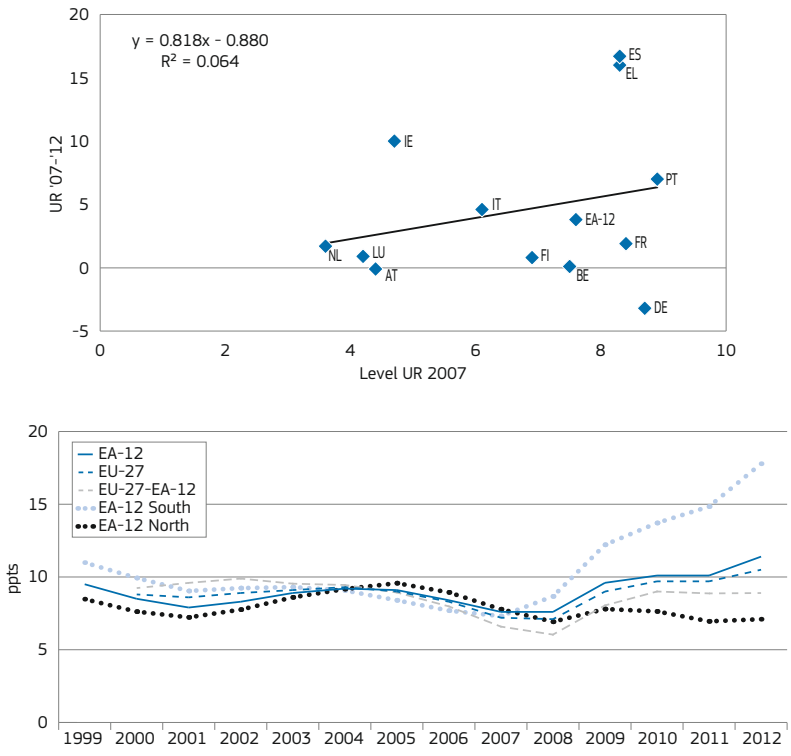
In terms of educational attainment, Portugal was seen to be catching up, in contrast to Italy, which saw its gap with the EA-12 average widen further. Ireland, Luxembourg and the Netherlands meanwhile showed above-average increases, having already been above the EA-12 average in 2007. Finland was the only Member State recording a decline.

Between 2007 and 2011 ([89]), expenditure on research and development continued to diverge, with again the largest increases in Member States which were already above the average (Germany, Austria and Finland) and some catch-up in Ireland and Portugal. No catch-up was seen in Spain and Italy.

Overall, the Member States with the strongest productivity and TFP performance (Ireland, Spain and Portugal) also saw an improvement in their human capital formation (educational attainment, early school leavers), while still having a NEET problem (see below). Weak performers in the field of productivity and human capital formation were Italy (overall), Greece (with labour productivity, TFP and NEET) and Finland (with labour productivity, TFP and educational attainment). All other Member States performed better in terms of productivity and human capital formation.

Chart 38 presents the evidence on the divergence in unemployment rates, with above-average increases for Member States starting already from above-average levels

Chart 38: Unemployment rates over 2007-2012



Source: Eurostat, Labour Force Survey [une_rt_a] and own calculations.

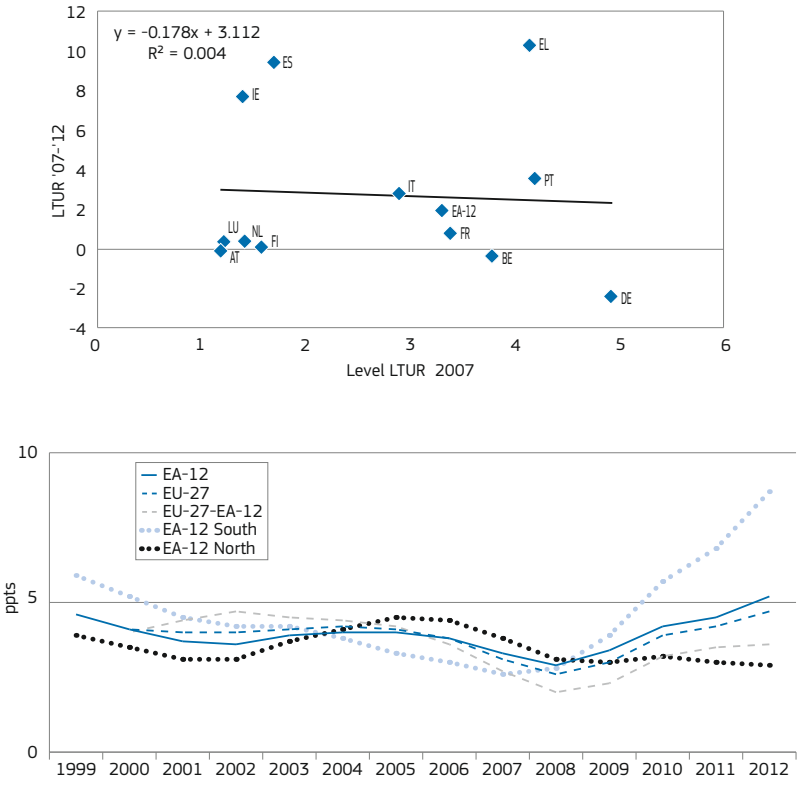
in 2007 (Spain, Greece and Portugal), as well as for Ireland and Italy. All other EA-12 Member States had below-average increases or even stability (Belgium and Austria) or a large decline (Germany) ([90]).

The picture with respect to long-term unemployment is similar, with an average increase of 2 percentage points since 2007 and significant increases in Ireland, Spain and Greece, against stability or even declines in Germany, Belgium and Austria. As a result, the decline in the North-South gap in long-term unemployment rates observable in the period

([89]) No data yet for 2012.

([90]) The sigma measure shows the opposite developments in divergence within EA-12 and within the rest of EU-27 since 2010.

Chart 39: Long-term unemployment rates over 2007-2012



Source: Eurostat, Labour Force Survey and own calculations.

Table 6: Labour transitions by employment status

	2006	2007	2008	2009	2010	2011
From part-time to full-time work	15.1	14.2	17.3	16.5	13.6	17.5
From inactivity to activity	10.7	11.8	14.8	12.3	12.7	14.8
From unemployment to employment	34.4	31.7	33.9	27.2	27.3	28.3
From unemployment to inactivity	16.1	14.6	17.1	13.8	15.5	15.6

Source: Own calculations on the basis of Eurostat, EU-SILC [ilc_lvhl30].

Notes: Results for EA-11 median calculated by replacing the non-available data for DE and FR by, respectively, the 2007 and 2010 data. No data for IE.

2004-2008 has been reversed since 2009, reaching a gap of 6 points in 2012.

Fast rising or high levels of unemployment, especially long-term unemployment, are seen as liable to have scarring effects ([91]) on human capital, leading to lasting losses of productivity and competitiveness. In this respect, social protection policies that provide support to skills (such as lifelong learning) or support to return to employment (such as public employment services and activation policies, but also childcare policies or adequate financial incentives) are seen as essential. At the same time, rising unemployment leads directly to income losses, which depresses aggregate demand, especially if the effectiveness of automatic stabilisation is limited (for instance due to insufficient coverage and adequacy of safety nets), which can spread to other Member States through the weakening of trade exchanges.

Table 6 shows that the outflow rates from unemployment to employment, as well as into inactivity, are significantly lower since 2009, with the lower outflow to inactivity most likely related to the difficult financial situation of many households, which has encouraged participation, if only at a low level, by second earners.

The overall picture for youth unemployment is similar to the one for total unemployment, although it differs in two main respects. The first difference is the scale of the developments, with increases of 15 pps and more in two EA-12 Member States for overall unemployment, while increases of that scale took place in five Member States for youth. Moreover, five Member States had a rate above 30% in 2012.

In the case of Spain and Portugal, segmentation is seen as a possible explanation for the divergent pattern, as their share of involuntary temporary contracts remained very high. For the age group 15-64, there was convergence in this indicator between 2007 and 2012, as the rate declined in Portugal (marginally) and Spain (substantially), while it rose significantly in Ireland. However, there was no convergence for youngsters, as rates in Portugal and Spain continued to increase, while very large increases were seen in Ireland and Italy.

Segmentation may also have an impact on the possible success of internal devaluation policies, as Bakker and Zeng (2013) find that, in the EU, real wage growth is much less sensitive to unemployment changes in countries with a high share of temporary employment.

Linked to developments in youth unemployment, NEET (the indicator on young people neither in employment nor in education and training) showed strong divergence in 2007-2012, with particularly large increases in Greece, Spain, Ireland and Italy and a strong increase in the North-South gap from 5 points in 2007 to more than 10 points in 2012.

High and rising levels of NEETs are seen to impose substantial costs, not only on the young people concerned, but on the economy and society as a whole, with the lack of income and skills resulting in higher levels of public expenditure support along with foregone future earnings.

Estimates of the overall costs in 2008 are of the order of 1% of GDP ([92]) (without counting foregone future competitiveness and revenues), with the risk of permanent scarring also well documented (see, for example, Scarpetta *et al.* (2010)). Even if the young unemployed do find jobs in the

([91]) See for example Box 1, 'The potentially scarring effects of unemployment on youth' in Scarpetta, Sonnet and Manfredi (2010).

([92]) An October 2012 Eurofound study estimated the economic cost of the labour market disengagement of young people who are not in employment, education or training. The total cost for the year 2011 amounts to approximately €153 billion (i.e. around 1.2% of Europe's GDP), comprising foregone earnings as well as excess transfers. See http://www.eurofound.europa.eu/emcc/labourmarket/youth.htm for further detail.

future, they risk being substantially less employable and productive. These costs and scarring effects impact negatively on competitiveness overall and eventually affect the growth prospects of individual Member States and the euro area as a whole.

4.1.4. Social divergence

The effects of the worsening labour market conditions since 2007 can also be seen in the proportion of the working age population (18-59) seen to be living in very low work intensity households ([93]). Although there was no significant change in the overall dispersion in EA-12, sharp increases were observed in countries with initially low (Spain, Greece) or high levels (Ireland). The average differences between the EA-12 Northern Member States and the Southern Member States declined, due to reductions in France, the Netherlands and Germany and increases in Spain and Greece. Between 2007 and 2010, this was reflected into a slight increase of in-work poverty in EA-12 as a whole, though without a significant change in the overall dispersion ([94]).

As a result of the crisis, inequality in EA-12 countries increased slightly after 2007 ([95]) although the dispersion remained fairly constant, albeit with strong increases in Spain and Greece and significant reductions in Germany and the Netherlands. This apparent overall stability in dispersion thus actually reflected an increase in the EA-12 North-South gap.

Rising levels of income inequalities ([96]) indicate that the economic situation of a larger part of the population is deteriorating, while at the same time there is an increasing concentration of income (and wealth ([97])) in the most affluent sections of society ([98]). Such developments tend to make growth less sustainable, for example the less affluent segments of society may end

([93]) As reflected by SILC surveys.

([94]) Declines in Portugal and Greece were partly linked to sharper declines in the median incomes there, directly impacting on the poverty line and thus the poverty rates.

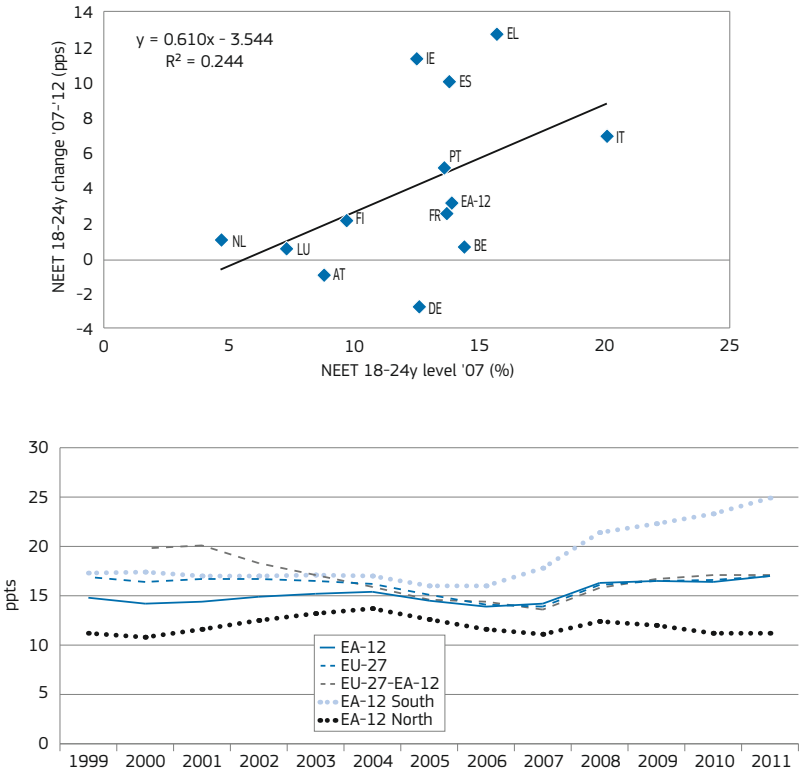
([95]) As measured by the S80/S20 ration which increased on average of 0.2 points

([96]) OECD, *Why Inequalities keep rising*, 2011.

([97]) There is no one to one link between the concentration of wealth and that of income, while generally the former is higher than the latter.

([98]) European Commission, Employment and social developments in Europe 2011, Ch 2.

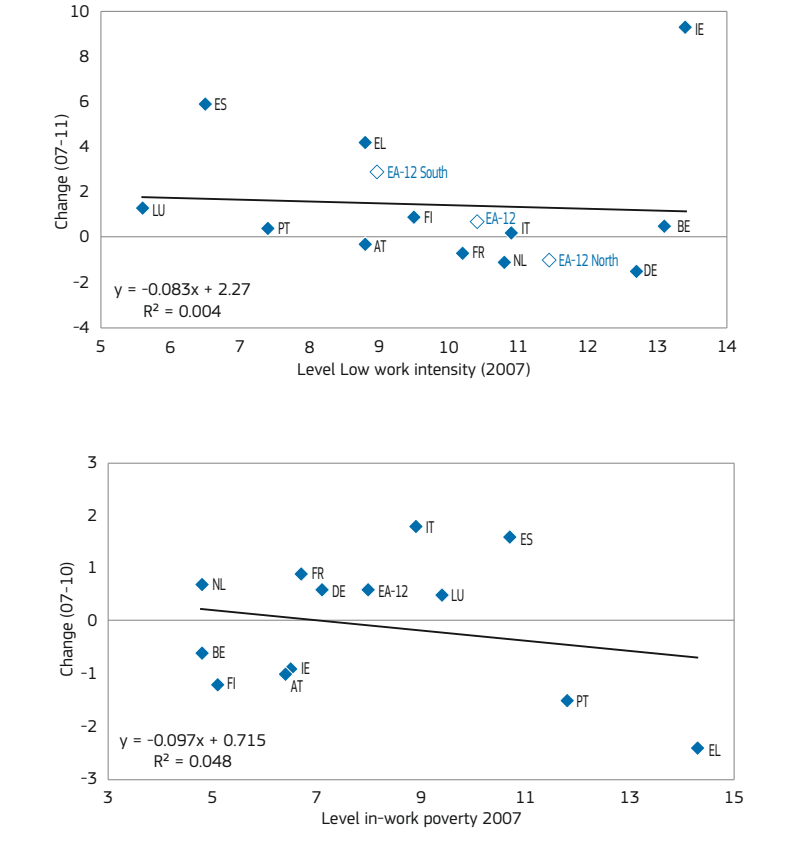
Chart 40: NEET (2007-2012)



Source: Eurostat, Labour Force Survey [edat_lfse_20].

Note: field 15–24 year old population.

Chart 41: Low work intensity and in-work poverty (2007-2011)



Source: Eurostat.

up with unsustainable borrowing to cope with their consumption needs ([99]). Moreover it can result, not only in reduced opportunities for many people to fulfil their potential, but also in breeding social and political tensions.

The worsening labour market situation between 2007 and 2010 resulted in an increase of poverty and exclusion of 1 percentage point on average, but with some divergence between the Northern and Southern euro-area Member States, with more significant increases registered in Spain, Italy, Greece and Ireland, against relative improvements recorded in Germany, Belgium and Portugal.

Monetary poverty increased for EA-12 as a whole over the period 2007 to 2010: by one percentage point measured in relative terms or by 2 percentage points when the poverty rate is seen relative to its 2007 value. The average increase was accompanied by a strong divergence resulting from a weak increase in the Northern Member States and a significant increase in the Southern ones. The increase was particularly strong in Spain and Greece (but also for the anchored in time poverty in Ireland and Italy). Non EA-12 Member States, on the other hand, had experienced an overall stability in their poverty rates since 2007 (measured either relative or anchored in time).

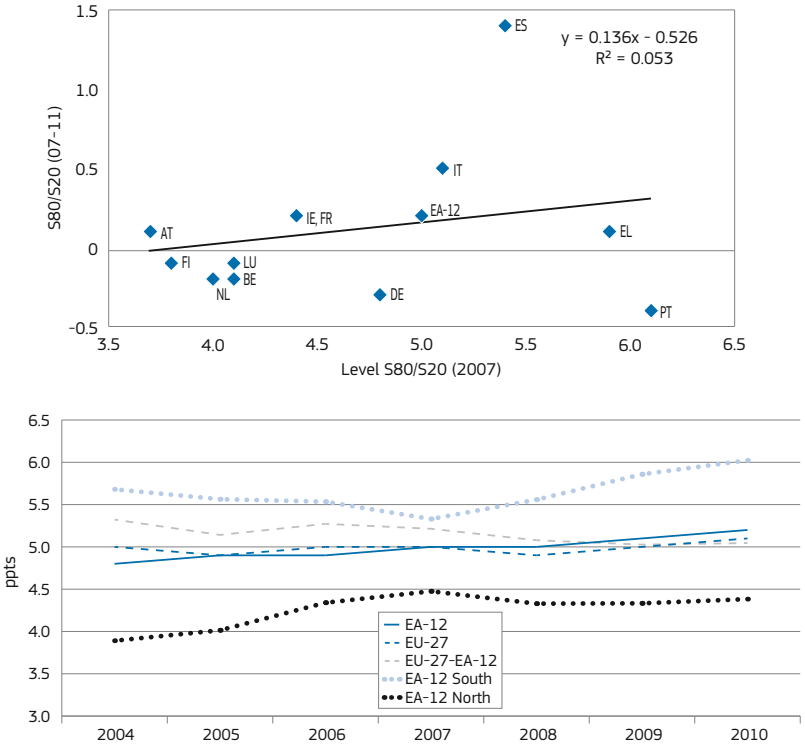
Increases in the at-risk-of-poverty rate (especially if accompanied by a stagnation or decline in median income, as reflected in the anchored-in-time poverty rate) obviously indicate a growth in the number of people living on low income and constrained budgets.

This has a negative consequence for the achievement of sustainable growth, notably for child poverty, due to significant longer-term negative consequences for economic and labour market integration quite apart from the obvious social consequences ([100]). In this context in-work poverty and poverty in working age more generally signals a poor functioning of labour markets, characterised by segmentation with a polarisation between job rich and job poor households. More generally this indicates an underutilisation of existing human capital as well as an underinvestment in future human capital.

([99]) See for instance Berg and Ostry (2011).

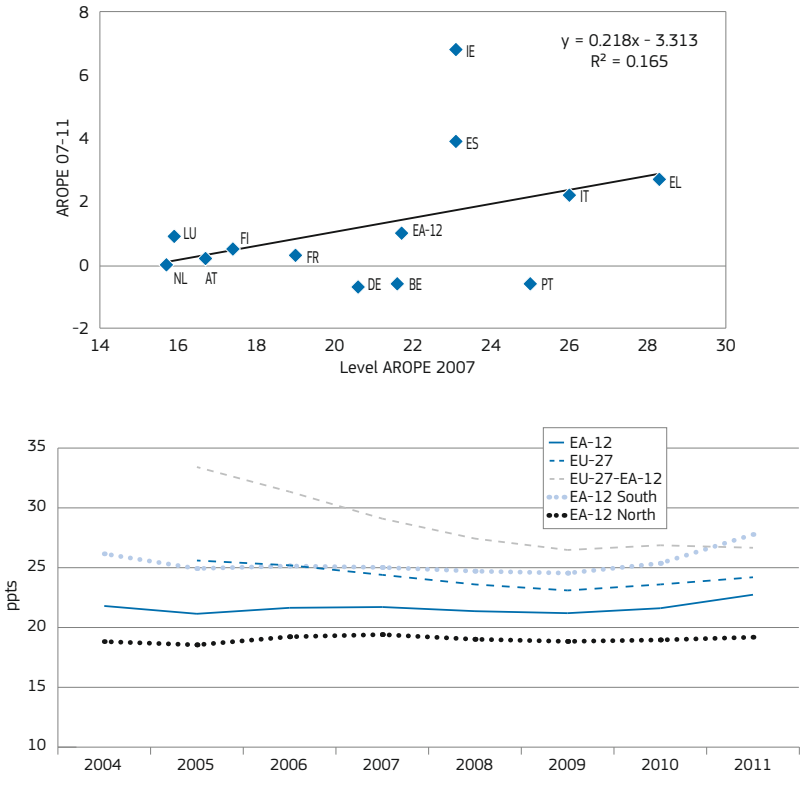
([100]) See notably Bradshaw (2002) and Griggs, J. and Walker, R. (2008). Vandenbroucke *et al.* (2013) argue that *"huge disparities in child poverty should be alarming since they signal problems that are relevant to the sustainability of the monetary union"* both because comparatively high levels of child poverty reveal an *"investment deficit that may be the cause and effect of underperforming labour markets and education systems"*.

Chart 42: S80/S20 (2007-2010)



Source: Eurostat.

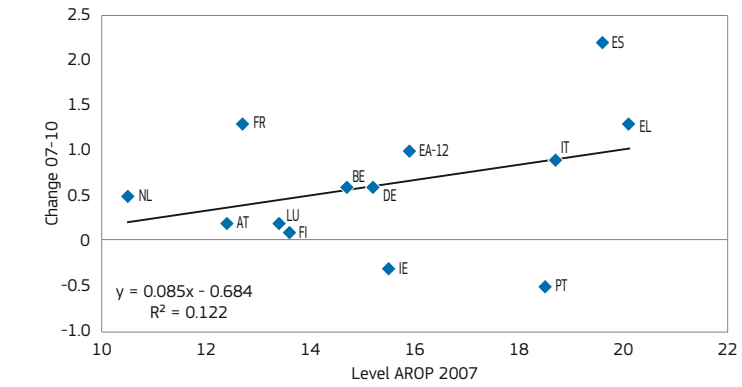
Chart 43: AROPE (2007-2010)

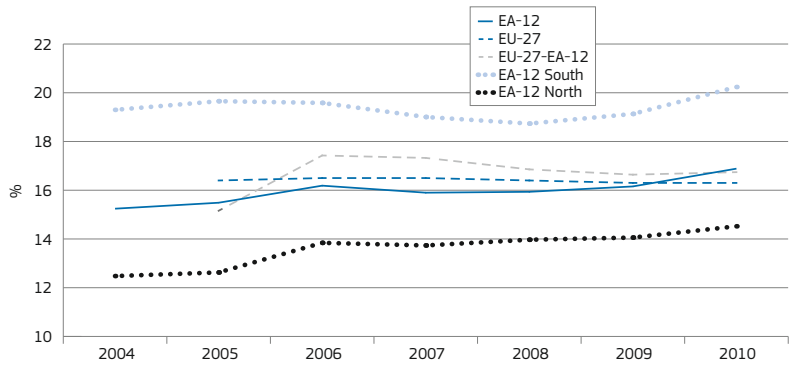


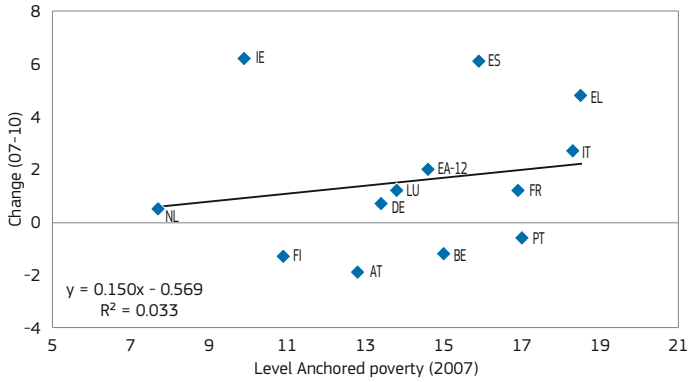
Source: Eurostat.

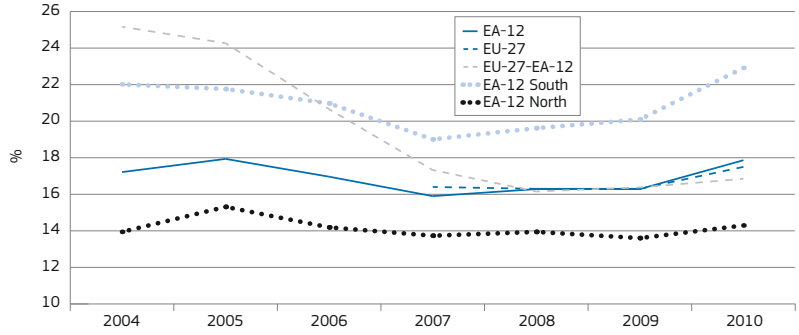
Note: IE not available for 2011.

Chart 44: Poverty and anchored poverty (2007-2010)









Source: Eurostat.

Note: for anchored poverty, FR not available 2004-2007, EL not available 2004. Anchored poverty based on 2008 SILC wave, accordingly on 2007 incomes.

4.1.5. Conclusions on divergence in the period 2007-2012

From late 2009 on, the need to avoid liquidity crises and defaults led to significant fiscal consolidation, which may have contributed to the increasing divergence in employment developments compared to the US States (see subsection 4.2 as well as Martin and Philippon (2012) ([101])). A lack of structural reforms undertaken in the early years of EMU in some Member States (see section 3) may also have contributed to this divergence.

In the period after 2008, GDP per capita and household incomes declined in the euro area. The weakness in household income translated into a weakness in private consumption and growth. A wide gap between Northern and Southern euro-area Member States opened up in macro-economic, employment and social terms. The initial negative growth effect of wage containment policies contributed to this divergence (but this contribution is expected to fade away).

High levels of unemployment, especially youth and long-term unemployment, are seen as liable to have scarring effects on human capital, leading to lasting losses of productivity and competitiveness, with similar effects coming from an over-reliance on temporary contracts for employing youngsters.

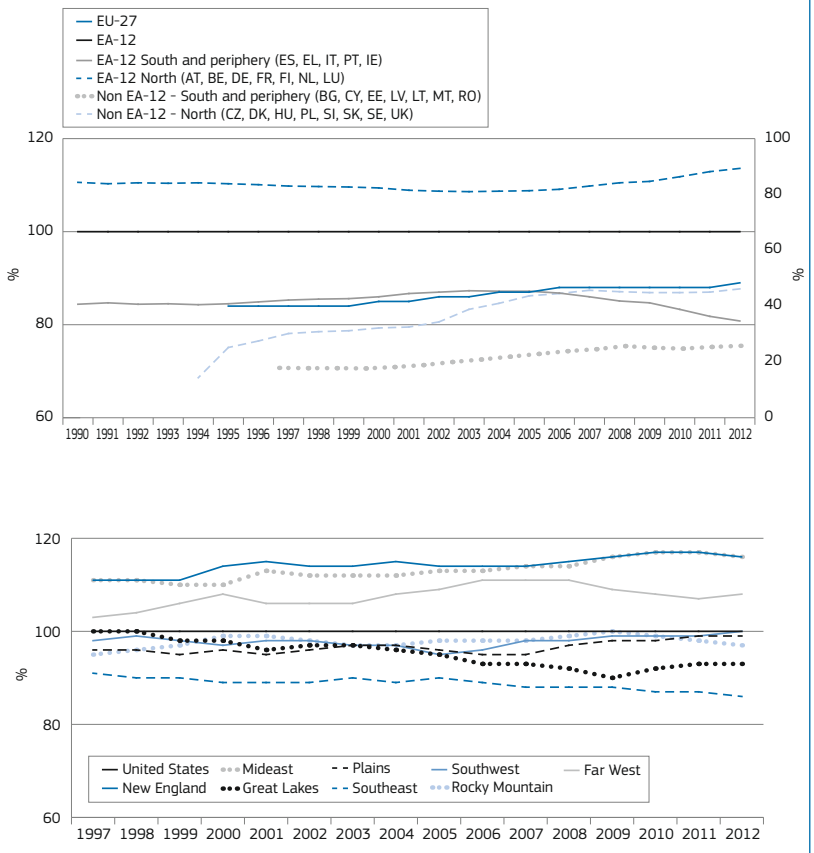
The worsening labour market situation between 2007 and 2010 resulted in an increase in poverty and exclusion, with some divergence between Northern and Southern euro-area Member States, while monetary poverty also increased.

4.2. Developments since 2007 in other monetary unions and in the non-euro EU area

While GDPpc per regions began to diverge between Northern and Southern EA-12 Member States in the euro area at the onset of the crisis (see above), this was not the case in among EU Member States outside the euro area (where developments were parallel in Northern and Southern countries).

([101]) However, it has to be considered that lack of consolidation may, in some cases, have elicited even worse consequences (e.g. Corsetti (2012)).

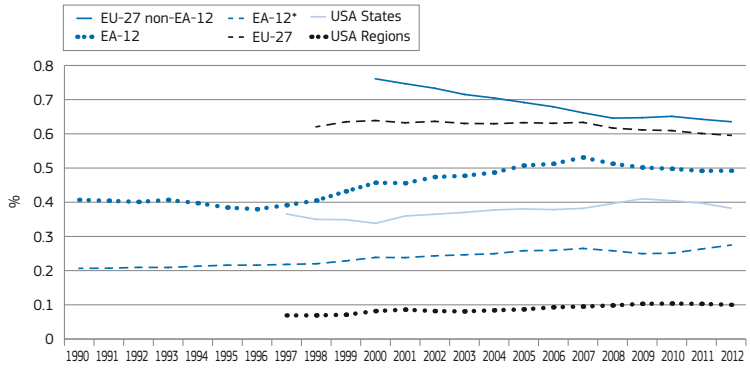
Chart 45: GDP per capita EU and US (1990-2012)



Source: Eurostat, Bureau of Economic Analysis.

Note: Real GDP per capita. DG EMPL calculations.

Chart 46: GDPpc dispersion in EU and US (1990-2012)



Source: Eurostat, Bureau of Economic Analysis.

Note: real GDP per capita, EA-12* refers to EA-12 without LU. Own calculations.

This was not the case in the US either. While there was some divergence at the onset of the crisis (such as weakening in the Great Lakes region or acceleration in New England), the situation in 2012 is very close to that of 2007-08 in relative terms (with the exception of a relative improvement in the Plains and a relative weakening in the Southeast).

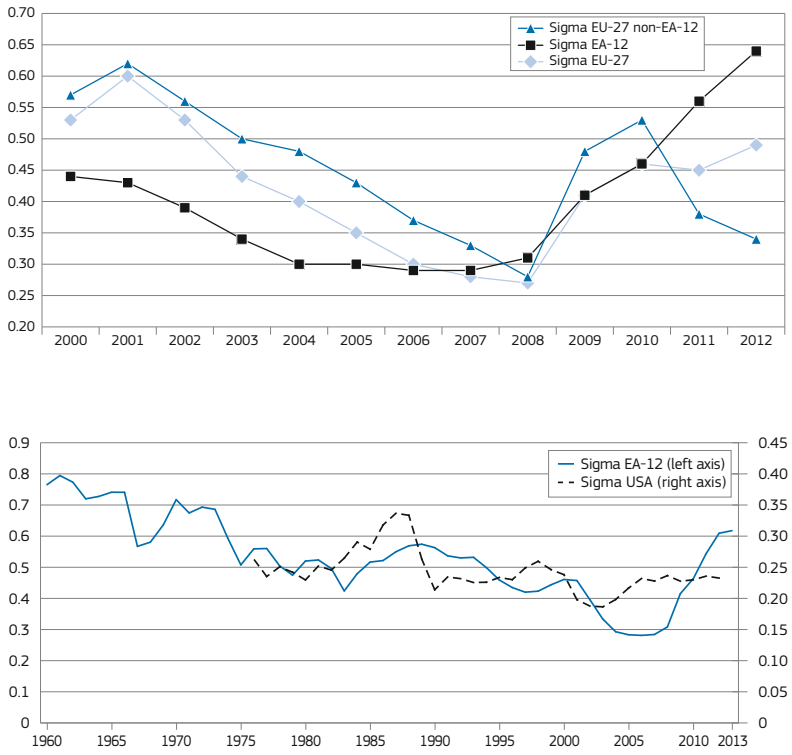
In terms of the dispersion of GDPpc, the euro area has seen an increase in the most recent years, while the reduction in the dispersion slowed in the EU-27 Member States not in the EA-12 (see Chart 46). In the US, the dispersion of GDPpc increased in the first years of the crisis but has been on the decrease since 2010 and was back to pre-crisis levels in 2012.

After 2010, the divergence in unemployment rates was much stronger in the crisis within EA-12 than in the EU as a whole (Chart 47a), also reflecting different cyclical positions. While divergence went on in the EA-12 after 2010, the dispersion levels actually came back to their pre-crisis levels in non EA-12 Member States in 2012. This strong increase in unemployment dispersion in EA-12 contrasts with the long term declining trend since the 1960s, while on the reverse in the US, there was actually no significant change in the dispersion of unemployment rates between States (Chart 47b).

The dispersion in poverty rates was much stronger in the crisis within EA-12 than within EU as a whole where the dispersion actually declined in line with the development observed in non EA-12 Member States (Chart 48a). Indeed, while the divergence developed in EA-12, dispersion actually declined in non EA-12 Member States. Furthermore while in the US the poverty rate increased also significantly in the crisis (however measured differently than in EU) ([102]), there was actually no change in the dispersion of poverty rates between States or main regions.

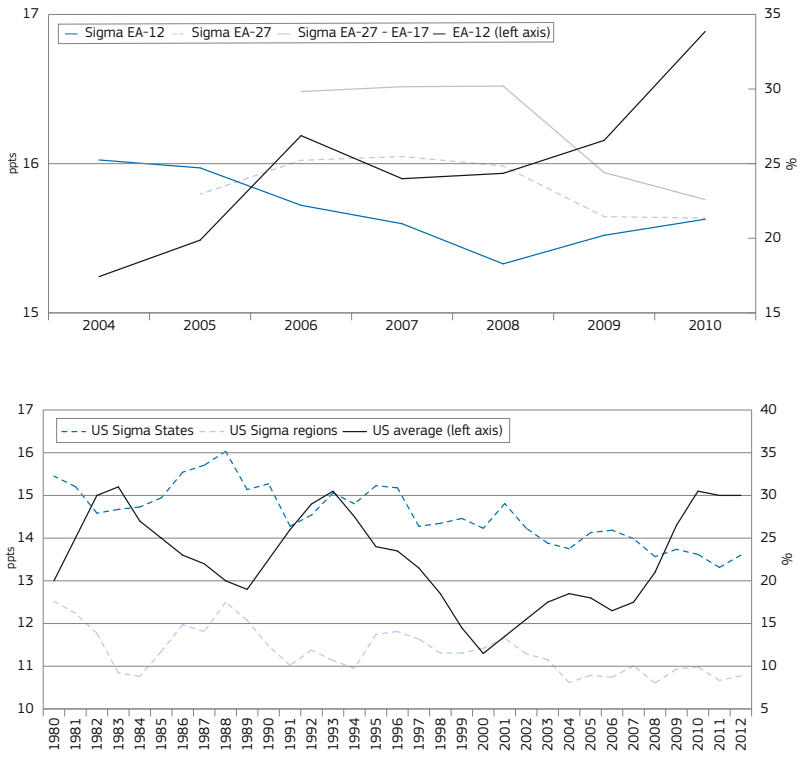
([102]) It should however be noted that the measurement of poverty in the USA differs from that in EU, since the poverty thresholds is actually only indexed on price developments, while in Europe, it relies on the current value of the median disposable income (at a threshold of 60%).

Chart 47: Convergence in unemployment rates EU and US



Source: Own calculations based on Eurostat, Labour Force Survey [une_rt_a] and BLS.

Chart 48: Dispersion in poverty rates over 2007-2012



Source: Own calculations based on Eurostat, SILC [une_rt_a] and Census bureau.

5. IMPROVING THE WORKING OF THE EMU

5.1. Introduction – the Commission Blueprint

Since the start of the euro-area sovereign debt crisis, a number of important measures have been taken, particularly in the areas of financial regulation, the introduction of financial firewalls and instruments for official financial support and in terms of a reformed fiscal framework ([103]), but it was not until the European Commission released its "Blueprint for a Deep and Genuine Economic and Monetary Union" ([104]), that EMU employment and social policies were mentioned among the ingredients for an improved monetary union architecture.

With respect to employment and social policies, the Blueprint notably underlines the fact that steps towards more responsibility and economic discipline should be combined with more solidarity and financial support. The Blueprint distinguishes those steps that can be taken in the short-term, without Treaty revision, from the more ambitious medium- to longer-term steps that could require Treaty revision.

In December 2012, the Commission Blueprint was followed by the Report of the President of the European Council, "Towards a Genuine Economic and Monetary Union" ([105]), referred to henceforth as the Four Presidents' Report.

Both the Commission Blueprint and the Four Presidents' Report recognised that an EMU-wide shock absorption function is an essential component of a sustainable monetary union. In particular the Commission Blueprint proposes an EMU-level scheme to stabilise asymmetric shocks (or symmetric ones) that should be supportive of structural reforms but subject to strict political conditionality in order to avoid moral hazard and long-term transfers. Payments from the scheme could also be earmarked for a defined purpose, such as unemployment benefits, if this was considered appropriate.

([103]) Crisis resolution mechanisms (ESM), ECB actions ensuring bank liquidity (LTRO) and monetary policy transmission and euro-area integrity (OMT), increased coordination of fiscal and macro policies (6-pack, 2-pack, Fiscal Compact), steps towards banking union (Single Supervisory Mechanism as a first step), see also http://ec.europa.eu/economy_finance/economic_governance/index_en.htm

([104]) European Commission (2012b).

([105]) Van Rompuy (2012).

The Four Presidents' Report foresees the creation of a shock-absorption function at EMU level for the period after 2014 that would have built-in incentives to encourage Member States to continue to pursue sound fiscal and structural policies, linking the two objectives of asymmetric shock absorption and the promotion of sound economic policies.

According to the Four Presidents' Report, the specific design of the asymmetric shock-absorption function could follow two broad approaches. The first would be a macroeconomic approach, with contributions and disbursements based, for example, on measures of economic activity. The second could be a micro-economic approach, linked more directly to a specific public expenditure function that was sensitive to the economic cycle, such as unemployment insurance. An assessment of the relative merits of these approaches is seen to require a more in-depth analysis.

5.2. Social EMU

The December 2012 European Council asked the Commission to deliver on the "social dimension of the EMU, including social dialogue", a request that was repeated in the June 2013 Council, and which led to the adoption of a Communication on "Social EMU" in October 2013. The Communication covers three major strands: first, a reinforced surveillance of employment and social developments and strengthened policy coordination; second, further solidarity and action in support of employment and labour mobility and third a strengthening of social dialogue. The Communication also mentions that, over the longer term, it should be possible to establish an autonomous euro area capacity to absorb adjustment to asymmetric shocks, as a common instrument for macroeconomic stabilisation could provide an insurance system to pool the risks of economic shocks across Member States, thereby reducing the fluctuations in national incomes.

The Communication underlines that major employment and social problems can generate effects beyond national borders. In particular, unemployment and social problems mean a loss of income for significant parts of the population or for society as a whole and weigh on national internal demand and thus spill over to other euro-area Member States through trade. They also hold back competitiveness and the growth potential of the economies concerned, because present and future human capital is underutilised or lacks investment. Persistent unemployment and social inequalities can also weaken political and public support and can affect the stability of governments and their capacity to make sound policies.

Indeed, higher unemployment or poverty implies weaker aggregate demand (also depending on the effectiveness of automatic stabilisers), which, in turn, affect demand in other euro-area Member States as many euro-area Member States have most of their exchanges directed at the rest of the euro area ([106]). In the medium-term, higher unemployment, higher NEETs or higher poverty erode skills and discourage labour market participation. As a result, the long-term growth potential of one euro-area Member State and, through international trade, of other euro-area Member States is undermined. Such lasting output effects of reduction in human and physical capital caused by cyclical downturns are typically known as hysteresis ([107]). High unemployment rates and severe social gaps can also lead to social pressures on current and/or future public budgets that are perceived as unsustainable ([108]). More generally these tensions can weaken the capacity of governments to maintain the kinds of sound, long-term, policies that are required in order to maintain confidence in the common currency.

The Communication stresses the need to strengthen the coordination of employment and social policies within the monetary union with a view to better detecting major challenges and thus preparing the ground for recommendations in the framework of the EU Semester and informing the Macroeconomic Imbalances Procedure. This would be done by monitoring a scoreboard of a limited number of key indicators allowing the early identification of major employment and social problems that need to be addressed, either because of their severity and/or because they risk generating negative spill-over effects on other Member States.

5.3. European automatic stabilisers

A consensus has developed concerning the need for a supranational automatic stabiliser in EMU, as acknowledged in the Commission Blueprint and the Four Presidents' Report. Such stabilisers ([109]) smooth cyclical fluctuations, restraining booms and busts and stabilise the economic and social situation in the Member States most affected by crises. Moreover, they help fiscal policy to focus on structural balances (as a significant cyclical part is taken away) and boost confidence in individual Member States by moving part of the insurance function to the supranational level.

The Communication on the Social Dimension of EMU reaffirmed that, in the long term, 'it should become possible to establish an autonomous euro area budget providing the euro area with a fiscal capacity to support Member States absorb shocks'. However, it also drew attention to the fact that supranational automatic stabilisers need to be seen as much longer-term potential projects, not least in view of institutional issues concerning possible Treaty changes ([110]). As a result, discussions on concrete proposals for the implementation of a fiscal capacity have not started yet.

While discussions have started in academic circles, where proposals typically take the form of a transfer system across Member States or a centralisation at EU (or euro-area) level of certain redistributive functions (to citizens), more analysis is clearly needed in order to assess in-depth the different options for a fiscal capacity.

Often transfer systems across Member States are linked to the output gap, which is theoretically the best approximation of a Member State's cyclical position. However, from a practical

([106]) See for example ECB (2013), 'Intra-euro area trade linkages and external adjustment', Monthly Bulletin, January 2013.

([107]) See e.g. J. B. DeLong and L. Summers, "Fiscal Policy in a Depressed Economy", Brookings Papers on Economic Activity, Spring 2012, http://www.brookings.edu/~/media/Projects/BPEA/Spring%202012/2012a_DeLong.pdf .

([108]) IMF *(2012) 'Fiscal Monitor': "fiscal adjustments that are seen as unfair are unlikely to be sustainable".*

([109]) See also Box 3: 'What are automatic stabilisers?' in Chapter 3, 'Social protection systems confronting the crisis' in European Commission (2013b).

([110]) 'Such measures would require a substantial Treaty change, since, at present, the EU does not have the competence to adopt them, either for the euro area or for the EU as a whole' (European Commission (2013c), p. 11).

perspective, triggers based on the output gap or the unemployment gap ([111]) may end up creating pro-cyclical transfers due to large, sometimes persistent, revisions in these gaps ([112]). Enderlein *et al.* (2013) find that, for a cyclical shock insurance scheme based on the output gap, shock absorption is more than halved when using the real-time output gap data (compared to the ex-post adjusted output gap estimates).

Another typical form of an EMU-wide automatic stabiliser would be a supranational system of unemployment benefits, which would be complementary to the national systems. The effectiveness of stabilisation through the use of unemployment benefits is in principle high, since they are timely and target a population with a high consumption propensity and thus have a large multiplier effect ([113]). More generally, a scheme that supports adjustments to asymmetric shocks would also stimulate long-run labour mobility within EMU (for example, due to the portability across borders of the eligibility to a European unemployment scheme).

The US unemployment insurance system could be a possible source of inspiration for the design of such a supranational redistributive system, since it combines state-specific with federal elements and there is evidence of significant stabilisation ([114]). It combines a relatively loose harmonisation of the State systems, a specific financing structure (States pay for benefits during normal times, but receive support from federal sources during downturns) and separate schemes for large downturns. Automatic reduction of deficits of State accounts at the federal level tackles the issue of persistent net transfers in the regular unemployment insurance ([115]). An alternative system which was also discussed in the US is for the supranational system to provide some reinsurance for national schemes in order to ensure a smooth stabilisation over the economic cycle, without changing the actual functioning of national systems ([116]). This would probably imply a lower stabilisation impact as it would only kick in during deep downturns. Note that the current system also has a significant federal component which only kicks in during deep downturns.

It is usually proposed to base the financing of a potential unemployment EMU provision on social contributions (although a broader tax base such as GDP or consumption can also be considered) or to provide the EMU fund with specific resources. Financing through contributions has the advantage of establishing a clear link to past wages, while financing on GDP (or consumption) has the advantage of providing a broader tax base (increasing wage competitiveness of the EMU area) and avoiding potential interferences with the national structure of direct taxation.

While an EMU-wide unemployment benefit system appears to be an efficient option in terms of stabilisation, implementation implies choices concerning how the EU-wide system would interact with the national system (on issues such as eligibility, contribution size and forms, benefit levels and duration), as well as on the issue of possible temporary deficits in order to increase its stabilisation effectiveness. In this respect, Esser *et al.* (2013) suggest that the EMU provision should remain complementary to national provisions and should focus on the short term (duration between 3 and 12 months for instance).

There is obviously a moral hazard concern, in so far as Member States may be tempted to reduce their own activation efforts or loosen the supervision of eligibility conditions when they receive central funding. Hence the introduction of an EMU-wide system would gain from being accompanied by standard conditions on activation linked to the EMU provision and actions to strengthen national administrations, notably public employment services. Member States also have different implicit or explicit taxes on unemployment benefits, which could lead to different levels of net transfers to national budgets from an EMU provision if these are not addressed.

To avoid unintended permanent net transfers, national contribution rates could be regularly reviewed and adjusted in order to reach a balance of Member States' accounts with the EMU-wide system over the medium term.

6. Conclusions

This chapter has shown how the convergence in employment and social developments in the euro area over the period 1999 to 2007 was largely halted by the global financial and economic crisis, and how some of the imbalances that contributed to the subsequent euro-area sovereign debt crisis were already visible.

The chapter documents the negative and divergent employment and social developments in the euro area, and describes some of the proposals that have been made to strengthen the architecture of the euro area, particularly with respect to the achievement of the EU's overall employment and social goals.

Unbalanced 1999-07 convergence

The 1999 to 2007 convergence masked an unbalanced growth in GDP. It was notably fuelled by the decline in interest rates in some Member States and, in the absence of the disciplining effect of the foreign exchange market, the resulting weak performance in some Member States in productivity and competitiveness passed largely unnoticed, resulting in unbalanced employment growth, increasing labour market segmentation, and weak human capital investment. In general the Member States where the interest rate gains were large took comfort from the strong growth these brought, typically through booming credit and expansion in the non-tradable sector, specifically in interest-rate related activities such as construction, consumption of durable goods and finance, resulting in a pattern of growth based on increasing and unsustainable debt.

In the private sector, lax banking supervision, rising house prices and excessive bank liquidity also played their part in fuelling the credit boom. At the same time, growth in the tradable sector of these same Member States was hampered by a lack of price competitiveness as inflationary pressures increased with

([111]) The unemployment gap is the difference between the actual unemployment rate and the estimated natural or structural unemployment rate.

([112]) On the issues of revisions of the output gap estimation, see Kempkes (2012).

([113]) Dullien (2013a) suggests that it is possible with a supranational system of unemployment benefits to reach large marginal stabilisation in downturns for a reasonable size of the system (0.7% of euro-area GDP). Marginal stabilisation is measured during the downturn and not over the whole cycle, as is done for average stabilisation.

([114]) See, for example, Chimerine *et al.* (1999) and Vroman (2010).

([115]) See, for example, Stone and Chen (2013).

([116]) See also Gros (2013).

strong demand boosting wages in the non-tradable sector, which spilled over into the tradable sector.

Member States with large interest rate gains also tended to have a less favourable evolution of labour productivity, with those with the weakest performance here (Spain and Italy) also having the weakest performance in terms of total factor productivity (TFP) due in part to underperformance in terms of human capital formation (educational attainment, early school leavers and NEETs) resulting in a general depreciation of human capital.

The single currency reinforced the importance of competitiveness since price transparency was boosted and transaction costs reduced but, since devaluation was impossible, it restricted actions by Member States facing declining competitiveness to price adjustments, which take time to materialise (particularly in the euro area where price rigidity seems fairly high).

Price and cost competitiveness developments, as reflected in the real effective exchange rate, diverged strongly in this first period. Member States with large interest rate gains generally experienced a less favourable evolution, in contrast to Germany and Austria, which managed to gain price competitiveness, mostly due to wage moderation and a more intense offshoring of parts of their production to the new Member States. The largest competitiveness losses occurred in Ireland, Spain, Italy and Portugal, where labour costs increased much more than labour productivity.

Actually, the lack of convergence in Member States' current account balances does not appear as an immediate consequence of the divergence in price competitiveness, but more as a result of excessive demand, with a role for the regime shift of euro adoption for financing large external imbalances.

The excessive demand and financing explanations downplay the possible role of price competitiveness in explaining the evolution of current account deficits in this period. Moreover, studies have found a strong correlation between the dispersion in euro-area Member States' current account balances and *non-price* competitiveness factors such as the geographical and sector specialisation of exports, as well as product quality, technology, business conditions and the quality of industrial relations.

On this basis a race to the bottom in terms of wages or social or environmental standards was unlikely to provide an efficient remedy for the imbalances, with the emphasis actually needing to be put on further improving "high productivity at home and high-quality-based competitiveness in the global market place" (see Bucher and Pichelmann (2013)).

Employment growth between 1999 and 2007 was not only achieved at the price of low productivity performance and unbalanced sectoral specialisation, but it was also accompanied by increased labour market segmentation. Labour markets were already segmented before EMU, but as EMU has increased competition, firms are likely to have sought more labour cost containment and flexibility through increased use of temporary contracts.

The higher share of involuntary temporary contracts indicates a more serious problem of labour market segmentation in Southern Member States, specifically Portugal and Spain. While temporary contracts potentially could be stepping stones towards permanent positions, they also tend to be associated with less pay and low training possibilities and are typically hardest hit during recessions. The impaired human capital formation because of a more intense use of temporary contracts weighs on potential growth. Finally, unbalanced employment growth was not helpful in tackling in-work poverty.

Developing divergence since 2007

After 2008, public debt levels increased to unsustainable levels in many countries, not because of fiscal profligacy, but because the public sector had to use fiscal stimulus packages in order to avoid recession turning into depression, to preserve employment and to rescue their banks from collapse. Simultaneously growth largely came to a halt, with inevitable fiscal consequences.

The financial crisis then turned into a euro-area sovereign debt crisis with an adverse feedback loop between weakening sovereigns, fragile banks and shrinking economies. Austerity efforts had to be intensified on several occasions, as a lack of consolidation would have had worse consequences. Nevertheless some observers expressed doubts about the appropriateness of the size and speed of the austerity programmes, as well as their likely effectiveness (in a period of weak growth and zero-interest rates).

As a result of the austerity efforts and the reduced access to unemployment benefits ([117]), the contribution of national automatic stabilisers was weakened in many Member States. As a result real gross disposable income of households declined, which translated itself into a weakening of private consumption. In Portugal, Spain, Ireland and Greece, changes in their trade balance, mainly due to the collapse in imports, made a significant contribution to growth, but it was not enough to stop GDP falling dramatically. While the convergence in current account balances across EA-12 was largely due to a widespread decline in domestic demand, recently signs of an improvement in exports have become visible in vulnerable Member States, specifically in Spain and Portugal.

Wage compression and weakened economic stabilisers in individual Member States spilled over into others in the form of weaker external demand, given the interdependence between euro-area Member States. Besides the detrimental effect on growth of a downward pressure on wages, early delivery of results by the so-called 'internal devaluation' policy in vulnerable Member States was hampered by its limited impact on non-price competitiveness factors and its social cost.

Labour productivity developments have diverged across Member States since 2007, with significant increases in Spain and Ireland and, to a lesser extent, Portugal, explained to some extent by the sharp reduction in employment in construction and, more broadly, by the shift in activity towards the tradable sector. These Member States also performed best in terms of TFP with improvements in human capital formation (increased educational attainment, reduced early school leavers), but with a continuing weakness in NEETs. Italy has been a weak performer in productivity and human capital formation overall, however, while developments

([117]) Access was reduced as benefits have a limited duration and as eligibility conditions were tightened in some Member States.

have been mixed in Greece and Finland. All other Member States generally did better in terms of productivity and human capital formation.

The deterioration in the economic situation led to high and rising rates of unemployment, long-term unemployment and NEET, with a strong divergence of outcomes between the Northern and Southern euro-area Member States, which spilled over to other Member States. This has included permanent losses of human capital, notably associated with growing long-term unemployment due to scarring effects. More generally rising unemployment has led directly to income losses, which have depressed aggregate demand, in part because of the weaknesses of automatic stabilisation due to their inadequate coverage.

The effects of the economic and employment deterioration are also visible in increasing inequalities and increasing poverty in the euro area, with a strong pattern of divergence between Southern Member States, which were more affected, compared with Northern ones. High and increasing levels of income inequalities have not only served to undermine sustainable growth by depressing aggregate demand and encouraging unsustainable borrowing but have bred social resentment and weakened the legitimacy of political processes and institutions.

Increases in poverty, on whatever basis it is calculated, represents a general social and economic challenge that also signals poorly functioning labour markets, characterised by segmentation and a polarisation between job-rich and job-poor households. This in turn reflects underinvestment in human capital. Furthermore, increases in child poverty have long-lasting effects on future adults' achievements and thus weighs on future potential growth.

Social EMU

It is in the collective interest of all members of a monetary union to ensure that unemployment, youth inactivity, poverty or inequalities do not spiral out of control in any Member State. Indeed, given the degree of economic interdependence between members of a monetary union, employment and social adverse developments are also likely to have impact beyond national borders with the main channels being intra-euro-area trade, competitiveness and eroded confidence.

- Firstly, increases in unemployment or reductions in household incomes weigh on national internal demand and thus spill over to other euro-area Member States through intra-euro-area trade.

- Secondly, higher unemployment, NEETs or poverty likewise erode skills and discourage labour market participation, thereby undermining the long-term productivity paths and growth potential of other euro-area Member States.

- Thirdly, increasing employment and social imbalances may weaken public support and the capacity of governments to run sound policies, which is required for maintaining confidence in the common currency.

Thus it appears important to strengthen the coordination of employment and social policies in the monetary union in order to better detect and address major challenges. That is why it is being argued that key employment and social developments relevant for the well-functioning of the EMU should be subject to enhanced surveillance with a scoreboard monitoring a limited number of key indicators allowing the early identification of major employment and social problems that need to be addressed, either because of their severity and/or because they risk generating negative spill-over effects and undermine the good functioning of the monetary union.

EMU-wide automatic stabilisers

A consensus has developed concerning the need for a supranational automatic stabiliser in EMU, as acknowledged in the Commission Blueprint and the Four Presidents' Report.

Such stabilisers smooth cyclical fluctuations, restraining booms and busts and thereby stabilise the economic and social situation. Moreover, they help fiscal policy to focus on structural balances (since a significant cyclical element has been removed) and boost confidence in individual Member States by moving part of the insurance function to the supranational level.

The Communication on the Social Dimension of EMU reaffirmed that, in the long term, 'it should become possible to establish an autonomous euro area budget providing the euro area with a fiscal capacity to support Member States absorb shocks'. However, it also drew attention to the fact that supranational automatic stabilisers need to be seen as much longer-term potential projects, not least in view of institutional issues concerning possible Treaty changes. As a result, discussions on concrete proposals for the implementation of a fiscal capacity have not started yet.

Discussions have however started in academic circles, where proposals typically take the form of a transfer system across Member States or a centralisation at EU (or euro-area) level of certain redistributive functions (to citizens). Often transfer systems across Member States are linked to the output gap, which is in principle the best approximation of a Member State's cyclical position. However, from a practical perspective, triggers based on the output gap or the unemployment gap may end up being pro-cyclical due to large and sometimes persistent revisions of the series. Another typical form of an EMU-wide automatic stabiliser would be a supranational system of unemployment benefits, which would be complementary to the national systems. The effectiveness of stabilisation through the use of unemployment benefits is by construction high, since expenditure flows are timely and target a population with a high consumption propensity and thus have a large multiplier effect.

Clearly, more analysis is needed in order to assess the different options for a fiscal capacity, including on aspects such as stabilisation impact, moral hazard and possibly interaction with national systems.

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Chapter 6

Efficiency and effectiveness of social expenditure in the crisis[1]

1. Introduction

This chapter reviews developments in social expenditure during the crisis (since 2008–09) and provides an assessment of potential changes in their stabilisation capacity (until 2012) as well as of their effectiveness and efficiency (until 2010). It reviews the evidence in the light of Musgrave's (1959) classical framework[2], which defines the three main functions of public intervention in the economy as stabilisation (aimed at securing economic stabilisation, in particular of GDP but also of employment and price levels), distribution (aimed at securing adjustments in the distribution of income and wealth, not least an equitable distribution of incomes) and resource allocation (aimed at securing adjustments in the allocation of resources and in particular the efficient use of resources). Social policies can indeed be considered on the basis of these three functions: social investment (primarily linked to the allocation function), social protection (primarily linked to the distribution function, understood as including the distribution of incomes over the life course) and the stabilisation of the economy.

Indeed, with ongoing strong pressure on welfare budgets, it appears important not only to review the economic stabilisation impact of social policies, but also, as highlighted in the Communication on social investment[3], to ensure that expenditure does indeed deliver the best outcomes (effectiveness), at the lowest cost and with maximised spillovers on employment and growth (efficiency)[4].

The chapter provides evidence on the timing and nature of changes in real expenditure levels up until 2012 before focusing on the effectiveness and efficiency of social protection spending and the extent to which this may have been affected by the crisis until 2010. As regards the latter, while an in-depth analysis of Member States' overall efficiency of social protection systems would go beyond the scope of this chapter, a stylised framework allows for the identification of key strengths and weaknesses of Member States' performance, in relation to expenditure levels and their trend in the early phase of the crisis.

2. Trends in social protection expenditure and financing in the crisis

The analysis covers recent developments in social protection expenditure up until 2012 and receipts up until 2010 (for an overview of data sources used, see annex), focusing notably on expenditure growth during the current crisis in comparison to past episodes of recession or low growth[5].

2.1. Social protection expenditure in the EU

At EU level, social protection expenditure accounted for a little under 30% of GDP in 2010. The size of social protection spending varies greatly between EU Member States (see Chart 1).

Expenditure is the lowest relative to GDP in new Member States such as Latvia, Romania and Bulgaria (around 17% in 2010) and the highest in Denmark, France, Sweden and the Netherlands (around or above 30% in 2010).

On average at EU level, almost 13% of GDP, or nearly 40% of social protection expenditure, is spent on the old age and survivors functions. This varies a great deal, however, between Member States. In Ireland and Luxembourg, less

(1) By Olivier Bontout, Terezie Lokajickova and Virginia Maestri.

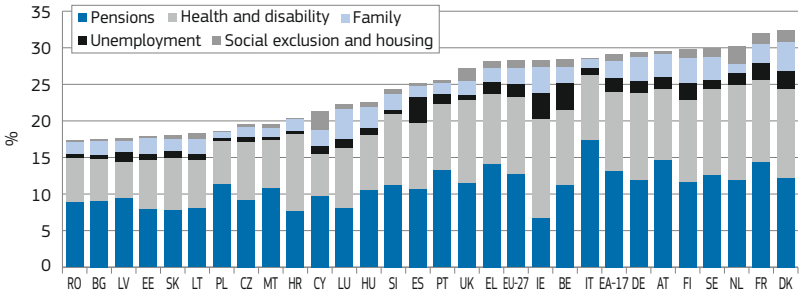
(2) More recent textbooks include 'Intermediate Public Economics' (2006) from Hindriks and Myles, and 'Public finance: a contemporary application of theory to policy' (2007) from Hyman.

(3) (COM(2013) 83).

(4) It can be noted that high levels of social expenditure are not necessarily detrimental to the sustainability of public finance; see for instance European Commission (2013).

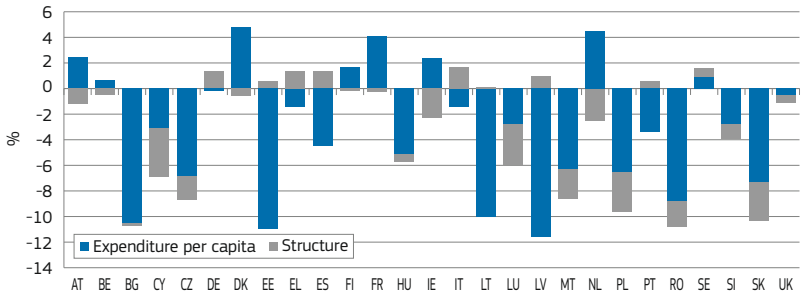
(5) In doing so, it does however not fully address the issue of the consistency between observed trends in social expenditures and possible reductions in potential GDP and economic growth. The analysis leaves aside the hypothetical question of what might have to change on structural expenditure levels if economic growth weakens permanently and significantly in the Union. Output-gap estimates suggest that much of the lost growth since the beginning of the crisis may not be recovered. Furthermore, it is still a matter of debate as to whether or not potential growth will be affected in the medium and long term. For instance, European Commission (2009) estimates a downward revision of the average annual GDP growth by 0.4 pps per year over the period 2007–60 for the EU-27 in a 'permanent shock' scenario and a full recovery by 2020 in a 'rebound' scenario.

Chart 1: Social expenditure in 2010 (as % of GDP)



Source: ESSPROS.

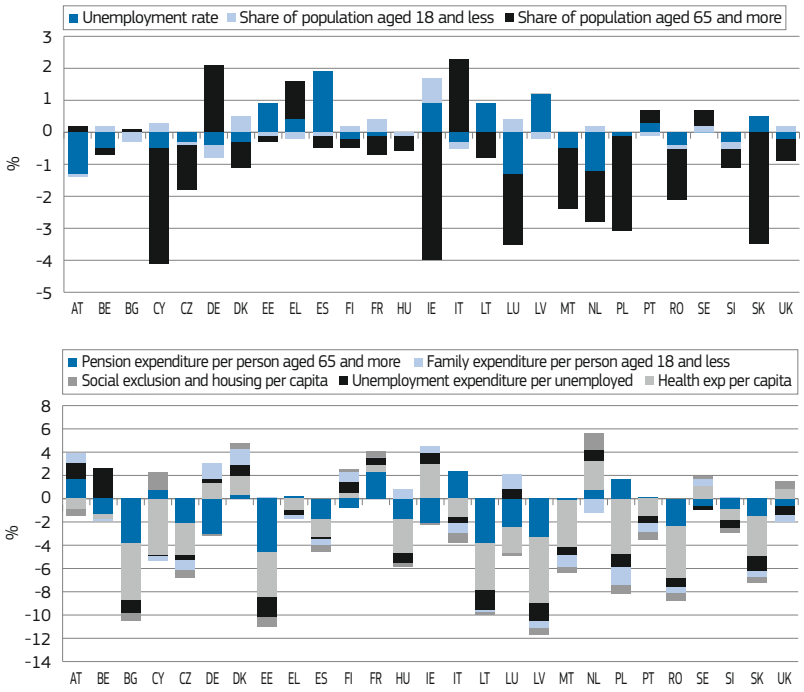
Chart 2: Impact of social expenditure levels per capita and of differences in socio-demographic structures on expenditure levels compared to EU average in 2010 (as % of GDP)



Source: ESSPROS, DG EMPL calculations.

Note: impact on the difference to EU-27 average of structure effects and levels of expenditure per capita or per potential beneficiary.

Chart 3: Impact of differences in socio-demographic structures and of social expenditure levels per capita on expenditure levels compared to EU average in 2010 (as % of GDP)



Source: ESSPROS, DG EMPL calculations.

Note: Impact on the difference to EU-27 average of structure effects.

than 8% of GDP is spent on this function, while in Italy it amounts to nearly 17% of GDP. Differences in expenditure levels can also be significant for other functions and part, but not all, of these expenditure differences are explained by differences in socio-economic structures, such as unemployment rates and share of population aged over 65 or under 18.

A decomposition of differences in social protection expenditures allows one to distinguish between different socio-demographic structures (based on the shares of people aged 65 or older and under 18, as well as on unemployment rates), and differences in the size of expenditures standardised by the relative levels of the potential population of beneficiaries (see also Box 8).

The difference in expenditure-to-GDP ratios appears to be mainly driven by expenditure levels, though in some Member States socio-economic structures also contribute significantly by either keeping expenditure levels lower (AT, CY, CZ, IE, MT, NL, PL, RO, SI, SK) or making them higher (DE, EL, ES, IT). For instance, while IT and IE have comparable expenditure-to-GDP ratios, it appears that after correcting for differences in socio-economic structures, IE spends more per beneficiary than IT (Chart 2). The impact of socio-economic structures on spending levels (Chart 3a) appears to be mainly driven by differences in the share of the population aged 65 or older, either keeping expenditure levels low (notably in CY, CZ, IE, LU, MT, NL, PL, SE, SK) or sometimes making them higher (in DE, EL, IT).

Nevertheless, the bulk of differences appear to reflect actual differences in expenditure per capita levels, mainly from old age and survivor expenditure and health and disability expenditure (Chart 3b), and to a lesser extent from family or unemployment or social exclusion and housing expenditure.

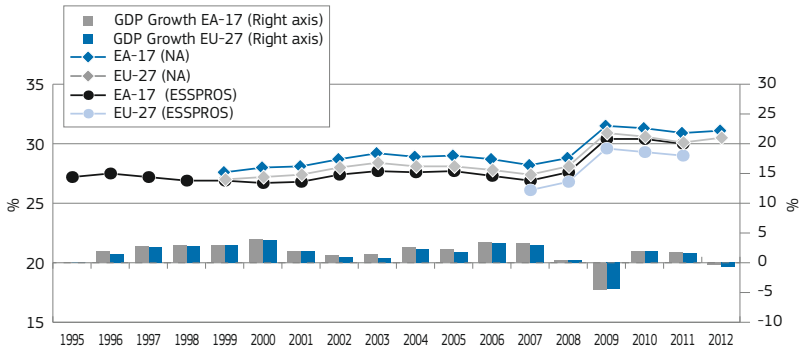
2.2. Social expenditure growth in the crisis: increase in the first years (2008–10) and decline since 2011

The share of social expenditure in GDP (which reflects developments in nominal social expenditure and nominal GDP) increased in 2008 (a year of very weak growth) and even more significantly in 2009 when real GDP declined by 4.5% in the EU-27 and 4.4% in the EA-17. In 2010 and 2011, the share of social expenditure in GDP declined slightly, in a context of mild economic growth. In 2012, in a context of contraction of real GDP, the share of social expenditure increased slightly in the EU-27 and the EA-17, but the increase was lower in the EA-17, where the decline in real GDP was stronger (Chart 4).

Most recent trends show declines in real terms in 2011 and 2012

Data for the years 2011 and 2012 only allows one to track developments in expenditure on benefits in cash and in kind. In 2011, social expenditures declined on average in Europe and in 2012 in most countries (Chart 5) ([6]). In 2011, declines affected both in-kind and cash benefits. In 2012, in a weaker economic environment ([7]), most Member States registered declines of in-kind expenditure, but relatively stable cash expenditure. While declines in cash benefits are reflected in the gross household disposable income, those in in-kind benefits are not (directly) ([8]). However, falling in-kind benefits are likely to have a negative impact on the access to and the provision of a number of services, such as healthcare or childcare.

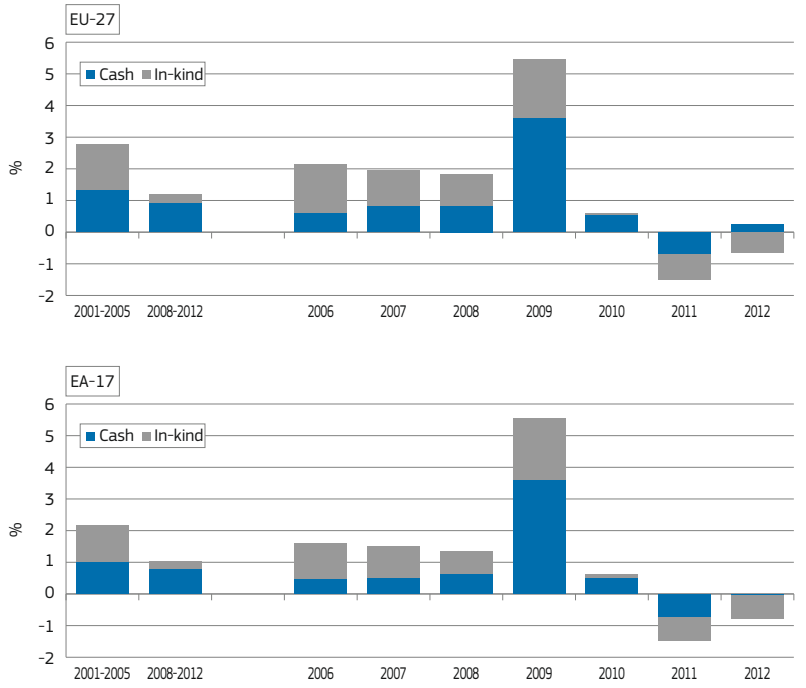
Chart 4: Share of social expenditure in GDP and real GDP growth in the EU-27 and EA-17 (1995–2012)



Source: National Accounts and ESSPROS.

Note: When data not available in National Accounts (annual), it was complemented based on either National Accounts (quarterly) or the AMECO database (for the latter usually applying calculated growth rates to the data available from National Accounts (annual).

Chart 5: Breakdown of the annual change in real public social expenditure between the contributions from in-cash and in-kind benefits (2001–2012) in the EU-27 and EA-17



Source: National Accounts, DG EMPL calculations.

Note: When data not available in National Accounts (annual), it was complemented either based on National Accounts (quarterly) or AMECO database (for the latter usually applying calculated growth rates to the data available from National Accounts (annual).

([6]) For 2012, the annual growth rate reflects an estimate based on quarterly National Accounts (see Box 1).

([7]) In 2011, average GDP growth was 1.7% in the EU (with declines only in EL and PT), while in 2012, GDP declined by 0.4% on average in the EU (with positive developments in BG, DE, EE, IE, LV, LT, MT, AT, PL, RO, SK, SE and the UK).

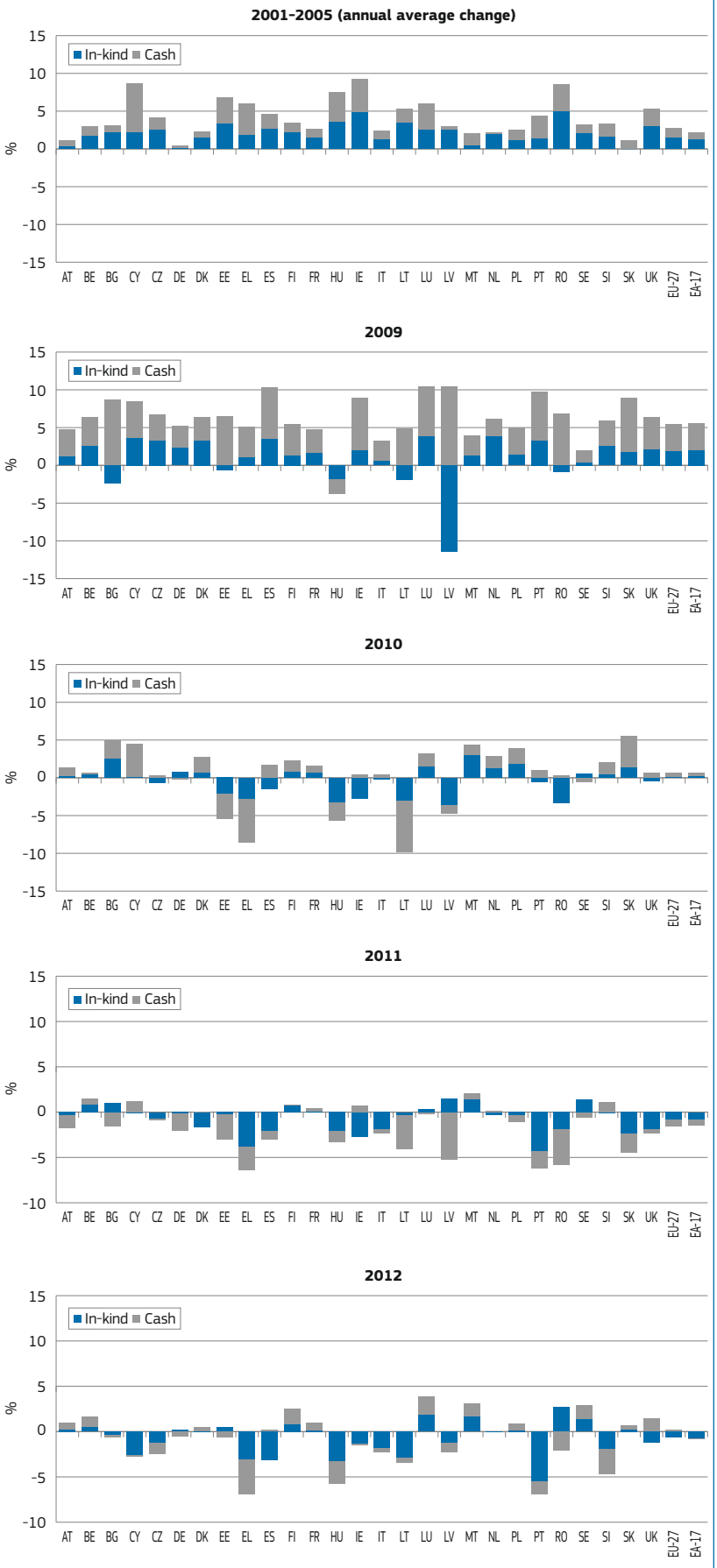
([8]) They are reflected in the adjusted household gross disposable income, while reduction in public service provision can lead to increases in private expenditure and thus weight on disposable income.

In 2011, most Member States reduced in-kind and in-cash expenditure. Declines were particularly significant (around 5 % or more) in EL, LV, PT and RO and were below 1 % in most other Member States (Chart 6). In 2012, the declines were in general less pronounced, but still very significant in a few Member States (EL, HU, PT and SI), while being higher than one percentage point (in real terms) in other Member States (CY, CZ, ES, IE, IT, LT, LV). Cash benefits actually recorded real increases in around half of the Member States. Overall, while expenditure growth had been very dynamic in 2009, these developments in 2011 and 2012 translated into an overall relatively weak pattern of social expenditure growth in the EU and EA (see Chart 6), notably in comparison to the 2001–05 period which was a period of relatively moderate growth ([9]).

A strong increase of social protection expenditure in 2009 — reflecting automatic stabilisation

In 2009 overall increases compared to 2007 ranged between 5 % and 10 % in the EU, while average increase exceeded 10 % in the OECD and reached 15 % in the USA (see OECD 2012a) ([10]). Between 2008 and 2009, real social protection expenditure increased by around 7 % on average across EU-27 and EA-17 countries, an acceleration mainly driven by increases in unemployment expenditure, but also in health and disability as well as in old-age and survivors (referred to as 'pensions' in this chapter). There was also to a lesser extent an increase in family and social exclusion and housing expenditure (see Chart 7). The increase in unemployment expenditure mainly

Chart 6: Trend in real public social expenditure in EU (2001–2012)



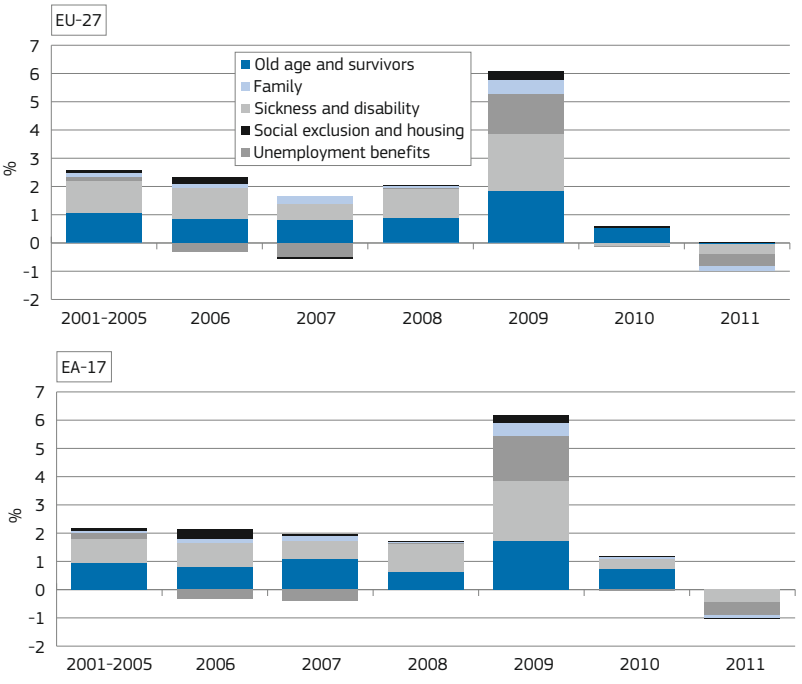
Source: National Accounts, DG EMPL calculations.

Notes: When data not available in National Accounts (annual), it was complemented either based on National Accounts (quarterly) or AMECO database (for the latter usually applying calculated growth rates to the data available from National Accounts (annual).
The 2001–05 is used as reference since it corresponds to a recent period of average growth.

([9]) In the rest of this section, the period 2001–05 is used as a reference for comparison of growth rates of social protection expenditure in recent years. The choice of this period stems from the fact that this was a period of relatively modest GDP growth on average in the EU (since the early 90s for which information is available), with annual economic growth of +1.5 % for the EA-17 and +1.9 % for the EU-27. In 2008 economic growth was 0.4 % in the EU and EA, in 2009 economic growth was -4.5 % in the EU and -4.4 % in the EA, in 2010 economic growth was 2.0 % in the EU and EA, and in 2011 respectively 1.7 % and 1.6 %, while in 2012 it was respectively -0.4 % and -0.7 %.

([10]) The rise in social protection expenditure in the USA was mainly driven by spending on healthcare, old age and unemployment. However, the highest relative increase between 2007 and 2009 was seen in expenditure on unemployment and on active labour market programmes.

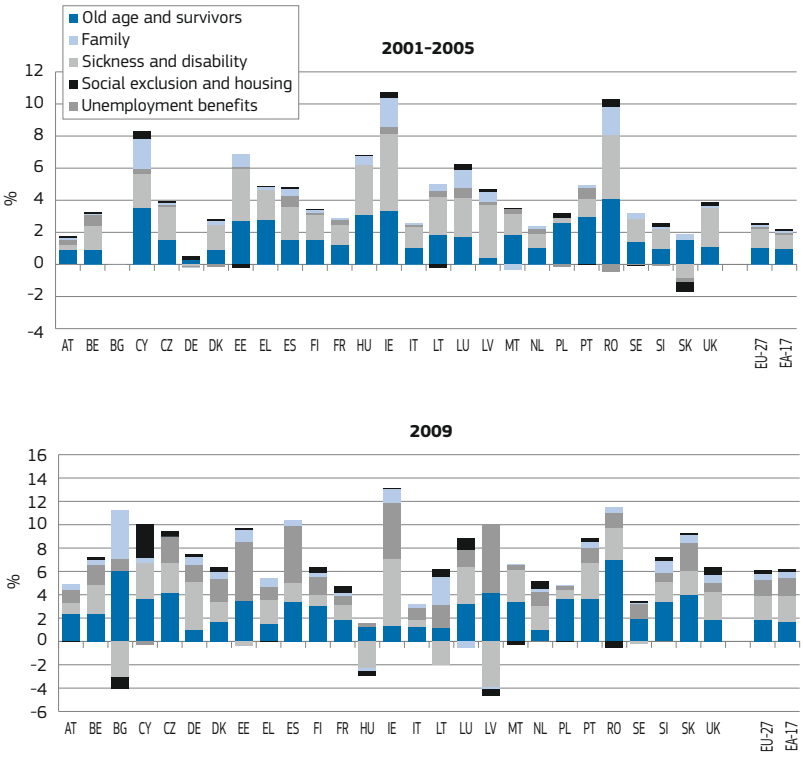
Chart 7: Annual real growth of social expenditure in the EU-27 and EA-17 (2001–2011) and contributions from different functions



Source: ESSPROS and DG EMPL calculations.

Note: For EU-27, 2001–05 actually refers to EU-25 since EU-27 not available and 2001–05 refers to the average annual growth rate.

Chart 8: Annual real growth of social expenditure in Europe 2001–2005, 2009, 2010 and 2011 — contribution of different functions



Source: ESSPROS and DG EMPL calculations.

Note: Compounded average growth rates 2001–05.

reflects increases in the number of unemployed persons (see below).

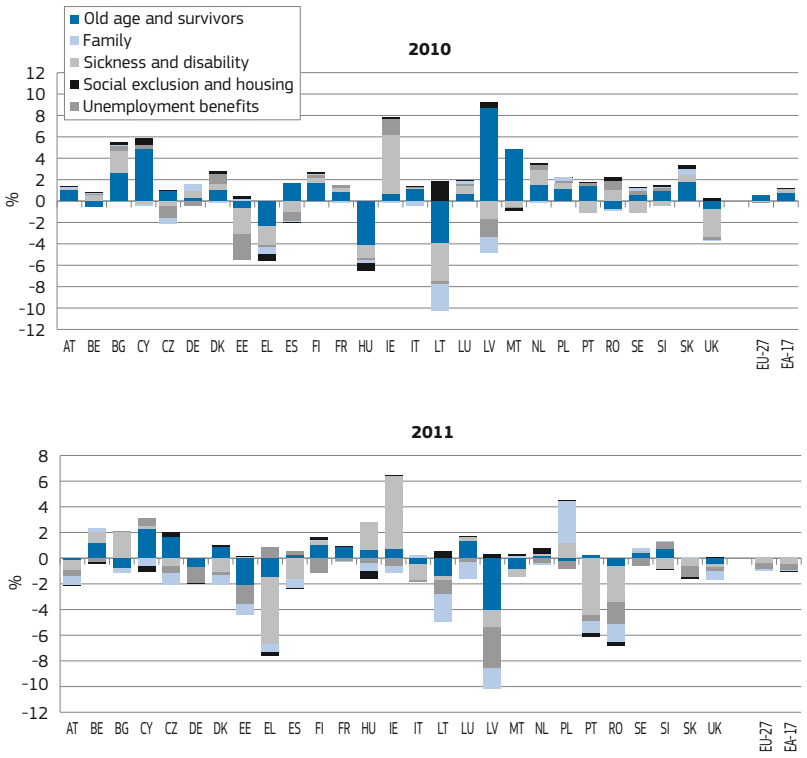
In 2010, annual expenditure growth was modest, with an overall stabilisation in unemployment expenditure, very modest increases in health and disability, and increased spending on pensions (Chart 8). The growth in health and disability expenditures in the EU in 2010 appears very modest, in line with OECD-wide developments (see OECD 2012b). Changes in unemployment expenditure were mainly driven by the increasing number of unemployed, but also (to a lesser extent) offset by declines in average benefits paid out (as measured by the average expenditure per unemployed, see below). In 2011, expenditure declined in real levels, reflecting mainly a further decline in health and disability expenditure, as well as negative contributions from unemployment and family expenditure, while real pension expenditure growth was very low.

Expenditure on unemployment benefits increased in all countries in 2009, and in most countries in 2010, but it started declining in a few countries, including those where unemployment kept rising (ES, EL, HU, SK and UK).

In 2010, health and disability expenditure showed a modest increase, with declines in some countries. Pension expenditure grew at a slow pace, also with declines in some Member States (EE, EL, LT, RO and UK). In a few countries (CZ, EL, HU, IT, LT, LV, RO), expenditure on family benefits and on social exclusion and housing (EL, HU) declined.

In 2011, expenditure showed a significant decline in some countries for health and disability expenditure (DK, EL, ES, IT, PT, RO and UK), for unemployment expenditure in some Member States (DE, DK, EE, FI, LV, RO), for family expenditure in some others (LT, LU, LV, PT and RO), while pension expenditure declined significantly in EE, EL, LT, LV and increased significantly in CY, CZ, DK and PL.

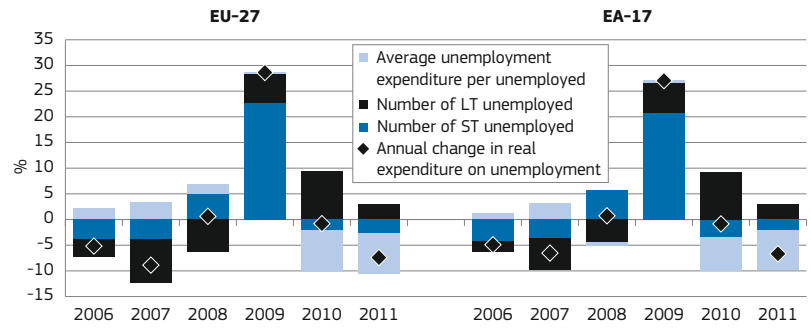
Chart 8: Annual real growth of social expenditure in Europe 2001–2005, 2009, 2010 and 2011 — contribution of different functions (cont.)



Source: ESSPROS and DG EMPL calculations.

Note: Compounded average growth rates 2001–05.

Chart 9: Contributions to the annual change in real unemployment expenditure (2006–2011) — EU-27 and EA-17



Source: ESSPROS, LFS, DG EMPL calculations.

Note: This graph shows the annual change in real expenditure on unemployment benefits (in %) and the main factors that influence it: the average expenditure per unemployed and the number of short-term (ST) and long-term (LT, i.e. for more than one year) unemployed. The contributions of these factors are expressed in percentage points.

2.3. Trends in social expenditure: potential beneficiaries vs. expenditure levels?

This section provides a more in-depth analysis of trends until 2010 for unemployment, old-age and family expenditure ([11]), breaking down changes in total expenditure between the numbers of (total potential) beneficiaries and per (total potential) beneficiary expenditure ([12]). The number of total beneficiaries are proxied using estimates of the population that is potentially eligible for these types of expenditure (referred to as potential beneficiaries): unemployed people (for unemployment expenditure), the number of persons aged 65 and more (for pension expenditure), and people younger than 18 (for family expenditure).

Development in unemployment expenditure can be decomposed into effects of changes in the numbers of unemployed (the total number of potential beneficiaries) and changes in average per potential beneficiary expenditure (see Chart 9).

In 2009, the increase in unemployment expenditure in Europe was driven nearly exclusively by changes in the number of unemployed persons. The impact of the increase of the number of unemployed on unemployment expenditure dynamics then lessened in 2010 and 2011. In 2010 and 2011, there was a decrease in the average expenditure per unemployed. This decline in the average expenditure per unemployed person may reflect a number of factors, which can have different weights depending on countries, such as the erosion of the eligibility of unemployed people (of short-term unemployed but also of long-term unemployed people), the increase in the number of long-term unemployed people and decline of the number of short-term unemployed, as well as the impact of indexation rules in the context of the specific sequence of inflation during this crisis (see below) or also some tightening of benefit calculation rules in some countries.

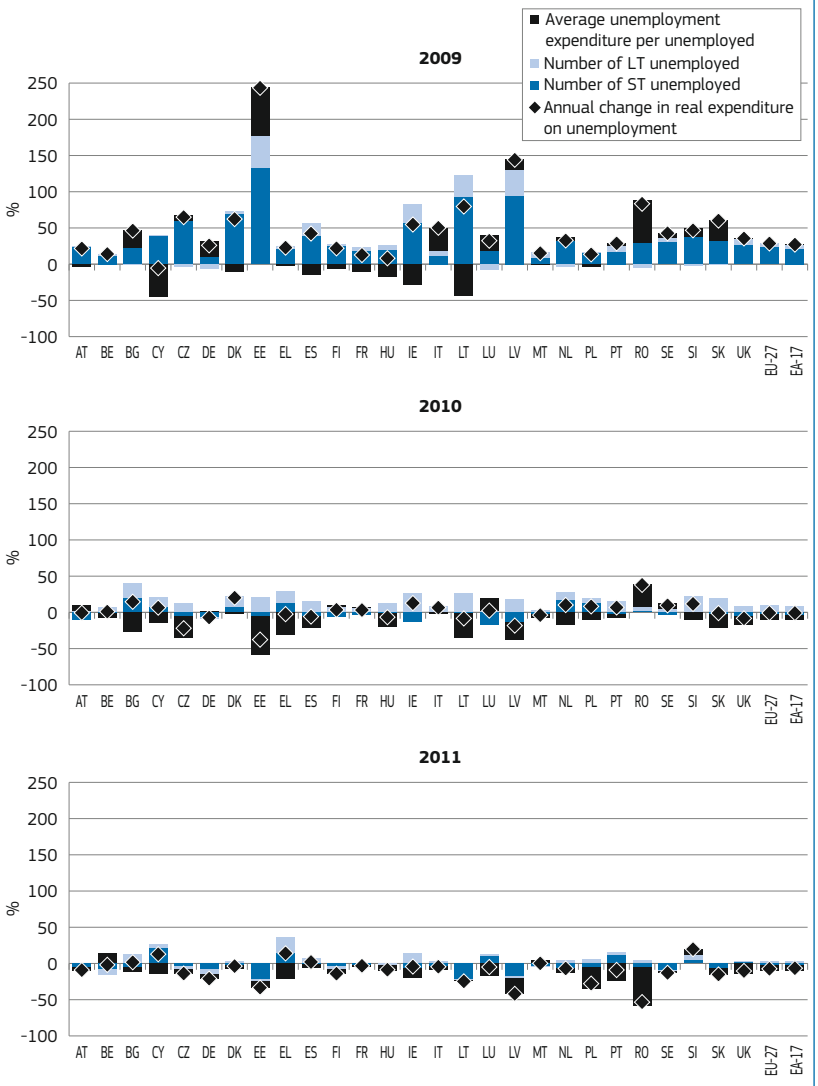
([11]) Based on ESSPROS.

([12]) It should be noted that the section refers to the number of potential beneficiaries and not the number of actual beneficiaries or of claimants. In this respect it focuses more on the overall orientation of social protection expenditure by risks or functions than on the average benefits as such.

Developments have been particularly marked in some Member States (Chart 10). In some countries, the average unemployment expenditure per unemployed also increased in 2009 (BG, EE, IT, RO and SK), though significant declines took place in CY, DK, IE and LT. In 2010, the average unemployment expenditure per unemployed person increased in only a few countries (LU, RO), while it declined on average in the EU and more significantly in countries with increases in the number of unemployed persons. In 2011, average unemployment expenditure per unemployed person declined in most Member States and, most strongly, in Romania.

As regards family and, to a lesser extent, pension expenditure, unsurprisingly, changes in expenditure dynamics have been mainly driven by changes in the average expenditure per (potential) beneficiary (population aged under 18 and older than 65 respectively). It is however striking that the acceleration in expenditure growth in 2009 was strong for both types of expenditure. This reflects the price indexation mechanisms usually attached to these benefits, which generally work with a lag of one year (inflation from year N-1 is used to index benefits in year N). Indeed, the relative high inflation observed in 2008 was only translated into benefit levels in 2009, where inflation was in general relatively low ([13]). This design of indexation mechanisms with a lag of one year, together with the specific sequence of indexation over 2008–11 translated into an acceleration of the real growth of benefits in 2009 and a relatively low pace of real growth in 2010 and especially in 2011, while real family expenditure actually declined in 2011.

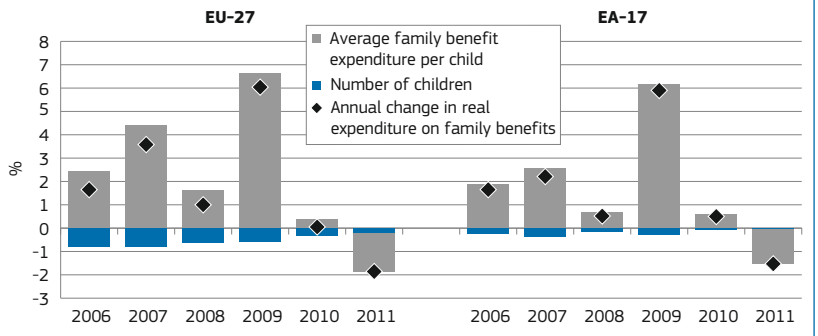
Chart 10: Annual change in real unemployment expenditure in 2009, 2010 and 2011 — contributions



Source: ESSPROS, LFS, DG EMPL calculations.

Note: This graph shows the annual change in real expenditure on unemployment benefits (in %) and the main factors that influence it: the average benefit per unemployed and the number of short-term (ST) and long-term (LT) unemployed. The contributions of these factors are expressed in percentage points.

Chart 11: Annual change in real family expenditure (2006–2011) — EU-27 and EA-17

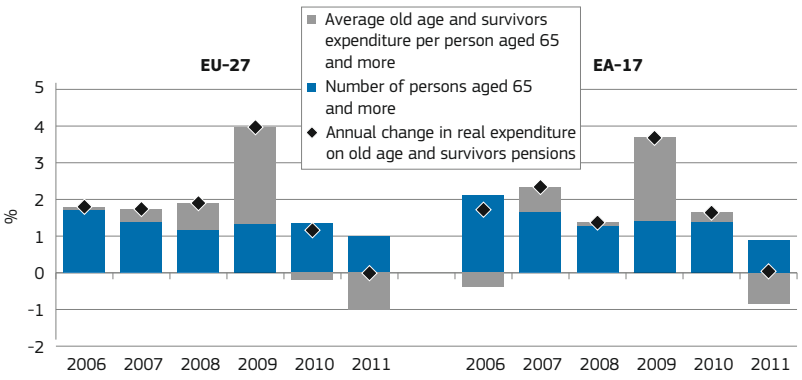


Source: ESSPROS, Demo, DG EMPL calculations.

Note: This graph shows the annual change in real expenditure on family benefits (in %) and the main factors that influence it: the average expenditure per child and the number of children. The contributions of these factors are expressed in percentage points. Children correspond to persons aged 18 and less.

([13]) This impact can account for an increase in the growth rate of expenditure which was adjusted based on inflation of around 2 percentage points in 2009 (since inflation had been particularly strong in 2008, 3.7% for the EU, and was actually weak in 2009 at 1%), while it can contribute by around 1 percentage point to the lower growth rate observed in 2010 and 2011 (inflation further resumed in 2010 and more strongly in 2011, at 2.1% and 3.1%, respectively, for the EU). Inflation was respectively 3.3%, 0.3%, 1.6% and 2.7% for the EA-17.

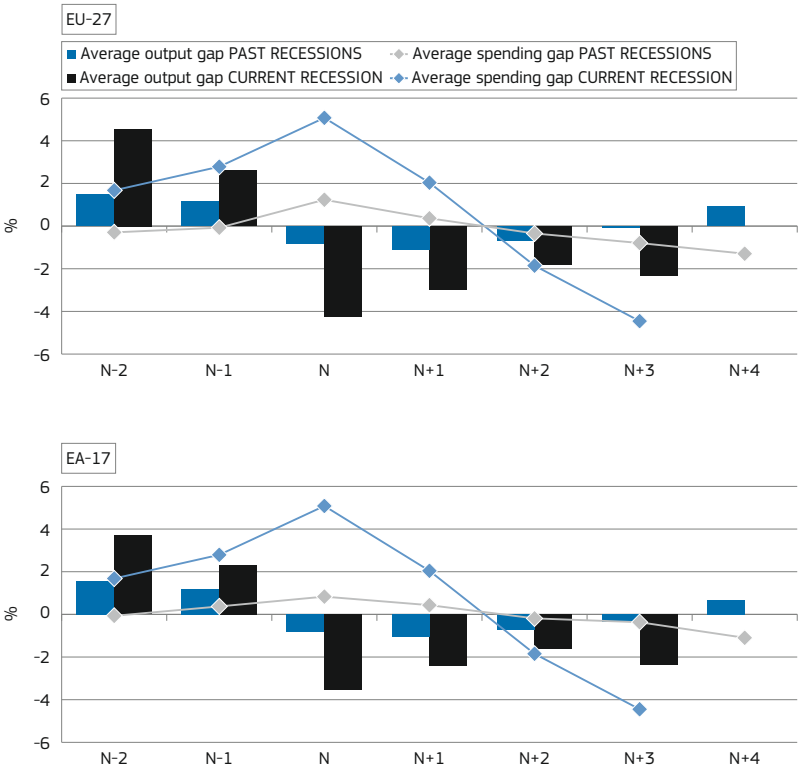
Chart 12: Annual change in real pensions expenditure (2006–2011) — EU-27 and EA-17



Source: ESSPROS, DG EMPL calculations.

Note: This graph shows the annual change in real expenditure on pensions (in %) and the main factors that influence it: the average expenditure per person aged 65 and more and the number of persons aged 65 and more. The contributions of these factors are expressed in percentage points.

Chart 13: Deviations of public social expenditure and GDP from their trends in slowdown/recession periods in the EU-27 and the EA-17



Source: National Accounts, AMECO, DG EMPL calculations.

Note: In the current crisis, N is year 2009 in most countries. In the initial year of below-par performance in the current crisis, social expenditures were around 5% above their trend in Europe, while the GDP was about 4% below its potential (output gap of -4%). Averages are unweighted country averages (since countries do not always experience a negative output gap the same year).

2.4. Weakening of the stabilisation function of social expenditures

This section reviews evidence of the evolution of the stabilisation function of social systems in this crisis and focuses first on the expenditure and secondly on the receipt side (see Box 2 on automatic stabilisers). Compared with previous episodes, the 2008–09 great recession was triggered by a financial crisis, whose unfolding led more recently to a sovereign debt crisis in a number of EU Member States, requiring budget consolidation there.

Social expenditure

The deviation from trends in social protection expenditure following the initial phase of the Great Recession of 2008–09 and subsequent years of recovery (2010) and slow (2011) or negative growth (2012) can be compared with several past episodes in the 1990s and 2000s (Chart 12) ([14]).

In its initial year (hereafter called year N, corresponding to 2009 in most countries) the recession was much stronger in this crisis compared to past ones, as reflected by sharp falls in GDP and larger negative output gaps (around -4% on average, see Chart 14), and saw relatively higher positive deviations of social expenditure from trends (around +5). In past periods of economic downturn or recession for which information is available ([15]), the negative output gap was smaller (1–1.5%) and the positive deviation from trend social expenditure was lower (around 1%). This suggests that social expenditure reacted in the first year of this crisis slightly more strongly to economic developments than during previous episodes, for instance due to stimulus measures taken in the early phase of the crisis or due to the specific pattern of inflation in this crisis (with low inflation in year N and high inflation in year N-1 translating into higher real growth of expenditure in year N, see above).

([14]) Deviations from trend are calculated using a standard Hodrick-Prescott decomposition (see Box 2).

([15]) Year N, 1993 and 2003 in most countries and 1999 in half of the countries of the 2004 and 2007 enlargement (see Bontout and Lokajickova, 2013).

The year after the onset of the Great Recession (year N+1, corresponding to 2010 in most countries) showed a relatively faster reduction of the output gap compared to past episodes of economic slowdown or recession, together with a decline in the positive deviation of actual expenditure of social protection relative to its trend. These developments seem broadly in line with past trends with an improvement in the output gap and a reduction in the deviation of social expenditure from its trend.

Two years after the onset of the crisis (year N+2, corresponding to 2011 in most countries) the output gap showed a comparable improvement as in the year before, though it remained negative. In this context, the deviation of social protection expenditure from its trend went on reducing at a similar pace as in the preceding year (N+1) and went below its trend on average. These developments seem overall in line with past developments, but may have been slightly diverging as in former below-par periods; the adjustment of the social expenditure relative to its trend slowed in N+2, while in this crisis the downward adjustment pace appears to have been broadly constant.

Three years after the onset of the crisis (year N+3, corresponding to 2012 in most countries) the output gap worsened. However, in this context, social protection expenditure further declined compared to their trend, at broadly the same pace as in previous years. These developments seem to be diverging from past trends, since a deterioration in the output gap was usually accompanied by an upwards deviation of social protection expenditure from its trend, while in this second phase of the crisis, it continued adjusting downwards at a comparable pace as in former years. This profile of social protection expenditure in year N+3 provides an indication that social protection expenditures have been pro-cyclical in 2012([16]).

([16]) These developments appear to have happened in various Member States all around Europe (see Bontout and Lokajickova 2013), and notably in Southern euro area Member States, as well as in Northern ones (though to a less significant extent, see below).

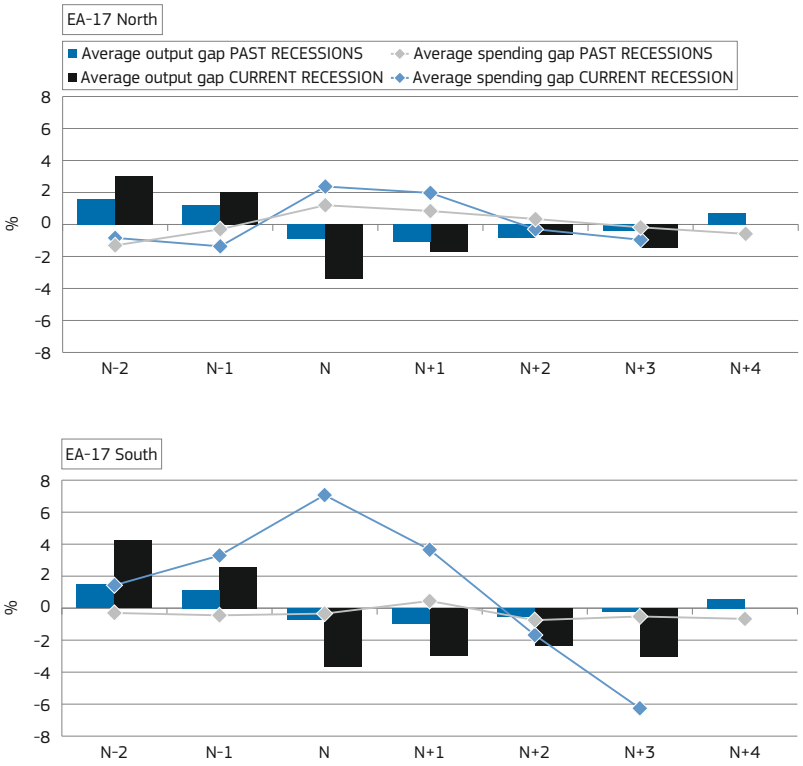
Box 1: What are automatic stabilisers?

Automatic stabilisers are usually considered as those elements of the public sector in an economy that automatically help balance the business cycle, especially in downturns. They function as a means of adjusting governmental revenues and expenditures according to the business cycle: for example, in downturns, public revenues decrease while public expenditure increases, in particular unemployment benefits or social benefits.

Automatic stabilisers are part of the fiscal and economic structure of a country and do not need any discretionary action to be taken in case of need, avoiding the delay that may occur for discretionary spending. The response by automatic stabilisers is timely and helps to directly sustain demand in the economy.

While automatic stabilisers are an established concept in the fiscal policy literature, there is no overall consensus about their actual nature and their effectiveness. Debrun *et al.* (2010) underline that fiscal stabilisation operates mainly through automatic stabilisers and suggest that more work is needed to improve measures of automatic stabilisers, particularly to better grasp the role of expenditure composition. In't Veld *et al.* (2012) argue that differences in the final assessment of the working of automatic stabilisers reflect different underlying assumptions over how the budget would look without automatic stabilisers (constant absolute revenues and spending, or constant deficit-to-GDP ratio, etc.). Estimates from the literature show that, despite different estimation methods and benchmarks used, the estimations generally lie around 10–20% (see European Commission 2013).

Chart 14: Deviation of public social expenditure and GDP from their trend in current crisis and past periods of below-par performance in the EA-17 North and South



Source: National Accounts, AMECO, DG EMPL calculations.

Note: In the current crisis, N is year 2009 in most countries. In the initial year of below-par performance in the current crisis, social expenditures were around 2% above their trend in the EA-17 North, while the GDP was nearly 4% below its potential (output gap of -4%). In the EA-17 South, social expenditures were around 7% above their trend, while GDP was nearly 4% below its potential. Averages are unweighted country averages (since countries do not always experience a negative output gap the same year).

Box 2: Estimating the cyclical and trend component of GDP and social protection expenditures

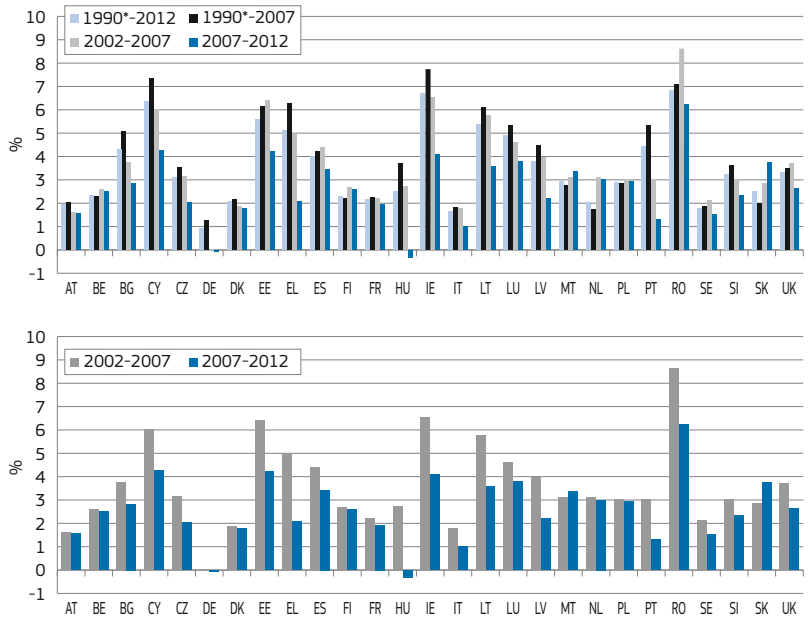
The cyclical component of social protection expenditure has been estimated as the gap between actual levels and the trend in social protection expenditure, and expressed as a percentage of the trend of social protection expenditure. The trend of social protection expenditure is estimated using the Hodrick-Prescott filter (over the period 1990–2012 or shorter periods for some Member States due to data availability issues), which is a standard method used for identifying trends and cycles in time series (like other purely statistical methods, this type of trend-cycle decomposition can be sensitive to the addition of the latest points in the series). It is based on the following formula, with *y* the initial series and *τ* the estimated trend (the standard value of λ for annual data has been used, i.e. 100):

$$\min \sum_{1}^{T} (y_t - \tau_t)^2 + \lambda \sum_{2}^{T-1} [(\tau_{t+1} - \tau_t) - (\tau_t - \tau_{t-1})]^2$$

This method produces estimates of the cyclical and trend component of social expenditure and it is useful to reflect on the developments of the trend of social expenditure in the crisis, as a complement to the analysis of the cyclical component. It appears that the growth of social expenditure trends has generally been lower over the period 2007–12 than in periods before, whether one takes a longer period as reference (1990 or earliest available to 2007), or a more recent period for the comparison (2002–07). This suggests that the downward adjustment in the cyclical components, displayed in the text, in 2012 is not the result of an acceleration of the trend since the beginning of the crisis, but that the trend itself may have actually also adjusted downwards in a number of Member States (see Chart 15).

More specifically, when comparing 2007–12 to 1990 (or earliest available)–2007, a few countries show similar growth levels to the trend (BE, DK, FR, PL, RO, SE) and some a higher level (FI, MT, NL, SK) while growth levels are lower for all other Member States. When comparing 2007–12 to 2002–07, 18 countries show similar growth levels to the trend and one a higher level (SK) while growth levels are lower for all other Member States.

Chart 15: Comparison of the growth in the trend of public social expenditure in 2007–2012 with earlier periods



Source: National Accounts, AMECO, DG EMPL calculations.

The cyclical component of GDP corresponds to the European Commission estimates, as provided in AMECO (AVGDGP, or the gap between actual GDP and potential GDP, percentage of potential GDP). In this methodology, the potential GDP is estimated based on a Cobb-Douglas production function and not through a statistical method.

Years labelled as 'periods of below-par performance' are defined as those years when the cyclical component of GDP (or output gap) was negative, i.e. when actual GDP was below its potential. The years of below-par performance (N) in each Member State correspond to: 1991 in Finland, Sweden, Slovak Republic and United Kingdom; 1992 in Spain and Ireland; 1993 in EU-15 Member States except Denmark, Spain, Finland, Sweden and United Kingdom; 1995 in Malta; 1996 in Bulgaria, Germany and Poland; 1997 in Cyprus and Estonia; 1998 in Belgium, Czech Republic and Malta; 1999 in Hungary, Lithuania, Latvia and Romania; 2001 in Malta and Poland; 2002; Greece, Finland, Netherlands and Sweden; 2003 in Austria, Belgium, Cyprus, Germany, Denmark, Luxembourg, Malta and Portugal; 2004 in Ireland; 2005 in Greece; 2009 in all EU-27 Member States except Cyprus, Poland and Romania; 2010 in Romania.

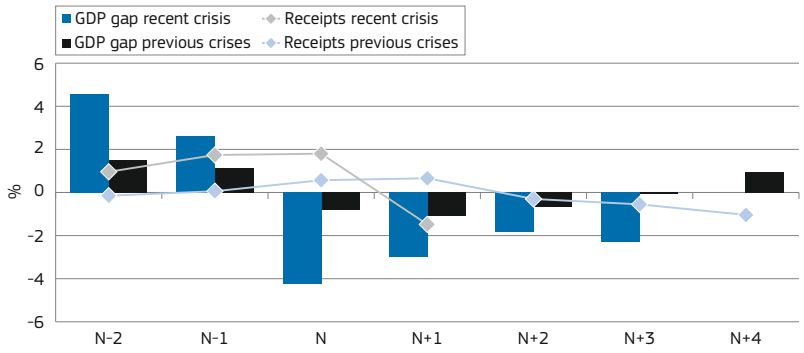
Overall, the growth in real social expenditure appeared somehow more marked in 2009 (year N) than in former recession and the developments observed in 2010 (year N+1) and 2011 (year N+2) appear broadly in line with past trends, though in 2012 (year N+3), social expenditure dynamics appear to have been pro-cyclical in comparison to past trends. As a result, in year N+3, while the output gap was negative (at around -2%), the deviation of social expenditure from its trend was also negative (at around -5%). This can be seen as a cyclical correction of social protection expenditure in this crisis, but can also partly reflect a more permanent adjustment of social expenditure growth during this crisis (since the growth pace of the trend of social expenditure has slowed down during the crisis, see Box 2). It also partly reflects the exceptional scale of the fiscal adjustment needed in the context of the euro crisis, as reflected notably by a more persistent contraction of GDP and a context of reduced fiscal space.

It can be noted that while developments in years N+2 and N+3 do not substantially differ in the EA-17 and EU-27 on average, while in both Southern and Northern EA countries social protection played a strong role in economic stabilisation in year N, the downwards adjustment of social protection expenditure in N+2 and N+3 appears to have been lower in Northern EA-17 Member States than in Southern ones (see Chart 14). In the pre-crisis phase however, expenditure was above its trend in Southern EA-17 Member States (probably reflecting a catching-up trend), and below it in Northern ones.

Social receipts

Furthermore, in this crisis, up to 2010 (as estimated based on ESSPROS) the gap in social protection receipts reacted to a comparable extent in year N, with no significant additional stabilisation impact compared to previous episodes of below-par economic performance. However, the reduction observed in N+1 appears stronger than usual in past episodes of below-par economic performance (Chart 17), which reinforced the stabilisation impact through receipts in year N+1 (compared to previous episodes of below-par growth) since they fell below their trend to a greater extent than usual.

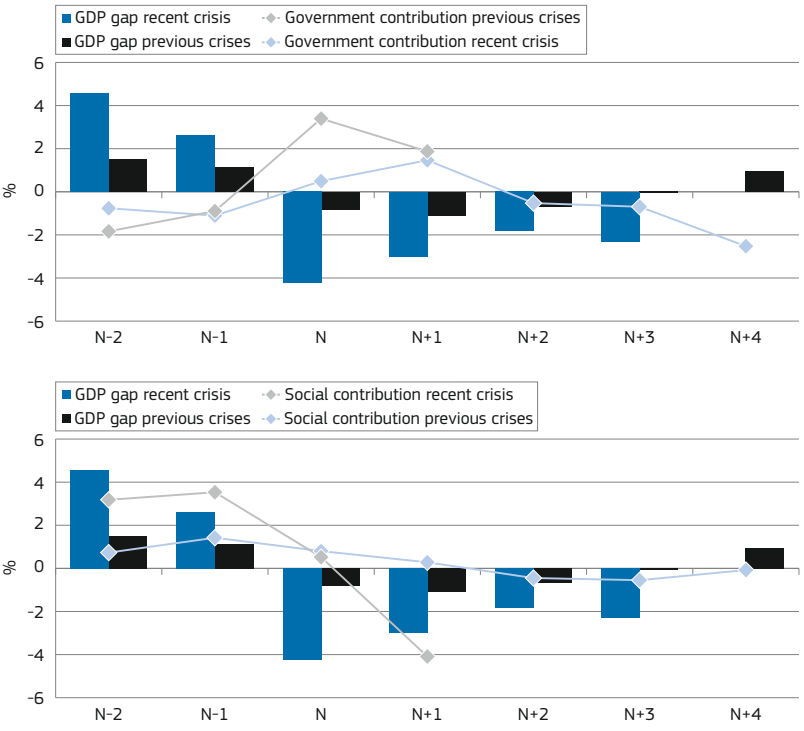
Chart 16: Deviation of social protection receipts and GDP from their trend in current crisis and past periods of below-par performance in the EU-27



Source: ESSPROS, AMECO, DG EMPL calculations.

Note: Averages are unweighted country averages (since countries do not always experience a negative output gap the same year).

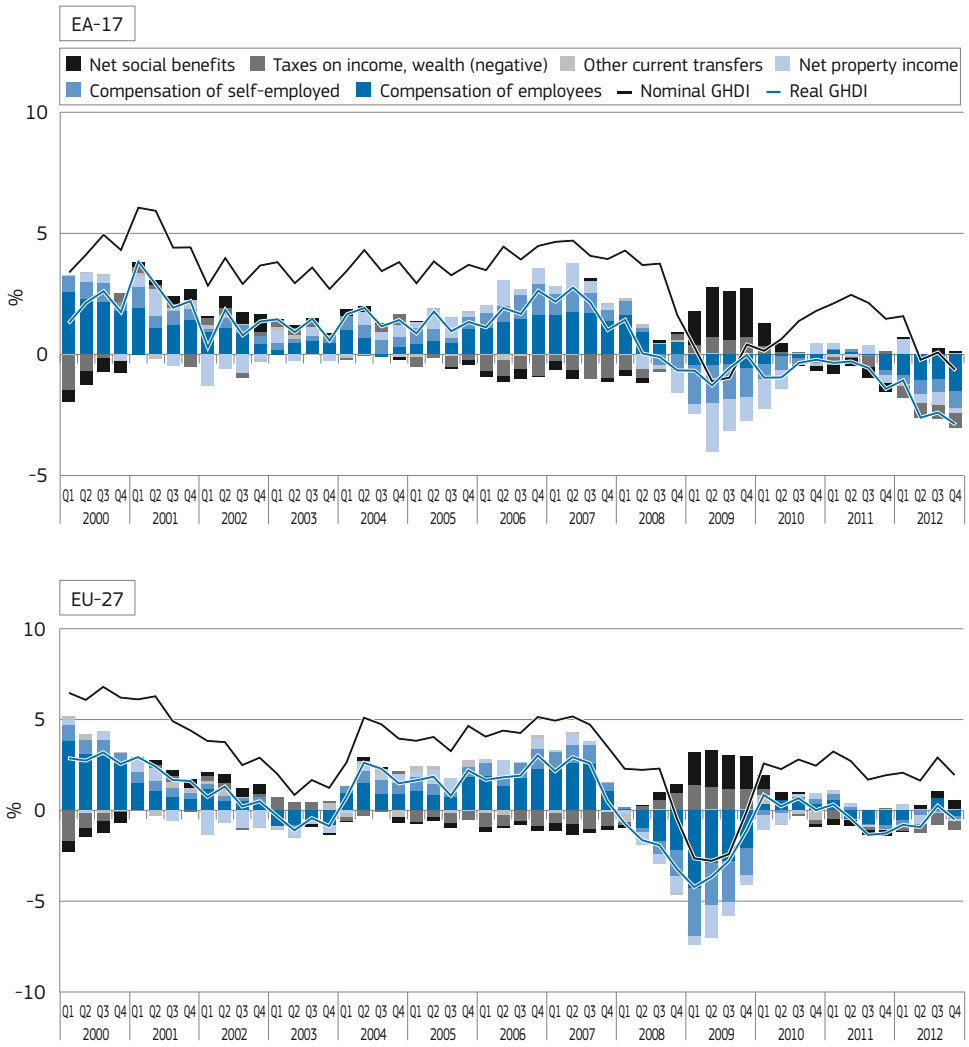
Chart 17: Deviation of receipts and GDP from their trend in current crisis and past periods of below-par performance in the EU-27 general government and social contributions



Source: ESSPROS, AMECO, DG EMPL calculations.

Note: Averages are unweighted country averages (since countries do not always experience a negative output gap the same year).

Chart 18: **Breakdown of real GHDI growth into its main components for the EA-17 and EU-27 (2000–2012)**



Source: National Accounts.

Note: GHDI year-on-year changes (expressed in percentage) and contributions of the various components to this change (possibly 2013 Q1 available in the autumn).

This stronger impact in N+1, is mainly linked to social contributions (Chart 18) but also somehow to general government contributions (though their stabilising impact in year N appears lower than usual).

2.5. Developments of households incomes

The analysis of the components of Gross Household Disposable Income (GHDI) shows that while social benefits clearly played their role of sustaining households' incomes in the early phase of the crisis in the EA and EU, their contribution to households' incomes lessened after mid-2010, in particular in the euro area (Chart 18, see detailed charts on quarterly data per Member State in the Annex).

Jenkins *et al.* (2011) have looked at the impact of the 2008–09 crisis on household income and concluded that although GDP fell, gross household disposable income rose in most Member States between 2007 and 2009. In effect, the household sector was protected from the impact of the downturn by additional support of governments through their tax and benefit system. In this Section, the same type of analysis is performed for three periods: 2007–09, 2009–11 and 2011–12 with a special focus on the role of social transfers.

Table 1 shows the role of the tax-benefit system during the first part of the crisis, driven mostly by the working of automatic stabilisers and fiscal stimulus, and also in the three years afterwards, when negative developments in social expenditure were taking place in many countries (see the Annex for detailed data on quarterly development in some Member States). The table is split in three parts: 2007–09 and 2009–11 and 2011–12 to allow for identifying the developments in the latest year available. The first columns show how GHDI changed in these three periods, while the following ones show separately the role played by social transfers and taxes respectively.

In the first period of the crisis in some EU Member States the real GHDI dropped (e.g. in Latvia, Estonia and Hungary) while in others it kept rising (e.g. Bulgaria, Romania, Slovakia, Poland, Cyprus). In the period 2007–09, the tax-benefit system had a positive impact on GHDI in all Member States. On average, the positive effect of social transfers was three times higher than

the effect of taxes ([17]). Social transfers raised GHDI throughout the EU (particularly in Bulgaria, the Baltic States, Ireland and Romania), while taxes also contributed positively to the GHDI, except in Portugal, Luxembourg, Greece, Slovenia, Romania and the Netherlands.

In the period 2009–11, in a context of relatively weak recovery, the total impact of changed tax and benefit levels on the GHDI was mixed: in eleven Member States it contributed negatively to the change in GHDI. Among these countries, in Germany and Sweden the GHDI increased in spite of this. In other countries such as Estonia and the Czech Republic, the GHDI would have decreased even without the negative influence of the tax-benefit system. Looking at the effect of social transfers and taxes separately, in this period on average in the EU the effect of social transfers was only slightly higher than that of taxes (which was null). While the positive effect of benefits was the highest in Denmark, Cyprus, Ireland and Slovenia, social transfers decreased significantly both in countries which acknowledged economic recovery (such as Germany, Estonia or Lithuania), but also in some where economic growth was weak (such as in Romania) or negative (such as Greece).

In the period 2011–12, while the economic situation was actually deteriorating in many countries, the impact of the tax-benefit system on GHDI was actually mixed: in ten Member States (where data is available) it contributed negatively to the change in GHDI. Looking at the effect of social transfers and taxes separately, the contribution was negative in seven Member States (where data is available). While the positive effect of transfers was the highest in Latvia, Spain and the UK, social transfers decreased the most in some countries where economic growth was positive (Estonia) or negative (Greece, the Netherlands and Slovenia).

Table 1: Impact of social transfers and taxes on GHDI in 2007–2012

	2007–09			2009–11			2011–12		
	Actual change	Contribution of		Actual change	Contribution of		Actual change	Contribution of	
		social transfers	taxes		social transfers	taxes		social transfers	taxes
BG*	8.6%	4.3%	0.2%	-0.8%	0.4%	0.1%	n.a.	n.a.	n.a.
LV	-7.3%	3.9%	2.0%	-1.5%	-2.1%	-0.6%	5.4%	4.0%	-0.8%
EE	-4.1%	3.6%	1.5%	-2.2%	-1.1%	-0.1%	1.3%	-1.8%	0.0%
IE	-1.4%	2.7%	2.1%	-3.4%	1.0%	-1.2%	4.9%	2.3%	-1.2%
RO*	4.1%	2.6%	-0.4%	-4.9%	-2.0%	0.0%	n.a.	n.a.	n.a.
LT*	-2.7%	2.6%	2.7%	-1.3%	-1.0%	0.1%	n.a.	n.a.	n.a.
ES	1.7%	2.4%	1.0%	-4.1%	0.5%	-0.1%	-5.1%	1.3%	0.1%
SE	2.1%	2.3%	1.8%	2.3%	-0.4%	0.0%	2.7%	0.3%	-0.5%
CZ	1.7%	2.3%	0.7%	-1.3%	-0.4%	0.0%	-1.0%	0.2%	0.1%
UK	0.6%	2.1%	0.8%	0.0%	-0.4%	0.4%	1.9%	1.1%	0.7%
EL	-1.5%	2.1%	-0.2%	-10.1%	-0.8%	0.7%	-11.0%	-1.0%	-1.0%
LU*	4.4%	1.8%	-0.6%	-0.7%	-0.4%	-1.0%	n.a.	n.a.	n.a.
FI	1.7%	1.7%	0.8%	1.4%	0.4%	-0.1%	-0.2%	0.4%	0.0%
DK	0.6%	1.6%	0.4%	1.2%	2.3%	-0.1%	-0.8%	1.1%	-0.4%
NL	-1.7%	1.3%	-1.0%	-0.2%	0.1%	0.4%	-3.6%	-1.7%	1.3%
PT	1.1%	1.1%	-0.1%	-1.6%	0.1%	-0.2%	-3.6%	0.8%	0.8%
BE	1.5%	0.9%	0.4%	-1.3%	0.0%	-0.5%	-0.3%	0.1%	0.0%
SK	3.0%	0.8%	0.4%	1.1%	0.3%	-0.1%	-2.0%	0.0%	-0.1%
FR	0.3%	0.8%	0.2%	0.3%	0.1%	-0.3%	-0.7%	0.4%	-0.9%
IT	-2.5%	0.8%	0.2%	-0.7%	0.1%	0.1%	-5.1%	0.3%	-0.4%
HU	-3.2%	0.7%	0.3%	0.0%	0.5%	2.1%	-3.7%	0.0%	-0.4%
AT	0.1%	0.6%	0.2%	-0.6%	-0.2%	-0.1%	1.6%	-0.3%	-0.6%
SI	0.7%	0.6%	-0.2%	-0.8%	0.9%	0.2%	-4.4%	-0.6%	0.1%
PL	3.6%	0.5%	0.2%	1.5%	0.1%	0.0%	0.3%	1.2%	-0.2%
DE	-0.3%	0.5%	0.0%	1.3%	-0.9%	0.1%	0.1%	-0.3%	-0.9%
CY	2.8%	0.3%	0.2%	-1.5%	0.7%	-0.5%	-7.6%	-0.4%	0.2%
EU-27*	-2.5%	1.0%	0.8%	0.0%	-0.1%	0.0%	n.a.	n.a.	n.a.
EA-17*	-0.4%	1.0%	0.2%	-0.4%	-0.1%	0.0%	n.a.	n.a.	n.a.

Source: National Accounts, DG EMPL calculations.

Note: * Data is only available until 2011. Actual change in GHDI: GHDI in the last year of the given period is compared with GHDI in the first year of the given period (change is expressed in percentage). Contribution of social transfers to change in GHDI: the change in social transfers between the first and last year of the given period is calculated and its contribution to GHDI change is computed. Contribution of taxes to change in GHDI: the change in taxes between the first and last year of the given period is calculated and its contribution to GHDI change is computed. Countries are sorted based on the importance of the contribution of social transfers on GHDI change in 2007–09.

([17]) A micro-simulation study in Dolls (2012) confirms that social transfers had a key role for stabilization of income in the EU.

3. Effectiveness and efficiency of social protection spending in the crisis

Both the analysis of the orientation of social protection expenditure across its main functions (old age and survivors, health and disability, unemployment, family and social exclusion and housing) and the analysis of effectiveness and efficiency of social protection expenditure in a stylised framework allow for a discussion of whether social expenditure developments in the first part of the crisis (2007–10) have been oriented towards functions with relatively higher (vs. lower) initial spending levels and/or higher (vs. lower) performance (as reflected by the stylised framework used).

3.1. A stylised framework for measuring effectiveness and efficiency of social protection spending

A stylised framework for the measurement of the effectiveness and efficiency of social protection expenditure allows for an assessment of how much Member States depart from the EU average, for various key outcomes per main social protection function, in relation to their expenditure patterns. For this purpose, five key functions are considered (regrouping ESSPROS functions): old age and survivors; sickness/healthcare and disability; unemployment; family/children; social exclusion and housing. This allows for comparing the performance of systems and assessing potential differences in efficiency, when putting in relation their performance with the relative expenditure levels.

While acknowledging that this does not provide for an extensive discussion of the channels enabling effectiveness or efficiency to be achieved, this framework allows for the identification of better performing Member States and of potential inefficiencies in a consistent manner. This approach helps identify the main policy challenges, which for further in-depth analysis should be complemented by additional comparisons and analysis related to the specificities of the issues dealt with and by related country-specific evidence. Such a framework is similar to the one developed by Joumard *et al.* (2010), where the focus is put on health expenditure (and the overall performance is also reflected through a DEA analysis) or by Lefebvre and Pestieau (2012) when they focus on specific functions of the welfare states ([18]).

The effectiveness of welfare systems can be defined as the achievement of social outcomes, which in turn implies identifying the relevant outcomes or objectives. In the EU context, common objectives are the Europe 2020 targets for employment and poverty and exclusion, as well as those relating to the Open Method of Coordination (OMC). Key related outcomes can be identified through the adopted Europe 2020 targets and related indicators (employment rates and at-risk-of-poverty and exclusion rate), as well as through available monitoring frameworks. As a consequence, poverty outcomes (such as reflected by indicators of poverty rates and poverty reduction) as well as employment outcomes appear of key importance to assess effectiveness of social protection systems in the European context. Other dimensions of social protection systems also need to be taken into account, such as the function of income smoothing (particularly in relation to pension and unemployment expenditures) as well as employment friendliness (notably measured by employment incentives, but also childcare access), as well as health outcomes and housing conditions. The definition of effectiveness used in this chapter relates to the general objectives of providing effective protection against social risks, covering not only protection against poverty, but also employment friendliness, as well as income smoothing in situations of weaker labour market attachment (pensions, unemployment, employment interruption due to childcare) and provision of services (or financial support for), such as health, childcare or housing. The assessment of effectiveness relies on relevant indicators, in particular agreed jointly by the Commission and the Council, which cover a wealth of related dimensions ([19]), although this chapter focuses on a restricted number of key outcomes.

Efficiency can be defined as achieving better outcomes (or objectives) at the lowest cost and with maximised positive spillovers on employment and economic growth. While other definitions are possible, this also raises a number of measurement issues (see Box 3 and the Annex). The stylised framework used here remains thus more modest about the measurement of efficiency, since it directly relates the overall (gross) expenditure levels by strand to the main outcomes.

Due to the difficulty in measuring effectiveness (see Box 3) and reflecting the multidisciplinary nature of the dimensions and their interactions, the approach followed here however does not propose any aggregate/synthetic measure of either effectiveness or efficiency, but instead focuses on five main social protection functions.

([18]) Generally speaking, efficiency is about the relation between input and output, with the objective of maximising output for a given amount of inputs or of minimising inputs for a given output, while effectiveness relates the input to the final objective (the outcome), such as welfare, growth or other priorities of public policy (see European Commission 2008). As a consequence of the diversity of objectives of social protection systems and of the related measurement difficulties (see Box 3), the approach favoured here focuses primarily on key outcomes by main social protection functions, thus mainly covering the effectiveness dimension.

([19]) Based on existing European monitoring frameworks, such as the Social Protection Performance Monitor (SPPM), the Employment Performance Monitor (EPM), or the Joint Assessment Framework (JAF), it can be noted that some dimensions can require further refinements (or are still to be covered by appropriate indicators), such as for instance coverage rates of benefits (such as, typically, unemployment benefits) or more generally issues related to the appropriate degrees of pooling of risks or moral hazard issues, as well as the determinants of the provision of services and its quality (such as, typically, in the health sector the numbers of physicians or hospital beds, or prices of pharmaceuticals, in the childcare sector the number of carers per children, or in the housing sector the way housing services are provided).

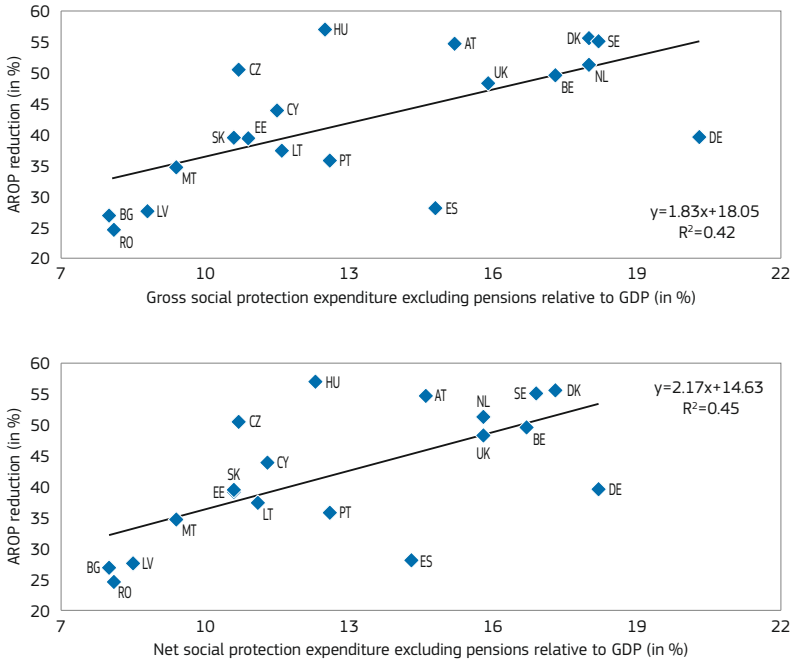
Box 3: Issues in the measurement of effectiveness and efficiency

The measurement of effectiveness and efficiency is very complex since a number of caveats need to be considered.

Firstly, an in-depth assessment of effectiveness would in principle require detailed information on the various outcomes to be considered and on the specificities of social protection systems, which can be very difficult to achieve at the national level and thus is even more challenging in a comparative perspective. For instance, in-depth approaches are often developed to assess specific national programs (such as typically in the health sector as regards the efficiency of hospitals). More generally, the distinction between output and outcome is often blurred (see for instance Afonso *et al.* 2005) even if the importance of the distinction is well recognized.

Secondly, the assessment of costs (or expenditure) is in itself difficult, since one needs in principle to take into account the net costs of expenditures; i.e. not only gross expenditures, but also net ones after taxation of benefits, which raises a number of measurement issues (see Box 6). In Chart the relationships between poverty reduction and gross and net spending are compared. From both the steepness of the trend line and the R^2 (which indicates to what extent the overall variability of data is explained by the trend line), it is clear that net expenditure allows to highlight a stronger relationship between poverty reduction and social transfers.

Chart 19: Gross and net expenditure on social protection benefits (excluding pensions, as % of GDP) and the reduction of the share of population at risk of poverty (in %) in 2009



Source: ESSPROS, EU-SILC, DG EMPL calculations.

Note: AROP reduction refers to the under 65 year-old population. Net expenditure data is not available for: IE, EL, FR, IT, LU, PL, SI. Data is provisional for: EE, PT. Left chart: trend line: y=1.83x+18.05, R2=0.42. Right chart: trend line: y=2.17x+14.63, R2=0.45.

Thirdly, there can be trade-offs between the various dimensions, for instance income smoothing or poverty reduction need to be assessed alongside labour market friendliness. In principle, one would also need to take into account the interactions between various areas (such as family, housing and unemployment) and potential associated positive or negative spillovers.

Fourthly, not only current net expenditure should in principle be integrated in the analysis, but also net dynamic expenditure, since different types of expenditure can have different dynamic impacts on the labour market and the economy. In other words, effectiveness and efficiency may not only be assessed in cross section (for a given year), but also by taking into account their dynamic and cumulative impacts. For instance family expenditures can have positive impacts on the labour intensity of households and on the development of children. More generally, this relates to the dimension of social expenditure as an investment [1].

[1] See European Commission (2013) and Communication on the social dimension of EMU (COM(2013) 690).

Box 4: A stylised framework

The framework used builds on the one side on the analysis of standard deviations for each country along the various key dimensions identified and on the other side on factor analysis.

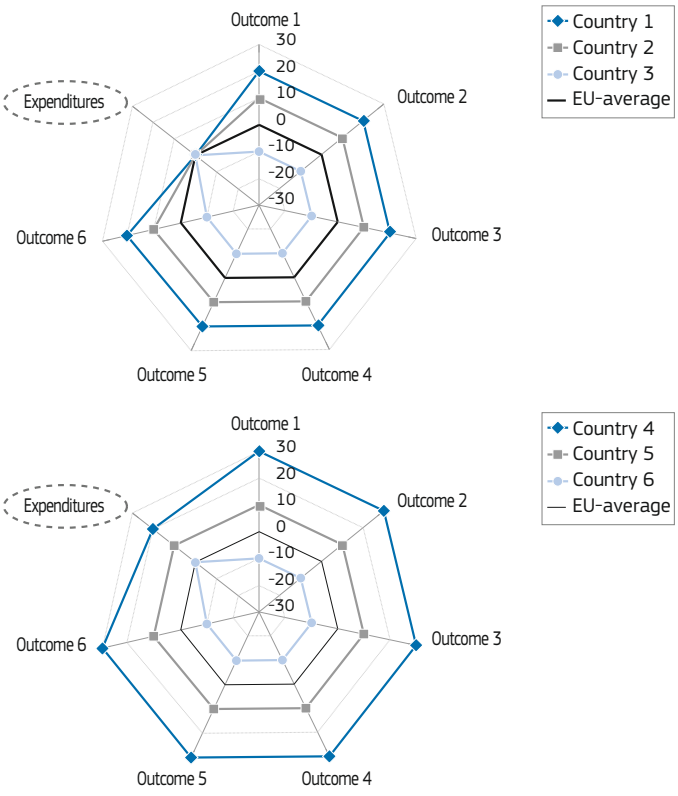
Standard deviations

Each dimension is standardised (difference to weighted mean divided by standard deviation), be it an outcome dimension (such as poverty or poverty reduction) or expenditure (such as expenditures as a share of GDP). These standardised values can then be plotted in 'radar charts' showing the deviation for each MS from the EU-27 average (for which by construction all values are at 0). In other words, if a Member State has a close to average situation along the various dimensions and a close to average spending level, its pattern will follow a perfectly geometric position (with 0 everywhere).

Conversely, if a Member State systematically performs better than the EU average, while its expenditure remains close to average, its pattern will encompass the EU average one (countries 1 and 2 in Chart 20a). On the reverse, if a Member State performs below the EU average, while its spending remains close to average, it will be encompassed by the EU pattern (country 3). In this example, countries 1 and 2 show a relative better performance for their given relative levels of expenditures, while the relative performance for the given levels of expenditures is weak in country 3. Meanwhile this method uses the EU average as a benchmark, which nevertheless does not imply that there are not some effective or efficiency gains that can be obtained on average at EU level. Furthermore, the reference to the average levels of expenditures does not need to be maintained: for instance in Chart 20b, country 5 has a similar pattern of outcomes and expenditures as the EU average, while outcomes appear more favourable for the given levels of expenditures in country 4 and less favourable in country 6.

As a result, this framework allows for illustrating more particularly potential gains in efficiency that can be obtained at constant expenditure levels, by improving performance in one dimension, without deteriorating it in another.

Chart 20: Standard patterns: EU average and asymmetries in patterns



Source: ESSPROS, EU-SILC, DG EMPL calculations.

Note: AROP reduction refers to the under 65 year-old population. Net expenditure data is not available for: IE, EL, FR, IT, LU, PL, SI. Data is provisional for: EE, PT. Left chart: trend line: y=1.83x+18.05, R2=0.42. Right chart: trend line: y=2.17x+14.63, R2=0.45.

Grouping of Member States in radar charts

To make the radar charts more readable, EU Member States are gathered in 6 groups based on classification of social protection systems available in the literature (such as Esping-Andersen (1990), Bonoli (1997) or Korpi & Palme (1998)) and on geographic proximity. The groups of Member States used in this chapter are the following ones:

- Southern Europe: Cyprus, Greece, Italy, Malta, Portugal, Spain.
- Western Europe: Austria, Belgium, France, Germany, Luxembourg.
- Central Europe: Czech Republic, Hungary, Poland, Slovakia, Slovenia.
- Eastern Europe: Bulgaria, Estonia, Latvia, Lithuania, Romania.
- Northern Europe: Denmark, Finland, the Netherlands, Sweden.
- North-Western Europe: Ireland, the UK.

Factor analysis

As the analysis using radar charts only allows for the inclusion of limited number of dimensions or indicators, a factor analysis is performed on a broader set of variables to provide more evidence on the links between the main dimensions that may be identified.

The general purpose of factor analytic techniques is to find a way to condense (summarize) the information contained in a number of original variables into a smaller set of new, composite dimensions or *variates* (factors) with a minimum loss of information. In other words, it searches and defines some less numerous fundamental constructs or dimensions assumed to underlie the original variables. In summarizing the data, factor analysis derives underlying dimensions that, when interpreted and understood, describe the data in a much smaller number of concepts than the original individual variables (Hair *et al.*, 2006, p. 107).

Therefore, this allows applying the factor analysis on a broader set of variables than those shown in radar charts and identifying key underlying dimensions of this broader set of information. For each of the social protection areas, a table showing the correlation between the identified factors and the variables used is presented. Then, graphs where individual countries' scores are plotted are included. To make the graphs more easily readable, four groups of countries are made (for each social protection area separately) using cluster analysis (based on all factors identified, through the k-means method). Thanks to the groups created in the cluster analysis, the graphs where individual countries' scores are plotted should be more easily readable.

Box 5: Structure of social protection expenditures

Differences in the structure of expenditure are the result of not only differences in expenditure levels as such, but also reflect differences in socio-economic structures. This is particularly relevant for pension expenditure which directly benefit to older people, unemployment expenditure, which directly benefit to unemployed people and family expenditure which directly benefit to household with children expenditure. On the reverse, health and social exclusion and housing expenditure can be deemed to benefit more generally to the whole population.

As a consequence, the comparisons used for the analysis of the orientation of social protection expenditure do not necessarily rely on comparisons of shares of expenditure in GDP (or equivalently of expenditure per capita as a share of GDP per capita) and also reflect key socio-demographic differences, such as differences in pension expenditure in relation to the share of the population aged 65 and older, differences in unemployment expenditure by unemployment rate, and differences in family expenditure according to the share for the population aged 18 and younger.

- Total expenditure: the indicator used is the total expenditure per capita as a share of GDP per capita which is equivalent to the share of expenditure in GDP.
- Pensions: the indicator used is the total expenditure per population aged 65 and older as a share of GDP per capita. This may be biased since the difference between the population aged 65 and older and the one of pensioners can differ from one Member State to the other. For instance, it over-estimates the level of average expenditure, if a significant share of pensioners are aged under 65. On the reverse it allows to identify is levels of expenditures in comparison to the relative size of the elderly population, while the age of 65 actually refers to different situations, depending on Member States actual levels of life expectancy.
- Health and disability: the indicator used is the total health and disability expenditure per capita as a share of GDP per capita which is equivalent to the share of expenditure in GDP.
- Unemployment: the indicator used is the unemployment expenditure per unemployed person (according to the ILO definition) as a share of GDP per capita of population of working age
- Family: the indicator used is the total expenditure per population less than 18 and more as a share of GDP per capita.
- Social exclusion and housing: the indicator used is the total health and disability expenditure per capita as a share of GDP per capita which is equivalent to the share of expenditure in GDP.

3.2. Social protection key outcomes and spending levels in 2010

Based on the stylised framework presented in the previous section, this section reviews social protection systems along five key functions of social protection: pensions, healthcare and disability, unemployment, family, social exclusion and housing.

For most of these functions and for the year 2010, the text reviews the situation of Member States over a few key outcome dimensions in comparison to the EU average (see Box 4) and provides for a brief discussion of the main drivers generally identified in the literature. The review also includes some overall measure of inputs, which allows reflecting on the relative efficiency of national systems (such as share of expenditure in GDP or expenditure per potential beneficiary as a share of GDP per capita). For each function, this framework is complemented by providing a more in-depth analysis of the links between the key outcomes (through factor analysis), linking them to some key policy dimensions.

3.2.1. The orientation of social protection expenditures

This section analyses the orientation of social protection expenditure among Member States. It focuses on the composition of Member States' social expenditures, which differ widely in the EU (see above). This orientation of social expenditures actually reflects both socio-demographic structural factors (such as various demographic and unemployment situations) and the relative levels of expenditures by potential beneficiaries (see above and Box 5).

The focus is thus on comparing expenditure levels (taking into account all types social protection expenditure providers, for instance occupational pensions, as reflected in the ESSPROS) corrected by the size of the population which can potentially benefit most from these expenditure: typically unemployed people for unemployment expenditure or people aged 65 and older for pension expenditure and people aged under 18 for family expenditure (see Box 5).

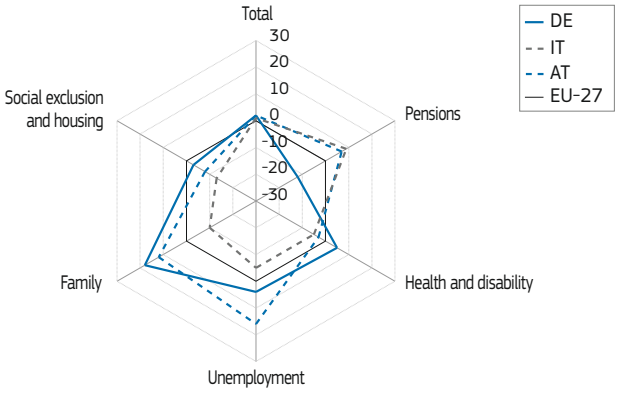
The analysis allows identifying Member States where the allocation of social expenditures is close to the EU average pattern across the various social protection functions or those where the structure of expenditures is skewed towards one or the other function. Typically a country showing higher levels for a given function, compared to the other functions for the same country, tends to spend relatively more on this function than the EU average pattern.

For instance, the orientation of social expenditure is very different in DE, IT and AT which have similar levels of expenditure (Chart 21). In DE, expenditure is more oriented towards family and less towards pensions than the EU average (and is slightly more oriented towards health and unemployment). In AT expenditure is more oriented than in the EU towards pensions, unemployment and family and less towards social exclusion and housing (with average orientation towards health), and in IT, expenditure on all functions except pensions is lower than the EU average (in particular social exclusion and housing and family expenditure).

This allows identifying countries with some potential asymmetry in the orientation of their social protection expenditures per potential beneficiary (and it is of particular interest to reflect on whether they actually achieve higher or lower outcomes than the EU average in the respective areas), or on the contrary countries showing an overall balance of their orientation of social expenditures in comparison to the EU average and given their relative overall level of expenditure (see Table 2).

- Only a few countries actually show a pattern of expenditures over functions very close to the EU average: EL, ES and FR (though with relatively, somehow low orientation on family expenditures).
- In some MSs the orientation of social expenditures appears relatively oriented towards pension expenditure: with a relatively higher orientation in CY, MT and PL (and to a lesser extent AT, IT, RO and SK), but on the contrary relatively lower one in DE and IE (and to a lesser extent BE, DK, FI, HR and SE).
- Only in a few MSs does the orientation of social expenditures appear relatively directed towards health expenditure: with a relatively higher weight in IE and HR, but also on a contrary relatively lower one in CY and IT.
- In a number of MSs the orientation of social expenditures appears relatively oriented towards family expenditure: with a relatively higher orientation in AT, BG, DE, DK, EE, HU, LT and LU (and to a lesser extent in e.g. FI, LV, RO, SI and SK). On the contrary, relatively lower orientation on this function is placed in NL and IT (and to a lower extent FR, PT and the UK).

Chart 21: Orientation of social expenditure in 2010 in BE, DE and PT



Source: See Box 5, DG EMPL calculations.

Notes: Pensions for old-age and survivor expenditure.
Expenditure refers to expenditure per capita as a share of GDP per capita for total expenditure, health expenditure and social exclusion and housing expenditure; for pensions, it refers to old age and survivors expenditure per population aged 65 and older, as a share of GDP per capita; for family, it refers to family expenditure per population aged 18 and younger, as a share of GDP per capita; for unemployment, it refers to unemployment expenditure per unemployed, as a share of GDP per population of working age.

- In some MSs the orientation of social expenditures appears relatively directed towards unemployment expenditure: with a relatively higher orientation in AT, BE and LU (and to a lesser extent e.g. CY, CZ, NL and RO), but also on the contrary with a slightly lower one in IT, SE and the UK.

- In some MSs the orientation of social expenditures appears relatively directed towards social exclusion and housing expenditure: with a relatively higher orientation in CY, LT, NL and the UK (and to a lesser extent e.g. in RO, SK). On the contrary, relatively lower orientation in IT and AT.

Chart 22 shows the performance of all EU Member States. In Southern Europe, the expenditure structure is often skewed towards pensions (e.g. in IT or MT), with relatively low orientation of expenditures on social exclusion and housing or family functions. In Western Europe, the expenditure structure shows a quite strong orientation of expenditures on family and unemployment functions, e.g. in AT, with a high heterogeneity of orientation of expenditures on pensions. In Central Europe, the expenditure structure shows a quite strong orientation of expenditures on family and health and disability (e.g. in SI), while in Eastern Europe, it is often oriented towards family (e.g. in EE). In Northern and North-Western Europe, the orientation of social expenditures appears relatively more oriented towards health, family, unemployment and social exclusion than towards pensions. In other words, in these countries, pension expenditure often looks relatively low in comparison to the levels of spending on other functions.

Table 2: Orientation of social protection expenditure in 2010

... towards	Sign and strength of orientation of social expenditures...				
	Negative		Balanced	Positive	
	Strong	Mild		Mild	Strong
Old age and survivors	DE, IE	BE, DK, FI, HR, SE	All others	AT, IT, RO, SK	MT, CY, PL
Health and disability		IT, CY	All others	NL	IE, HR
Unemployment		IT, SE, UK	All others	CY, CZ, FI, IE, LV, MT, NL, RO, SK	AT, BE, LU
Family	IT, NL	FR, PT, UK	All others	CY, FI, IE, LV, RO, SE, SI, SK	AT, BG, DE, DK, EE, HU, LT, LU
Social exclusion and housing	AT, IT	PT	All others	BG, LU, LV, MT, RO, SK	CY, LT, NL, UK

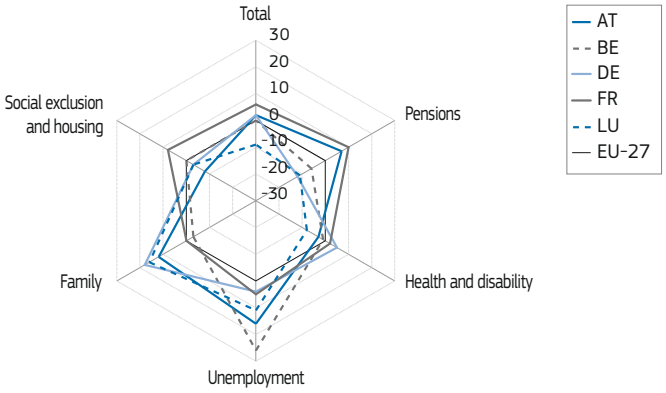
Source: DG EMPL.

Note: The orientation of social expenditure towards a risk is assessed by comparing the standard deviation of expenditure by potential beneficiary for the given risk (for instance population aged 65 and older for pensions) to the standard deviation of total expenditure per capita. A mild orientation corresponds to a difference higher than half the reduced standard deviation and a strong orientation to a difference of at least one reduced standard deviation.

Chart 22: Orientation of social expenditure in 2010 in EU

Southern Europe

Western Europe



Source: See Box 5, DG EMPL calculations.

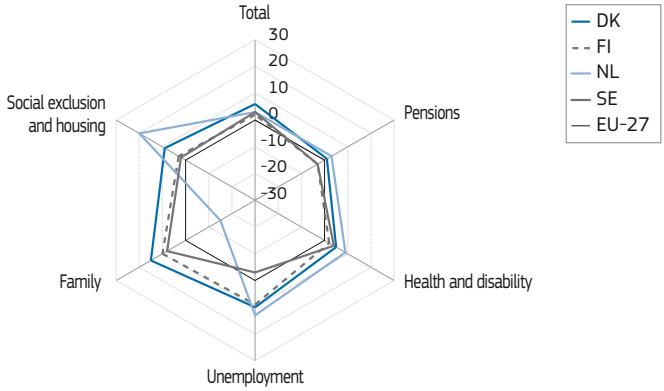
Note: Pensions for old-age and survivor expenditure.

Chart 22: Orientation of social expenditure in 2010 in EU

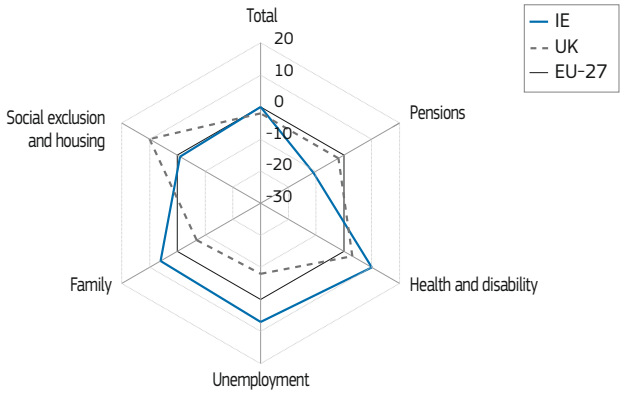
Central Europe

Eastern Europe

Northern Europe



North-Western Europe



Source: See Box 5, DG EMPL calculations.

Note: Pensions for old-age and survivor expenditure.

3.2.2. Pensions

As reflected in the Open Method of Coordination in the field of pensions ([20]), the main objectives of pension systems (including here old-age pensions and survivors pensions) are to ensure adequate pensions (as regards both overall incomes of older people, but also replacement or poverty rates of older people), but also sustainable pensions (as reflected notably by the employment rate of older workers and projected trends in expenditures levels) and to modernise pension systems (notably to reflect on changing socio-economic trends such as gender aspects).

The main outcomes considered in this section relate thus on the one side to the adequacy of pensions (relative incomes of older people, aggregate replacement rate and poverty rates with a gender breakdown to reflect on the specificities of the situation of older women often more exposed to poverty risk) and on the other side to the labour market situation of older workers (employment and unemployment rates), which directly relates to the sustainability of pensions, while it can be noted that the usual gradual implementation of pension reforms implies a lag to observe their impact on outcomes such as typically employment of older workers. These outcomes are considered together with the level of pension expenditure per population aged 65, as a share of GDP per capita (see Box 6). For instance, IT had relatively high expenditure levels in 2010 and slightly better adequacy than average, though it experienced relatively low integration of older workers in the labour market (Chart 23).

([20]) See notably Pension Adequacy in the European Union 2010–50 (2012), Report prepared jointly by the Directorate-General for Employment, Social Affairs and Inclusion of the European Commission and the Social Protection Committee.

Box 6: Pensions — variables used

This section focuses on a selection of six key outcome indicators to measure the performance of pension systems (the long-term trends are not reflected in the choice of indicators, notably demographic trends, sustainability and adequacy ones, since the focus is on current outcomes):

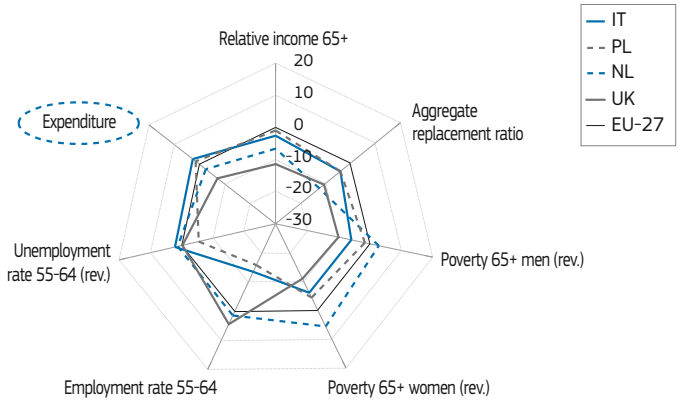
- Relative income of people aged more than 65: the indicator is the ratio between the median equalised disposable income of persons aged 65 or over and the median equalised disposable income of persons aged between 0 and 64. It provides an indication on the overall standards of living of older people.
- Aggregate replacement ratio: the indicator is the ratio of the median individual gross pensions (including all types of pensions) of people in the 65–74 age category, relative to the median individual gross earnings of people in the 50–59 age category (excluding other social benefits). This indicator complements the former one by providing information on the specific impact of pension benefits on the smoothing of incomes over the life-cycle.
- Gender breakdown of the poverty rate among the population aged 65 and older (with a threshold at 60% of the median income). This third indicator provides an indication of the adequacy of incomes in the lower end of the income distribution, while the gender breakdown enables to identify the specific situation of women who generally acknowledge a higher poverty risk in older ages.
- Employment rate for the population aged 55–64: employment rate of those aged 55-64. The employment rate of older workers provides an indication on the overall labour market integration of older workers and thus on the sustainability of pensions, since this reflects the financing base for pension systems and the levels of effective age of exit from the labour market.
- Unemployment rate for the population aged 55–64: unemployment rate of those aged 55–64. The unemployment rate of older workers provides an indication of the labour market developments and of the potential difficulties of access to employment of older workers.
- Expenditure: gross expenditure on ESSPROS functions on old age and survivors (including statutory pensions and occupational pensions) per population aged 65+, relative to GDP per capita.

To reflect on a number of additional dimensions, a number of additional indicators are used in the factor analysis (see Box 10).

Member States can show an asymmetry between their relative performance on adequacy and labour market integration of older people, both in relation to their given levels of expenditures (Chart 24):

- In some MSs, such as FR or PL, the relatively better performance in terms of adequacy, given their relative levels of expenditures, does not seem to be echoed by an as good performance in terms of integration of older workers. In these countries, a key challenge appears to be related to the labour market integration of older workers (in particular in countries where social expenditure is oriented towards pensions, as in MT and PL).

Chart 23: Pensions in 2010 in IT, NL, PL and UK

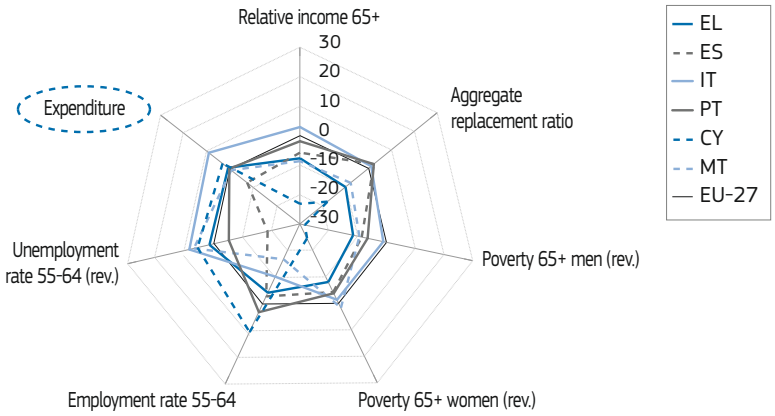


Source: See Box 6, DG EMPL calculations.

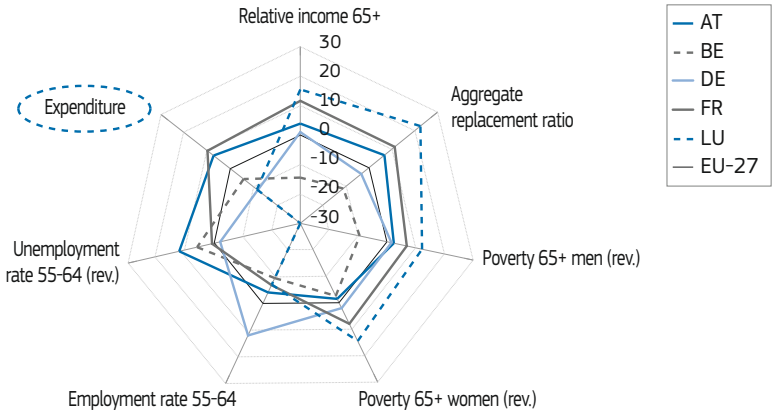
Note: Expenditure refers to the ratio of expenditure for old age and survivors per person aged 65 divided by GDP per capita.

Chart 24: Old age and survivors — key outcomes and expenditure in 2010

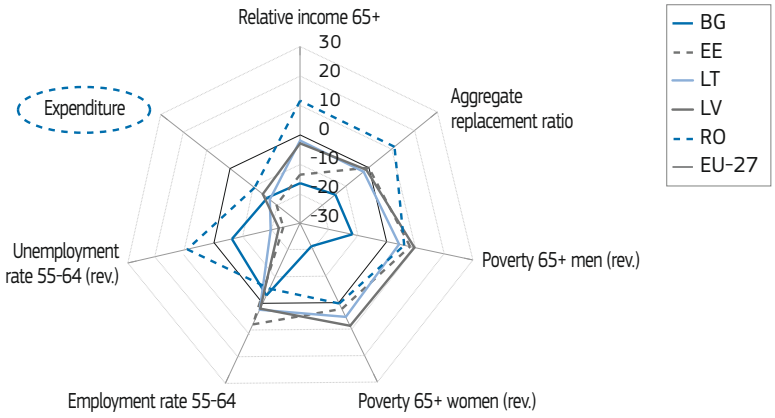
Southern Europe



Western Europe



Central Europe



Source: See Box 6, DG EMPL calculations.

Note: Expenditure refers to the ratio of expenditure per person aged 65 divided by GDP per capita.

- Conversely, in some other MSs, such as DK or SE, the employment situation of older workers seems to be performing relatively better than the one of the adequacy of pensions (BE, BG, CY, DK, EL, FI, SE, SI, UK), given their relative levels of expenditure. In these countries, a key challenge appears to be related to the adequacy of pensions, in particular for countries where social expenditures are more oriented towards pensions (positively in CY, negatively in FI and SE).

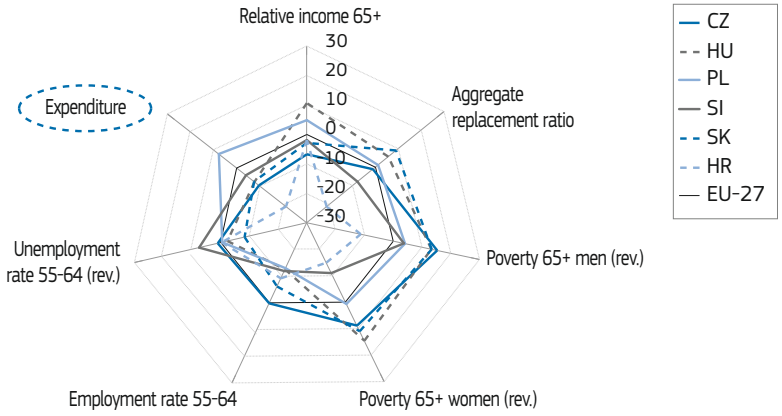
- In a few MSs, both the performance in terms of adequacy of pensions and labour market integration of older workers appears to be relatively strong, for their given levels of expenditures, which can actually reflect relatively low levels of expenditure (such as in DE, IE, HR).

- In two Member States, IT and MT, both adequacy and labour market performance appear relatively low for the given expenditure levels, which clearly relates to a serious weakness in the labour market integration of older workers.

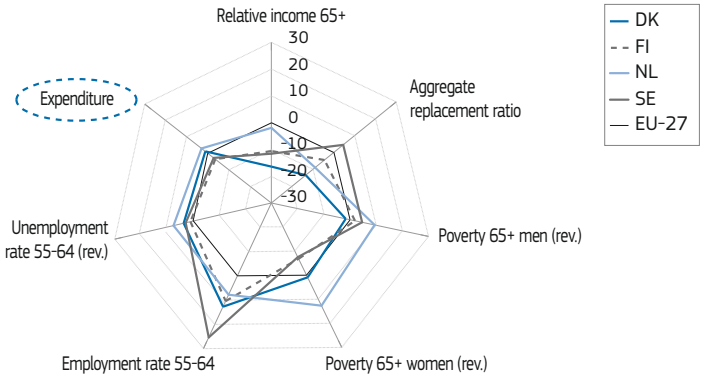
- Finally, in three Member States, ES, NL and PT, both the adequacy and employment records seem to be relatively close to the EU average, given their relative levels of expenditure.

Chart 24: Old age and survivors — key outcomes and expenditure in 2010

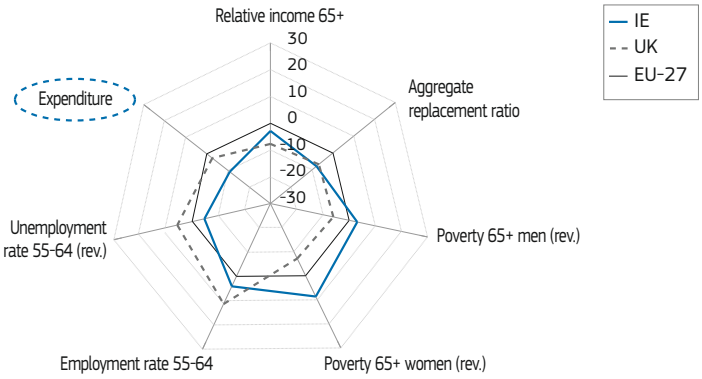
Eastern Europe



Northern Europe



North-Western Europe



Source: See Box 6, DG EMPL calculations.

Note: Expenditure refers to the ratio of expenditure per person aged 65 divided by GDP per capita.

Factor analysis allows operating with a broader set of variables to reflect on Member States performances. The factor analysis identifies three main dimensions in the Member States performance for pensions, which reflect the key indicators taken into account in the analysis presented above (see Box 7 and more detailed results are in the Annex).

- Factor 1 reflects the good performance on the labour market for the elderly. It links a longer length of working life with higher employment of older people (aged 55–59 and 60–64) and lower inactivity rate of older people. This is positively associated with the share of older people that are in life-long learning.

- Factor 2 reflects the adequacy of pensions for older people: higher at-risk-of-poverty rate is linked with a lower aggregate replacement ratio (especially in the case of women) and lower relative income.

- Factor 3 reflects another aspect of the Member States' labour market performance, lower unemployment rate being linked with higher part-time employment for population aged 55–64.

Box 7: Pensions — factor analysis

A number of additional indicators are taken into account in the factor analysis, to allow reflecting on a broader set of interactions. In particular, a gender dimension is used for both the aggregate replacement ratio and for the at-risk-of-poverty rate, employment rate is broken down in two age groups (55–59 and 60–64) and part-time employment and inactivity rate of those aged 55–64 are added. The average duration of working life, and the share of people aged 55–64 in life-long learning are also used. To take into account the conditionality of benefits, the share of means-tested benefits on pensions is added.

Table 3: Pensions: results of factor analysis

Variable	Factor1: employment and life-long learning	Factor2: poverty and income	Factor3: unemployment and part-time employment
relative income	-0.44	**-0.73**	0.19
aggregate replacement rate (men)	-0.21	**-0.63**	0.15
aggregate replacement rate (women)	0.06	**-0.80**	-0.18
AROP (men 65+)	-0.09	**0.88**	0.05
AROP (women 65+)	0.04	**0.88**	0.05
working life	**0.91**	0.15	0.19
employment rate 55-59	**0.94**	0.01	0.07
employment rate 60-64	**0.89**	0.27	-0.11
part-time employment 55-64	0.49	-0.07	**0.66**
unemployment rate 55-64	0.15	-0.15	**-0.91**
inactivity rate 55-64	**-0.95**	-0.03	0.26
life long learning 55-64	**0.67**	0.13	0.34
share of means-tested benefits	0.08	0.20	0.06

Source: DG EMPL calculations.

To show how Member States perform in the identified areas, Charts 25 and 26 show plots of the area linked to poverty and income against employment and life-long learning, and unemployment and part-time employment. To improve the clarity of the graphs, 4 clusters of countries were created based on all 3 areas of performance.

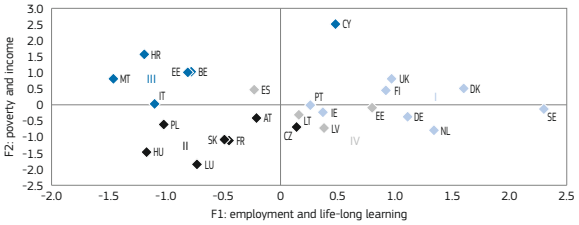
Countries in Group I (DE, DK, FI, IE, NL, PT, SE, UK) have mixed performance in terms of poverty and income, in spite of their good performance in the area of employment and life-long learning (Chart 25) and generally good performance as regards part-time employment and unemployment (Chart 26). It confirms that for a number of these countries, the better labour market performance of the elderly does not translate into a better adequacy of pensions.

Countries in Group II (AT, CZ, FR, HU, LU, PL, SK) all have good performance in terms of adequacy of pensions (i.e. a negative score), in spite of their rather weak performance in employment and life-long learning (Chart 25) and a mixed performance in the area of part-time employment and unemployment (Chart 26). This seems to suggest that for these countries the major challenge is to ensure a better access to the labour market of older workers.

Countries in Group III (BE, CY, EL, HR, IT, MT, SI) have rather poor results in terms of poverty and income, as well as for most of them in the area of employment and life-long learning (Chart 25). Their performance in the area of part-time employment and unemployment is mixed (Chart 26). This seems to suggest that in these countries, there is room for improving both the adequacy of pensions and the labour market situation of older workers.

Most countries in Group IV (EE, ES, LT, LV) perform relatively well in terms of adequacy and in the area of employment and life-long learning (Chart 25), but very poorly in unemployment and part-time employment (Chart 26). In these countries, there is probably room for an improvement of the part-time employment rate of older workers.

Chart 25: Factor analysis for pensions: employment and life-long learning versus adequacy



Source: DG EMPL calculations.

Chart 26: Factor analysis for pensions: Unemployment and part-time employment versus adequacy

Source: DG EMPL calculations.

3.2.3. Health and disability

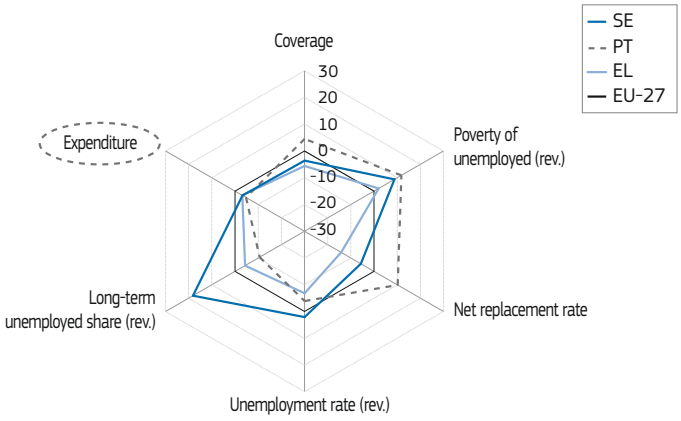
The stylised framework used for other types of social expenditures in this chapter is difficult to apply to the health and disability function for several reasons. On the input side, the impact of health expenditure depends much more on the structure and organisation of systems, than for functions mainly based on monetary transfers. This means that more detailed information on the way money is spent is needed to provide an accurate picture of policy intervention in this area. Moreover, health outcomes that can be associated with health expenditure depend on multiple factors such as lifestyles that also need to be taken into account when comparing the effectiveness of health systems. Finally, while a number of common indicators have been adopted in the framework of the OMC on health and long-term care, a revised set of indicators to reflect health systems performance is currently under development and is expected to allow for more accurate analysis in the future.

For this type of analysis, available comparative data covering the main dimensions of healthcare expenditure can be used, pointing out the specific areas where improvements can be expected. This also requires extensive information and analyses of country-specific features of healthcare systems. Such analyses may be further improved by taking into consideration intrinsic differences in population conditions impacting the demand for healthcare (e.g. demographic structure, nutritional habits, smoking and alcohol consumption patterns, physical activity, etc.), as well as developing health outcome indicators which better reflect the overall goals of the health system (e.g. lifelong quality of life and avoidable mortality) and building a deeper understanding on how specific health policies impact them.

3.2.4. Unemployment

Unemployment benefits provide income replacement in the event of unemployment, typically following the loss of a job. The main objectives are thus obviously to provide for income replacement and a smooth transition back to employment. The quality of the former depends on unemployment benefit eligibility conditions and the related levels of benefits. The second dimension also refers to the quality of employment services to help unemployed people to reintegrate into employment, which can be considered alongside the actual financial incentives provided to unemployed to re-enter employment.

Chart 27: Unemployment in 2010 in SE, PT and EL and in AT, BE, IE and NL



Source: See Box 8, DG EMPL calculations.

Note: Expenditure relates to expenditure per unemployed compared to GDP per capita for the population of active age.

Box 8: Unemployment — variables used

A limited set of outcome indicators can be used to measure the performance of unemployment expenditure:

- Coverage (source LFS): share of unemployed people (all lengths of unemployment spell) receiving unemployment benefits (both registered and not registered at public employment office) as a share of all unemployed people according to the ILO definition (both registered and not registered at public employment office).
- Net replacement rate (source OECD): net replacement rate in the initial period of unemployment (case taken: single person, no children, 100% of average wage).
- Poverty rate of unemployed (source SILC): share of unemployed living at risk of poverty (at the 60% of median equivalised disposable income threshold).
- Unemployment rate (source LFS): unemployment rate, according to the ILO definition.
- Long-term unemployed rate([1]) (source LFS): share of long-term (more than one year) unemployed (according to the ILO definition) in the total number of active persons in the labour market.
- Expenditure: expenditure on ESSPROS function unemployment per unemployed compared to GDP per capita for the population of active age.

To reflect on a number of additional dimensions, a number of additional indicators are used in the factor analysis (see Box 14).

([1]) As the unemployment rate is included in the set of outcome indicators, the share of long-term unemployed could be used in place of the long-term unemployment rate in order to avoid the correlation between the two indicators. Nonetheless, Member States' patterns as regards the balance of outcomes between the adequacy of income replacement and the labour market situation do not substantially change if the long-term unemployment share is used instead.

The main outcomes considered in this section are related to the adequacy of income replacement and to the labour market situation (see Box 8). The adequacy of income replacement is first of all reflected through the coverage of unemployment benefits (that is the share of the unemployed actually receiving unemployment benefits) and through the net replacement rate during the initial period of unemployment. These two dimensions are complemented by the poverty risk of unemployed people which covers the inadequacy of income protection. The labour market dimension is reflected through the unemployment rate and the long-term unemployment rate which also gives an indication of labour market transitions, in particular of the strength of transitions out of unemployment back to employment. These outcomes are considered together with the levels of unemployment expenditures per unemployed people as a share of GDP.

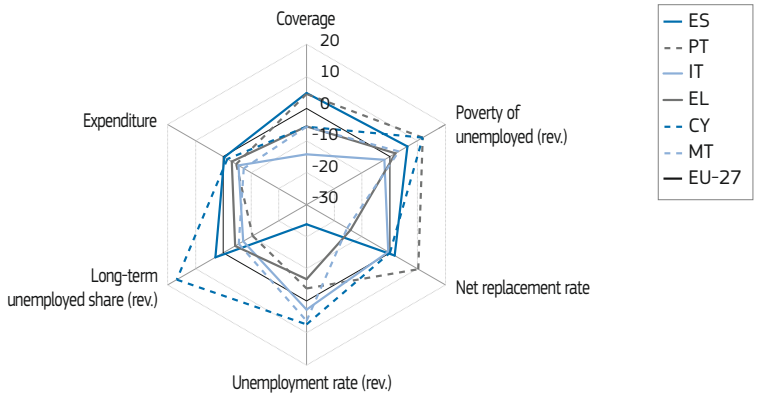
For instance, in 2010, while the expenditure per unemployed level was lower than the EU average in SE, this reflected much more favourable labour market situations, but also much higher than average adequacy of income replacement (Chart 27).

Member States can show an asymmetry between their relative performance on adequacy and labour market, given their levels of expenditure (Chart 28):

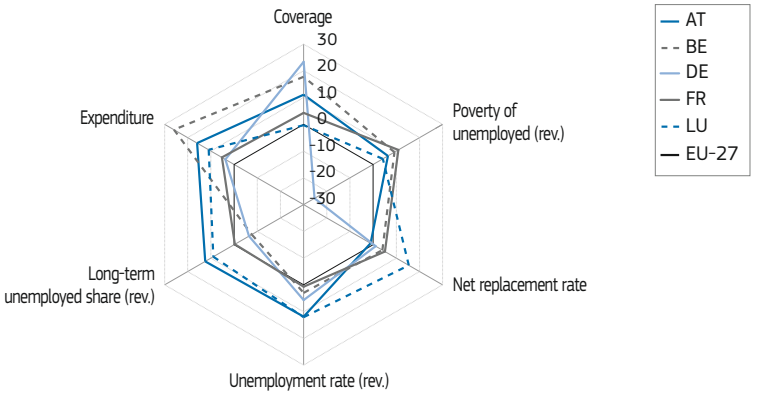
- In some MSs, such as FR and PT (as well as DK, EE, HU, SK and HR), the relatively better performance in terms of adequacy does not seem to be echoed by as good performance in terms of labour market situation, given the relative levels of expenditures.

Chart 28: Unemployment – key outcomes and expenditure in 2010

Southern Europe



Western Europe

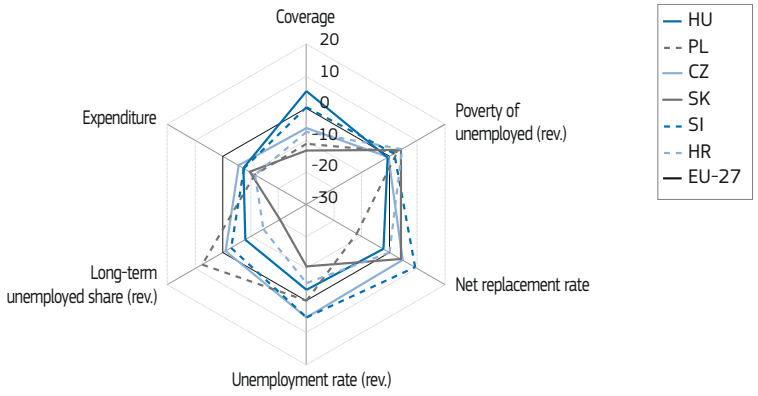


Source: See Box 8, DG EMPL calculations.

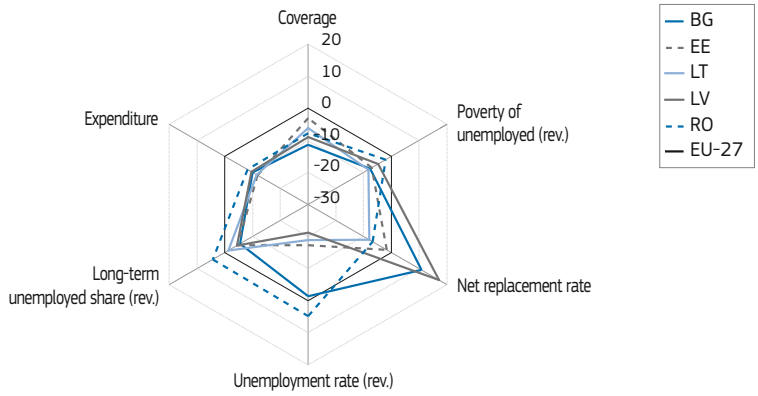
Note: Expenditure relates to expenditure per unemployed compared to GDP per capita for the population of active age.

Chart 28: Unemployment – key outcomes and expenditure in 2010

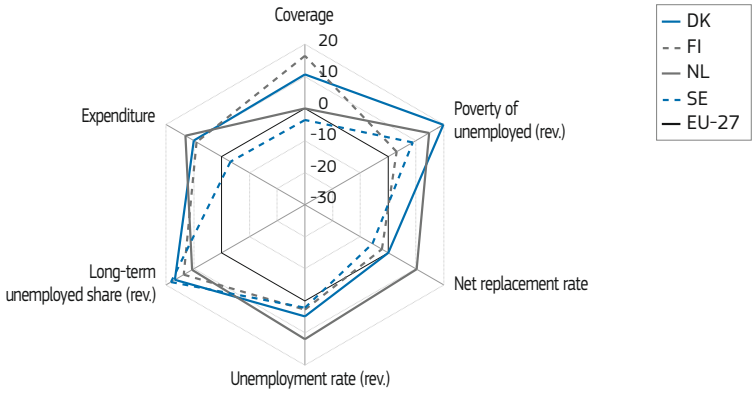
Central Europe



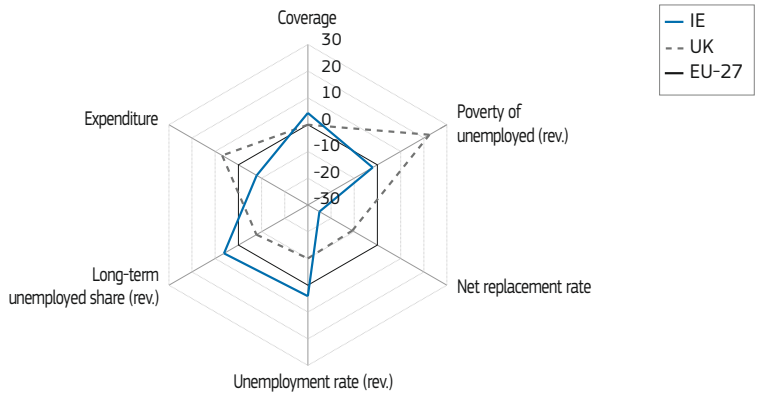
Eastern Europe



Northern Europe



North-Western Europe



Source: See Box 8, DG EMPL calculations.

Note: Expenditure relates to expenditure per unemployed compared to GDP per capita for the population of active age.

- Conversely, in some other MSs, such as DE and FI (as well as EL, IT, MT, NL, PL, RO, SI and the UK), the relatively better labour market records do not seem to translate into a relatively better situation of adequacy of unemployment benefits, for their given relative levels of expenditure.

- In a few Member States (BE, ES and IE), both the adequacy and employment records seem to be relatively low, given their relative levels of expenditure. In these countries, the challenges of adequacy and unemployment appear to be more specifically inter-linked.

- Finally, in some MSs, such as SE (as well as AT, BG, CY, CZ and LT), both the performance in terms of adequacy of unemployment benefits and the labour market outcomes appear to be relatively strong, for the given levels of expenditures.

Factor analysis allows considering more dimensions of performance in terms of labour market and unemployment benefits. Three main dimensions can be identified to reflect on the performance of Member States in the area of unemployment benefits (see Box 10, more detailed results are provided in the Annex):

- Factor 1 reflects how Member States perform in unemployment (including long-term unemployment) and also in inactivity of youth (NEET).

- Factor 2 reflects both the activity and skills of the Member State's workforce (employment rate, inactivity rate, share of high-skilled workers and participation of those not working in LLL, both of the unemployed and inactive).

- Factor 3 reflects the Member States' performance in net replacement rate, unemployment trap and the participation of people wanting to work in ALMPs.

Box 9: Unemployment — factor analysis

A number of additional indicators are taken into account in the factor analysis, to allow reflecting on a broader set of interactions, including such as the inactivity rate and employment rate, incidence of involuntary part-time work, share of youth not in employment, education, or training (NEET), share of high-skilled workers in the labour force (1); the unemployment trap; and also to what extent the unemployed are being assisted or actively involved in getting back to the labour market, through indicators such as the share of unemployed and inactive in life-long learning (LLL), active labour market policies (ALMP) participation of people wanting to work and transitions (from unemployment to employment and from unemployment to inactivity). To take into account the conditionality of benefits, the share of means-tested benefits on all unemployment expenditure is also included.

Table 4 — Unemployment benefits: results of factor analysis

Variable	Factor1: unemployment and NEET	Factor2: activity and skills of the workforce	Factor3: net replacement rate and unemployment trap
Coverage	-0.45	0.39	0.23
AROP of unemployed	0.33	-0.25	-0.21
Net replacement rate	0.06	-0.04	**0.81**
Unemployment trap	-0.10	0.13	**0.83**
Employment rate	-0.58	**0.69**	-0.02
Inactivity rate	0.06	**-0.92**	-0.06
Unemployment rate	**0.93**	0.18	0.13
Long-term unemployment rate	**0.89**	-0.10	0.19
Involuntary part-time	**0.66**	-0.28	-0.06
NEET	**0.78**	-0.31	-0.08
Unemployed in LLL	-0.52	**0.72**	-0.09
Inactive in LLL	-0.43	**0.79**	-0.02
LMP participation of persons wanting to work	-0.42	0.19	**0.67**
Transitions from unemployment to employment	-0.38	0.37	-0.26
Transitions from unemployment to inactivity	-0.21	0.23	-0.49
Share of means-tested benefits	-0.14	-0.36	-0.49
Share of high-skilled workers	0.01	**0.72**	0.17

Source: DG EMPL calculations.

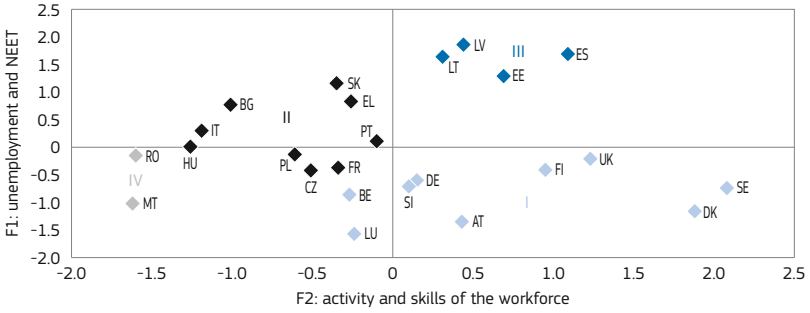
The performance of Member States along these dimensions varies considerably (Charts 29 and 30) and four clusters of countries can be identified based on the performance along all these 3 areas of performance.

Countries in Group I (AT, BE, DE, DK, FI, LU, SE, SI, UK) all perform relatively well in terms of unemployment and NEET and most of them also in terms of activity and skills of the workforce (Chart 29). Their performance in the area of net replacement rate and unemployment trap is rather varied (Chart 30), though we can see that those with the highest score in this area are those that have a worse performance than the others in activity and share of high skilled workers. All countries in

(1) The share of low-skilled and medium-skilled workers were excluded from the analysis based on the Kaiser–Meyer–Olkin measure of sampling adequacy.

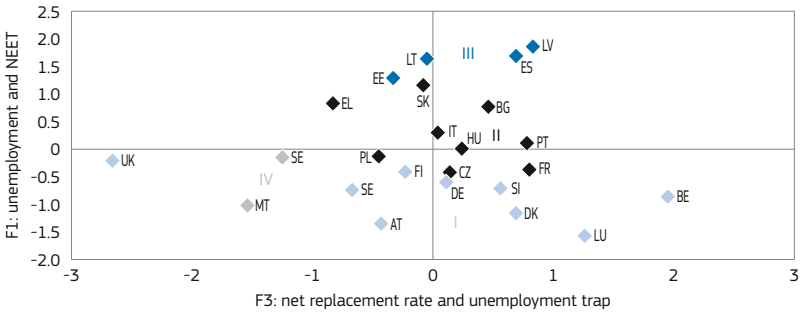
Group II (BG, CZ, EL, FR, HU, IT, PL, PT, SK) perform rather poorly in terms of activity and skills of the workforce and most of them have similarly weak performance in unemployment and NEET (Chart 29). Their performance in net replacement rate and unemployment trap varies significantly (Chart 30). Countries in Group III (EE, ES, LT, LV) perform well in activity and skills of the workforce, however, they all have very bad performance in terms of unemployment and NEET (Chart 29). Their scoring varies in terms of net replacement rate and unemployment trap (Chart 30). Countries in Group IV (MT, RO) show very bad performance in activity and skills of the workforce, but perform quite well in unemployment and NEET (Chart 29). They score relatively low in terms of net replacement rate and unemployment trap (Chart 30).

Chart 29: Factor analysis for unemployment benefits: activity and skills of the workforce versus unemployment and NEET



Source: DG EMPL calculations.

Chart 30: Factor analysis for unemployment benefits: net replacement rate and unemployment trap versus unemployment and NEET



Source: DG EMPL calculations.

3.2.5. Family

Family expenditure provides income support to households with children. While family policies can be considered to fulfil the broad objective of supporting children's development, this section focuses on the two main objectives of adequacy of income support to families with children and support for a better work-life balance. The first dimension refers to the relative income situation of families with children and typically to child poverty and the poverty reduction impact of family expenditures. The second dimension refers to the employment attachment of households with children, which relates typically to the employment situation of women or to financial incentives to take-up a job for second earners, as well as to the availability of childcare.

The main outcomes considered in this section are accordingly focused on the adequacy of incomes of families and on the labour market situation of households with children (see Box 10). Three indicators focus on the adequacy dimension: the relative income of households with children (compared to all households), child poverty and the impact of family benefits on child poverty. Three other indicators are retained to reflect the labour market attachment of households with children, first of all the share of children living in jobless households, second the employment rate of mothers and third the actual share of children in childcare (full and part-time). These outcomes are considered together with the levels of family expenditure per population aged under 18 as a share of GDP per capita, both for in-cash and in-kind expenditure.

For instance, in 2010, FR, SE and DK spent roughly the same levels in terms of cash benefits, but had rather different levels of expenditure on in-kind benefits (with higher levels in DK than in SE and in SE than in FR) — see Chart 31. While outcomes were roughly similar in terms of poverty reduction, they were very different in terms of child poverty as such or of relative incomes of families (DK better than SE and SE better than FR). These differences seem very much linked to differences in the employment rates of mothers, which in turn are, at least partly, driven by different levels of childcare use (actually achieved with different levels of in-kind expenditures). While the desired outcome of a widespread use of childcare facilities is shown to require adequate spending on services, similarly high levels of childcare use are achieved at different spending levels.

Box 10: Family — variables used in radar charts

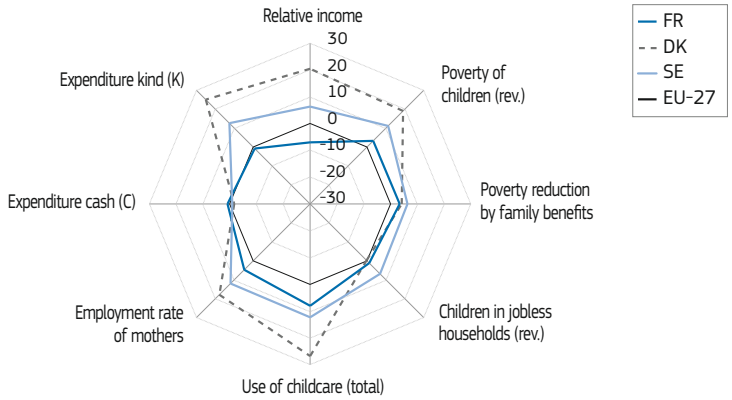
A limited set of outcome indicators can be used to measure the performance of family expenditure:

- Relative income (source SILC): relative equivalised disposable income of households with children compared to the one of all households;
- Child poverty (source SILC): at-risk-of-poverty rate of the population aged 0–17 (at the 60% of median equivalised disposable income threshold);
- Poverty reduction by family benefits (source SILC): reduction in the share of children at risk of poverty due to family benefits;
- Children in jobless households (source SILC): share of children living in households with very low work intensity (less than 0.2);
- Childcare total: share of children aged 0–3 in childcare (both full-time and part-time) following the Barcelona targets ([21]);
- Employment rate of mothers (source LFS): employment rate of women aged 20–49 with youngest child below 6 years of age;
- Expenditure in cash and in kind: total expenditure in cash and in kind on ESSPROS family function per population aged under 18 against GDP per capita.

To reflect on a number of additional dimensions, a number of additional indicators are used in the factor analysis (see Box 11).

([21]) In 2002, at the Barcelona Summit, the European Council set the targets of providing childcare by 2010 to at least 90% of children between 3 years old and the mandatory school age and at least 33% of children under 3 years of age. Member States have restated their commitment to achieve them in the European Pact for gender equality (2011–20). There are broad differences persisting between Member States, as well as slow and uneven progress (see http://ec.europa.eu/justice/gender-equality/files/documents/130531_barcelona_en.pdf).

Chart 31: Family in 2010 in FR, SE, DK



Source: See Box 10, DG EMPL calculations.

Notes: For France part of in-kind expenditure linked to pre-primary school expenditure is not reflected in the ESSPROS framework. Expenditure relates to expenditure per person aged under 18 compared to GDP per capita.

Table 5: Orientation of social expenditure towards family expenditure

		Orientation of social expenditure towards family expenditure		
		Low	Average	High
Orientation of family expenditure on cash expenditure	Low	IT, NL	ES	DK, FI, SE
	Average	FR, PT, UK	EL, MT, PL	BG, RO
	High		BE, CY, CZ, DE, IE, HR	AT, EE, HU, LT, LU, LV, SI, SK

While social protection expenditure appears often skewed towards family expenditure (see Table 5), the balance between in-cash and in-kind benefits varies a lot across MSs and appears particularly skewed towards in-kind expenditure in DK and to a lesser extent SE and FI. On the reverse, expenditure seem to be very skewed towards cash benefits in a number of Member States where family expenditure weighs relatively strongly in social expenditure (in particular in AT, EE, HU, LT, LU, LV, SI and SK).

Member States show significantly different patterns as regards adequacy and labour market outcomes, in comparison to their relative levels of expenditures (Chart 32):

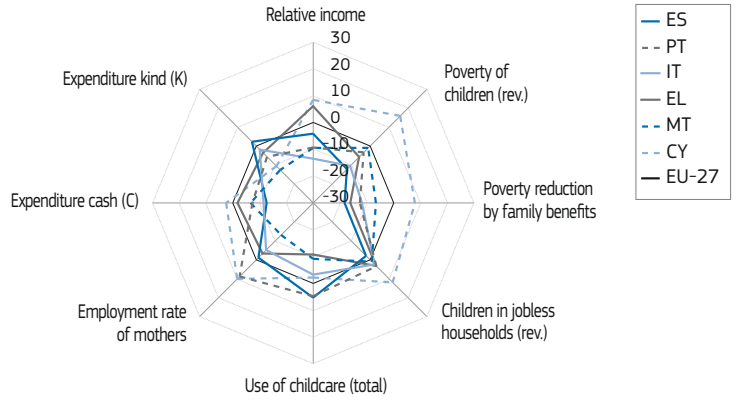
- In some MSs, such as NL, the outcomes appear relatively positive (also including CY, PL and SI) or balanced (DK, EL, FR, LT, SE and UK) for both adequacy and the labour market attachment, given the relative levels of expenditures.
- In some MSs however, such as HU or IE, both adequacy and labour market attachment appear relatively low for their given levels of expenditures (AT, BG, DE, HU, IE and LU). This suggests that in these countries the challenges related to the adequacy and sustainability dimensions are particularly linked.
- In a few of MSs (IT, ES and SK), the performance in terms of labour market seems to be relatively stronger than the one on adequacy (given the relative levels of expenditures). On the reverse, in some MSs, such as DE, the relatively performance seems stronger on the adequacy dimension than on the labour market attachment (also in BE, CZ, EE, FI, LV, MT).

Factor analysis allows for considering a wider set of correlated outcome dimensions, while resulting in a lower number of main dimensions. Four main dimensions can be identified to reflect on the performance of Member States in the area of family benefits (see Box 16, more detailed results are provided in the Annex) ([22]):

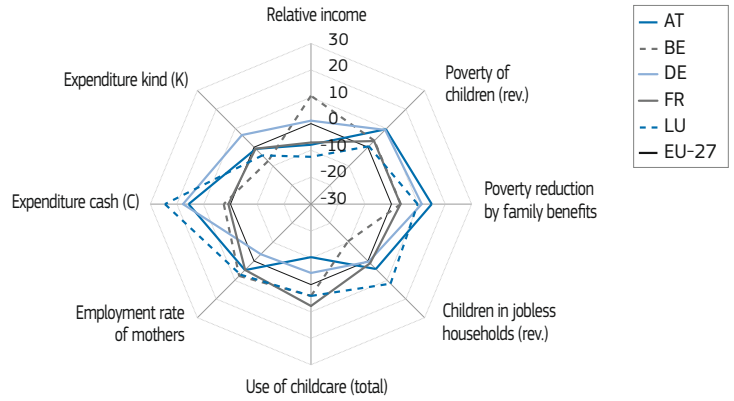
([22]) While the first three factors provide for an estimation of comparable quality as for other social protection functions, the fourth factor has been included here since it allows for reflecting more specifically on the dimension of the gender employment gap.

Chart 32: Family – key outcomes and expenditure in 2010

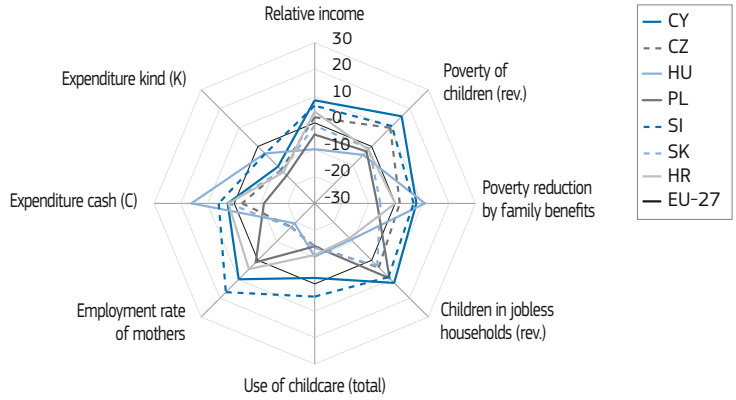
Southern Europe



Western Europe



Central Europe



Source: See Box 10, DG EMPL calculations.

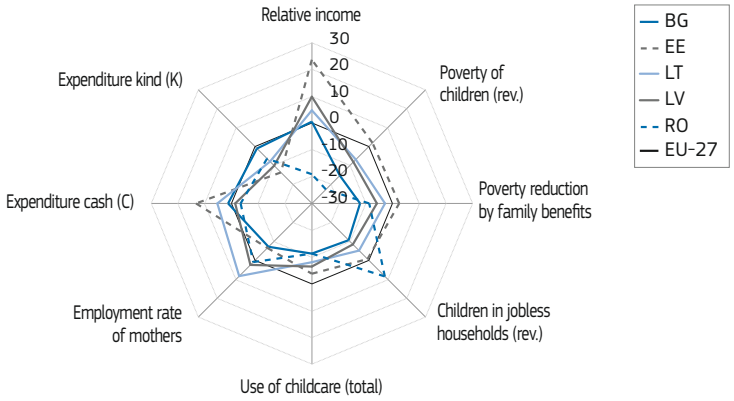
Note: Expenditure relates to expenditure per person aged under 18 compared to GDP per capita.

- Factor 1 reflects different aspects of poverty (at-risk-of-poverty rate of children, poverty gap, persistent poverty and severe material deprivation), but also the poverty reduction impact of family benefits. It also links higher poverty with higher involuntary part-time employment of women and a higher share of people being inactive or working only part-time due to a lack of childcare ([23]).
- Factor 2 reflects Member States' performance in terms of full-time use of childcare and full-time employment of women, which are negatively associated with the employment impact of parenthood.
- Factor 3 reflects Member States' performance in terms of part-time childcare use and part-time employment of women that tend to go hand in hand.
- Factor 4 reflects Member States' performance in gender employment gap, which is associated with lower levels of relative income of households with children (compared to all households) and a higher share of means-tested benefits.

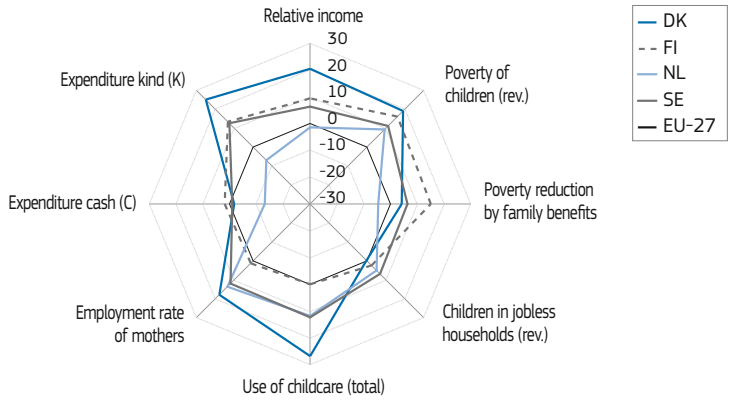
([23]) The correlations between these variables and this factor are high. Indeed, Factor 1 explains around 90% of the variability of the AROP of children and of the poverty gap, 80% of the SMD of children and 70% of persistent poverty, the poverty reduction by child benefits, the involuntary part-time employment of women and the inactivity or part-time employment due to lack of childcare.

Chart 32: Family expenditures in 2010

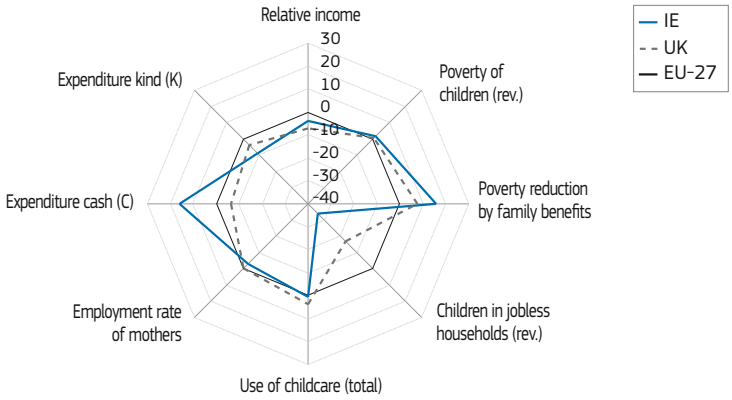
Eastern Europe



Northern Europe



North-Western Europe



Source: See Box 10, DG EMPL calculations.

Note: Expenditure relates to expenditure per person aged under 18 compared to GDP per capita.

Box 11: Family — factor analysis

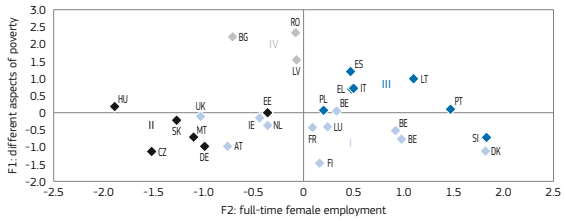
A number of additional indicators are taken into account in the factor analysis, to allow reflecting on a broader set of interactions, including the poverty gap, persistent poverty and severe material deprivation of children, as well as several indicators of the labour market friendliness of the system, reflected in the gender employment gap, in the employment impact of parenthood and inactivity or part-time due to lack of childcare (involuntary part-time employment of women aged 15–64 is added to take account of this phenomena in the labour market in general, not only in relation with childcare) [1]. Including more variables also allows making a distinction between the full-time and part-time use of childcare and full-time and part-time employment of women as these can differ widely among countries and both have their importance. To take into account the conditionality of benefits, the share of means-tested benefits on all family benefits is also included.

Table 6: Family benefits: results of factor analysis

Variable	Factor 1: different aspects of poverty	Factor 2: full-time female employment	Factor 3: part-time female employment	Factor 4: gender employment gap
relative income	-0.25	0.31	-0.21	**-0.63**
AROP of children	**0.90**	-0.17	-0.07	0.30
poverty gap	**0.88**	0.15	-0.20	0.01
persistent poverty	**0.67**	-0.09	-0.02	0.40
SMD of children	**0.78**	-0.25	-0.34	-0.17
poverty reduction by child benefits	**-0.65**	-0.16	0.09	-0.46
gender employment gap	-0.07	-0.28	0.03	**0.74**
employment impact of parenthood	-0.15	**-0.91**	-0.23	-0.06
full-time employment rate of women	0.21	**0.86**	-0.22	-0.07
part-time employment rate of women	-0.32	-0.04	**0.90**	0.00
involuntary part-time employment of women	**0.69**	0.16	-0.35	0.11
inactivity or part-time due to lack of childcare	**0.68**	0.11	-0.10	-0.07
full-time use of childcare	-0.27	**0.70**	-0.03	-0.21
part-time use of childcare	-0.20	0.02	**0.89**	-0.01
share of means-tested benefits	0.11	0.26	-0.15	**0.66**

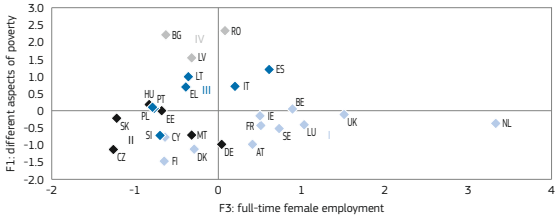
Source: DG EMPL calculations.

Chart 33: Factor analysis for family expenditure: full-time female employment and poverty



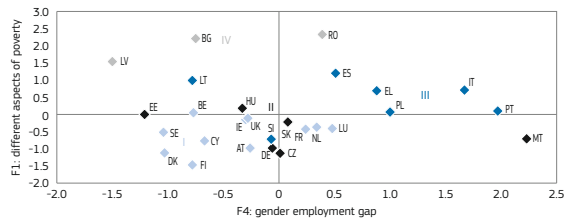
Source: DG EMPL calculations.

Chart 34: Factor analysis for family expenditure: part-time female employment and poverty



Source: DG EMPL calculations.

Chart 35: Factor analysis for family expenditure: gender employment gap and poverty



Source: DG EMPL calculations.

(1) The share of children living in jobless households was excluded from the analysis based on the Kaiser–Meyer–Olkin measure of sampling adequacy.

The performance of Member States along these dimensions varies considerably (Charts 33, 34 and 35) and 4 clusters of countries can be identified based on the performance along all these four areas of performance.

Countries in Group I (AT, BE, CY, DK, FI, FR, IE, LU, NL, SE, UK) all perform well in terms of the different aspects of poverty, irrespective of how they do in full-time female employment (Chart 33). Most of them have good performance in part-time female employment (Chart 34) and also in the area of employment gap (which is usually lower in these countries, Chart 35). In this group of countries we can often see a trade-off between good performance in full-time and part-time female employment respectively. Countries in Group II (CZ, DE, EE, HU, MT, SK) generally have good outcomes as regards poverty but lower performance in full-time (Chart 33) and part-time female employment (Chart 34) and mixed results in the area of gender employment gap (Chart 35). Countries in Group III (EL, ES, IT, LT, PL, PT, SI) have rather poor results in terms of poverty, in spite of a relatively good performance in the area of full-time female employment (Chart 33). That is, however, compensated mostly by worse performance in part-time employment (Chart 34) and gender employment gap (Chart 35). Countries in Group IV (BG, LV, RO) have poor performance in terms of poverty, as well as in the areas of full-time and part-time female employment (Charts 33 and 34). Their results as regards the gender employment gap are mixed (Chart 35).

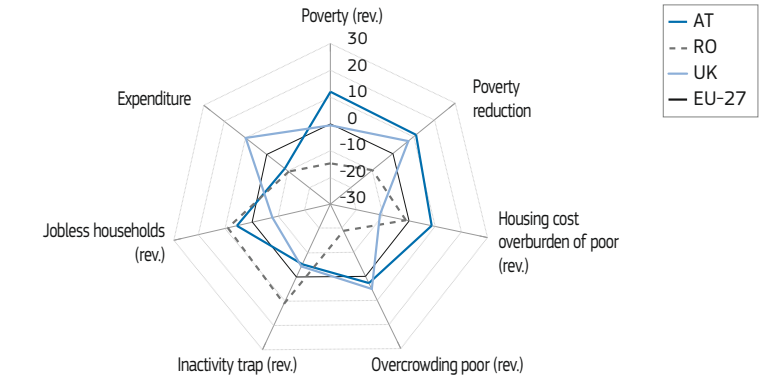
Box 12: Social exclusion and housing — variables used

This section focuses on a limited set of outcome indicators to measure the performance of social exclusion and housing expenditure:

- Poverty rate (source SILC): share of total population living at risk of poverty (at the 60% median equivalised disposable income threshold);
- Poverty reduction (source SILC): relative reduction in the share of population living at risk of poverty (in %) due to social transfers (excluding pensions);
- Housing cost overburden of the poor population (source SILC): the percentage of the population at risk of poverty living in a household where the total housing costs (net of housing allowances) represent more than 40% of the total disposable household income (net of housing allowances);
- Overcrowding rate of poor people (source SILC): the percentage of the population at risk of poverty living in an overcrowded household;
- Inactivity trap (source OECD): average effective tax rate for a transition into full-time work for persons without entitlement to unemployment insurance but entitled to social assistance if applicable (case taken: 67% of average wage, single person);
- Jobless households (source SILC): share of population living in very low work intensity households (population aged 0–59);
- Expenditure: expenditure on ESSPROS functions social exclusion and housing per inhabitant as a share of GDP per capita.

To reflect on a number of additional dimensions, a number of additional indicators are used in the factor analysis (see Box 11).

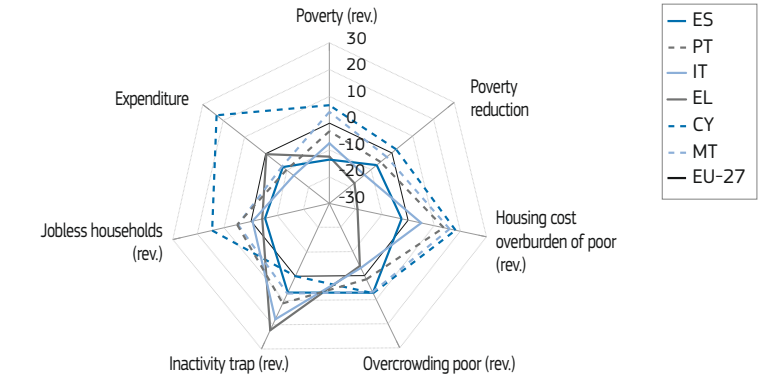
Chart 36: Social exclusion and housing in AT, RO and UK in 2010



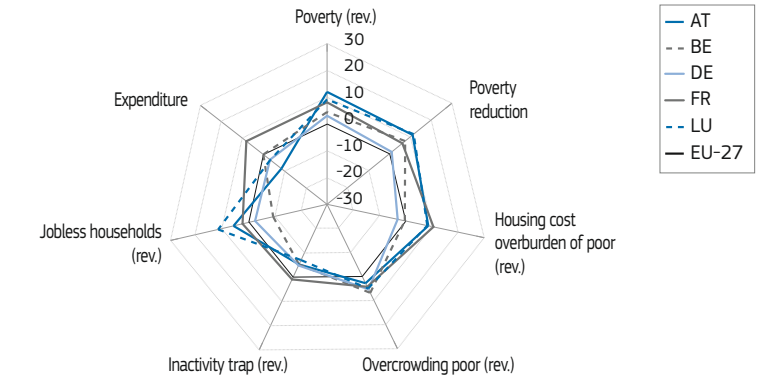
Source: See Box 12, DG EMPL calculations.

Chart 37: Social exclusion and housing – key outcomes and expenditure in 2010

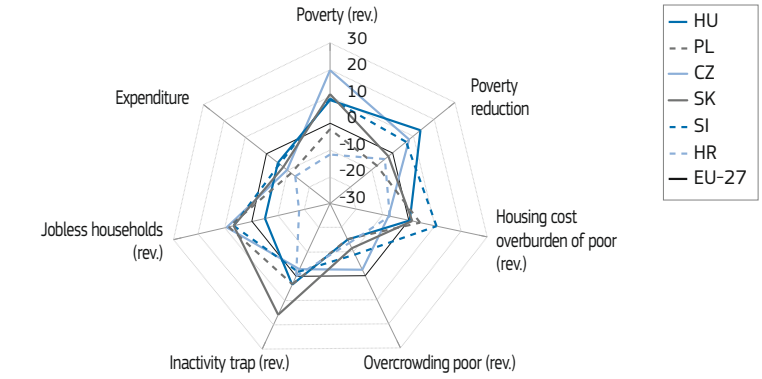
Southern Europe



Western Europe



Central Europe



Source: See Box 12, DG EMPL calculations.

3.2.6. Social exclusion and housing

Social exclusion and housing expenditures provide support to households in order to reduce the risk of poverty and exclusion, in particular through income and housing support (be it in kind or in cash). The general objective of reducing the poverty risk has been conveyed by the OMC on social inclusion and is reflected in the headline Europe 2020 on poverty and social exclusion. The active inclusion strategy refers notably to the three strands of sufficient income support, inclusive labour markets and access to quality services (notably childcare and housing).

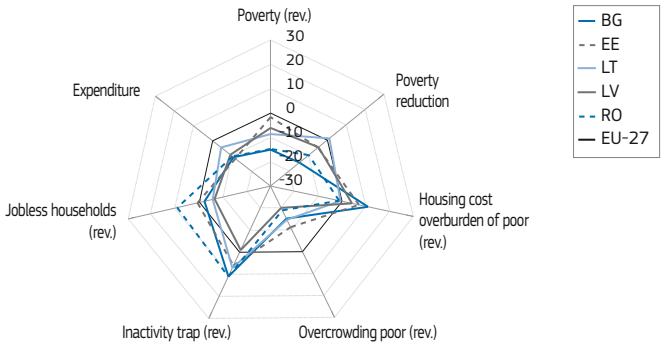
The main outcomes considered in this section are thus related to poverty (at-risk-of-poverty rate and poverty reduction impact of transfers), housing conditions (housing cost overburden for the poor and overcrowding rate of the poor) and employment friendliness (inactivity trap and share of jobless households). These outcomes are considered together with the levels of social exclusion and housing expenditures as a share of GDP (see Box 12). For instance, in 2010, Austria had expenditure levels significantly below the EU average (see Chart 36), while both adequacy (poverty reduction and housing access) and labour market outcomes (poverty trap and jobless households) overall showed a relatively favourable situation.

Member States show significantly different patterns as regards their poverty reduction and housing outcomes, as well as labour market friendliness, in comparison to their relative levels of expenditures (Chart 37):

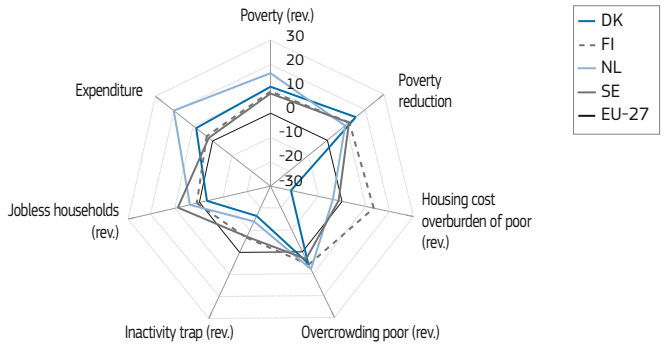
- In some MSs, such as FR or DE, the outcomes appear overall balanced (also in LT, LV and SE and HR) for both adequacy and the labour market attachment, given the relative levels of expenditures.
- In some MSs, the outcomes appear overall positive on both adequacy and the labour market attachment, given the relative levels of expenditures (AT, EE, LU, MT, SI, SK).

Chart 37: Social exclusion and housing – key outcomes and expenditure in 2010

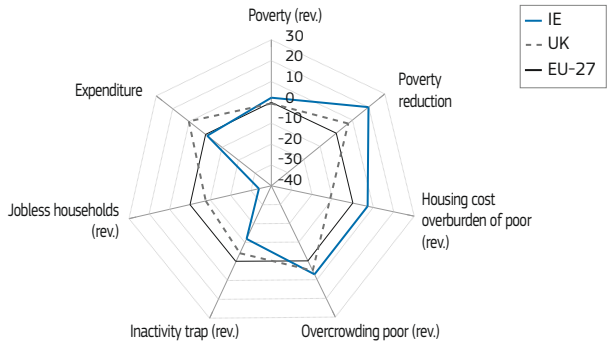
Eastern Europe



Northern Europe



North-Western Europe



Source: See Box 12, DG EMPL calculations.

- Conversely in a few MSs, outcomes appear overall relatively low as regards both adequacy and the labour market attachment, given the relative levels of expenditures (CY, NL and UK).

- Furthermore, in some MSs, outcomes appear higher on the adequacy dimension, while the labour market performance appears relatively low for the given levels of expenditures (BE, ES, FI, HU, IE), suggesting that the main challenges rely in the links towards the labour market.

- Finally, in some MSs, outcomes appear higher on the labour market dimensions, while the adequacy performance appears relatively low for the given levels of expenditures (BG, CY, DK, EL, IT, PL, PT, RO), suggesting that the main challenges rely in the capacity of policies to effectively deliver on the adequacy side.

Factor analysis allows for including more dimensions in the analysis and for identifying three main dimensions to reflect on the performance of Member States in the area of social exclusion (see Box 18, more detailed results are provided in the Annex):

- Factor 1 reflects different aspects of poverty (at-risk-of-poverty rate, poverty gap, in-work poverty and severe material deprivation), but also the poverty reduction impact of social transfers which are linked with the inactivity trap of a single earner (highlighting potential interactions between high poverty reduction and labour market incentives).

- Factor 2 reflects Member States' performance as regards incentives, with a relatively stronger emphasis on the second earner.

- Factor 3 reflects Member States' performance as regards the labour market attachment.

Box 13: Social exclusion and housing — factor analysis

A number of additional indicators are taken into account in the factor analysis, to allow reflecting on a broader set of interactions, including on adequacy [1] (such as the poverty gap, severe material deprivation, in work poverty), as well as several indicators of the labour market friendliness of the system, reflected in various types of incentives (inactivity trap single and second earner, low wage trap second earner). To take into account the conditionality of benefits, the share of means-tested benefits on social exclusion benefits is also included.

Table 7: Social exclusion benefits: results of factor analysis

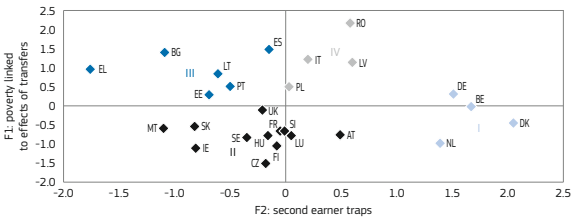
Variable	Factor1: poverty, linked to effects of transfers	Factor2: second earner traps	Factor3: jobless households
AROP	**0.91**	-0.30	0.22
Poverty gap	**0.90**	-0.13	-0.01
Severe material deprivation	0.59	-0.22	0.07
In-work poverty	**0.81**	-0.12	-0.16
Poverty reduction effect of social transfers	**-0.81**	0.33	0.34
Inactivity trap single earner	**-0.61**	0.55	0.32
Inactivity trap second earner	-0.05	**0.81**	-0.13
Low wage trap second earner	-0.17	**0.76**	0.07
Jobless households	0.04	-0.04	**0.81**
Share of means-tested benefits	0.27	0.06	0.05

Source: DG EMPL calculations.

The performance of Member States along these dimensions varies considerably (Charts 38, 39) and four clusters of countries can be identified based on the performance along all these three areas of performance.

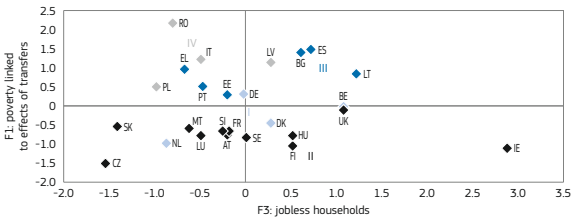
Countries in Group I (BE, DE, DK and NL) have mixed performance as regards their poverty outcomes but have lower levels of incentives for second earners (higher levels of traps, Chart 38). They also have mixed performance in terms of labour market attachment (Chart 39). Countries in Group II (AT, CZ, FI, FR, HU, IE, LU, MT, SE, SI, SK, UK) generally have good outcomes as regards poverty. Most of them have relatively good performance in terms of labour market incentives for second earners (except for AT, Chart 38) and in the area of labour market attachment (except for IE, UK, HU and FI, Chart 39). Countries in Group III (BG, EE, EL, ES, LT, PT) have mostly rather poor results in terms of poverty, in spite of a relatively good performance in the area of labour market incentives for second earners (Chart 38) and mixed outcomes in terms of labour market attachment (Chart 39). Countries in Group IV (IT, LV, PL, RO) perform poorly in terms of poverty and have relatively weak labour market incentives for second earners (Chart 38) and mostly worse labour market attachment (Chart 39).

Chart 38: Factor analysis for social exclusion expenditure: poverty reduction and incentives for second earners



Source: DG EMPL calculations.

Chart 39: Factor analysis for social exclusion expenditures: poverty reduction and labour market attachment



Source: DG EMPL calculations.

[1] Since the number of available indicators to reflect on the housing dimension is rather limited, the factor analysis is focusing on social exclusion dimension only.

3.2.7. Country examples

Italy

In Italy, social protection expenditure is relatively lower on family and social exclusion and housing and to a lesser extent on unemployment and health, but relatively strongly oriented towards pensions (Chart 40).

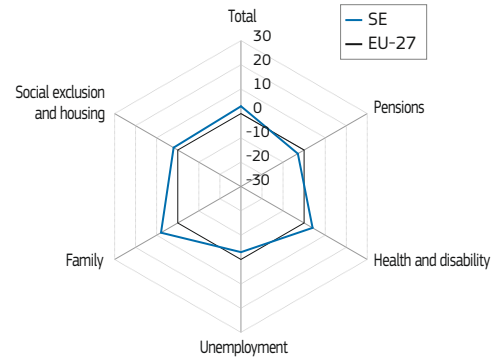
- The relatively high weight of pension expenditure allows for a high adequacy performance, though the labour market integration of older workers is low.
- The relatively low weight on family expenditure is reflected in relatively low outcomes in terms of adequacy of family incomes and of labour market friendliness of households with children.
- The relatively low weight given to social exclusion and housing expenditure translates into relatively good housing outcomes, good outcomes in terms of inactivity trap ([24]) and average outcomes in terms of jobless households ([25]), but higher poverty rates and lower poverty reduction.

Chart 40: Orientation of social expenditure in Italy (2010)

Source: ESSPROS, DG EMPL calculations.

Note: Pensions for old-age and survivor expenditure.

Chart 41: Orientation of social expenditure in Sweden (2010)



Source: ESSPROS, DG EMPL calculations.

Note: Pensions for old-age and survivor expenditure.

([24]) The relatively low level of inactivity trap can potentially be explained by the low level of social assistance expenditure.

([25]) The average outcomes in terms of jobless households can be explained by endogenous households' composition linked to the relatively low expenditure on social exclusion and housing, together with the relatively low expenditure on unemployment.

- The slightly low weight given to unemployment expenditure reflects an adequacy issue linked to low coverage, while labour market outcomes are mixed with a relatively low unemployment rate and high share of long-term unemployment.

- Actual expenditure growth over the period 2007–10 shows a very high weight given to total pension expenditure (which also reflects a rapid ageing of the population, as reflected by the increase in the number of persons aged 65 and older), with a close to average weight on unemployment expenditure and low weight on health, family and social exclusion and housing.

As a result, there seem to be margins to rebalance expenditure growth and to a lesser extent levels from pensions towards social exclusion, family and unemployment, where outcomes appear relatively low.

Sweden

In Sweden, social protection expenditure is relatively balanced over the various functions, with a somewhat stronger weight given to family and social exclusion and housing and to a lesser extent to unemployment and pensions.

- The relatively low weight of old age and survivors expenditure is associated with a good labour market integration of older workers, though the poverty of older women is high.

- The relatively high weight of family expenditure is reflected in relatively high outcomes in terms of adequacy of family incomes and of labour market friendliness of households with children.

- The relatively high weight given to social exclusion and housing expenditure translates into relatively high housing and labour market or poverty outcomes.

- The slightly low weight given to unemployment expenditure is combined however with relatively strong labour market and adequacy outcomes.

- Actual expenditure growth over the period 2007–10 shows a low weight given to total pension or unemployment expenditure (controlled for the ageing of the population, as reflected by the increase in the number of persons aged 65 and older and the changes in the number of unemployed people), with a low weight on health expenditure, but a high weight given to family expenditure (controlled for the change in the population aged under 18) and social exclusion and housing.

As a result, the pattern of expenditure appears balanced as well as trends in the crisis, though there seems to margins to rebalance expenditure from disability expenditure to some extent towards old age and survivor's ones.

4. Did expenditure growth over the period 2007–10 reflect areas of higher needs?

While the previous section provided analysis of the effectiveness of welfare systems in light of their related spending levels (in this respect thus also reflecting their efficiency) at a particular point in time, namely in 2010, this section also examines changes in the growth rate patterns of social expenditures across Member States (benchmarked against EU averages) over the period 2007–10.

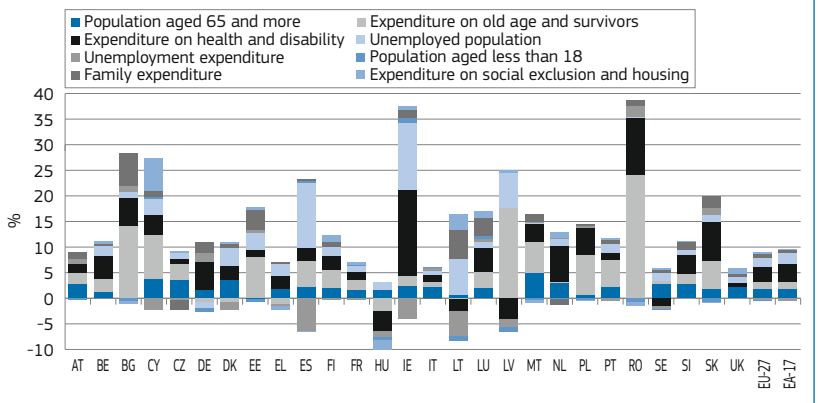
The objective is to see to what extent changes in expenditure growth patterns have reflected performance levels[26] in the different policy/risk areas (old age and survivors, health and disability, family, unemployment, social exclusion and housing). In this light, a typical situation of under-adjustment of expenditure growth is considered to have occurred when a Member State increased spending relatively little on areas where the performance is relatively low and the expenditure levels low or close to the average. Conversely, in some social policy areas, a typical over-adjustment of expenditure growth would be considered to have occurred if a Member State increased spending relatively more on areas where spending is already relatively high, but performance is relatively low.

This section reviews this evidence across the Member States in 2010 and between 2007 and 2010 with respect to the following functions: pensions (covering old age and survivors expenditure), health and disability, family, unemployment and social exclusion and housing.

Expenditure growth over the period 2007–10

Trends of total expenditure growth reflect both the growth in the numbers of potential beneficiaries (i.e. unemployed population, population 65 and

Chart 42: Change in real social expenditure (2007–2010) — contributions of expenditure levels per potential beneficiary population and of socio-economic developments



Source: ESSPROS, DG EMPL calculations.

Note: Impact on overall expenditure growth in volumes of changes in average expenditure per potential beneficiaries and socio-economic trends (changes in population aged 65 and older, in population under 18, and in population unemployed).

[26] Performance levels can also provide an indication of the needs, in the sense that Member States with high gaps in performance have higher needs and Member States with lower gaps in performance have lower needs.

Table 8: Summary: Old age and survivor expenditure in the crisis (2007–2010)

		Performance in 2010			Share to the contribution of real social protection expenditure growth, corrected for demographic change (2007–10)		
		Low	Av.	High	Low	Av.	High
Expenditure per 65+ in 2010	Low	BG, ES	CZ, EE, IE, LT, LV	LU, RO	IE, LU, LT		BG, CZ, EE, ES, LV, RO
	Av.	BE*, CY, MT	DE*, FI*, HU, SE*, SI, SK		DE#, SE, SI	BE, CY, FI, HU, SK	MT
	High	EL	AT*, DK*, IT, NL*, PL, PT, UK	FR	DK*, IT, NL*, EL#, UK#	AT*, FR	PL, PT

Source: DG EMPL calculations.

Note: Av. for average; Member States are regrouped in three groups for each of the expenditure dimensions (groups of 9 countries for expenditure, levels in 2010 and contributions to expenditure growth 2007–10, corrected for the change in population aged 65 and older, see Chart 4) and based on average levels of standard deviation as regards performance (on average over the main outcomes identified, with thresholds of higher than 0.5 reduced standard deviations or lower than 0.5 reduced standard deviations). The main outcomes used are: relative income of people aged over 65; aggregate replacement ratio; gender breakdown of the poverty rate among the population aged 65 and over; employment rate for the population aged 55–64 and unemployment rate for the population aged 55–64. (*): in 2009, the difference between gross and net expenditures was particularly significant in DK, NL and SE (between 20% and 30%) and to a lesser extent BE, DE, AT and FI (between 10% and 20%) — (figures were not available for IE, EL, FR, IT, LU, PL and RO). (#): for negative contributions to total real growth expenditure.

older and population aged under 18), and the change of expenditure per potential beneficiary (see above). Actually, while the contributions of old age and survivors expenditure per person aged 65 and older or of family expenditure by population aged 18 and under have generally been positive over the period, this has not generally been the case as regards the contribution of unemployment expenditure per unemployed (Chart 42) ([27]).

More specifically, the share of the contribution of the average old age and survivor expenditure per person aged 65 or older to the overall expenditure growth over the period has been particularly high in some Member States such as BG, RO, PL or PT and particularly low in some others such as DE, IE, LT, NL or the UK. Similarly, the share of the contribution of the average family expenditure per personaged 18 or under to the overall expenditure growth over the period has been particularly high in some Member States such as BG, DE, EE or LT, and particularly low in some others such as CZ, ES, IT or the NL.

Table 9: Summary: Health and disability expenditure in the crisis (2007–2010)

		Share of the contribution to real social protection expenditure growth (2007–10)		
		Low	Av.	High
Expenditure per capita in 2010	Low	CY, CZ, HU#, LT#, LV#	BG, MT, PL, RO	EE, SK
	Av.	ES, IT, PT	AT, LU	BE, EL, SI
	High	SE#	DK, FI, FR	DE, IE, NL, UK

Source: DG EMPL calculations.

Notes: Av. for average; Member States are regrouped in three groups for each of the expenditure dimensions (groups of 9 countries for expenditure, levels in 2010 and contributions to expenditure growth 2008–10).
(#) for negative contributions to total real growth expenditure.

As regards unemployment expenditure, the contribution of the average unemployment expenditure per unemployed to the overall expenditure growth over the period has been significant high in some Member States such as DE or RO, and particularly low in some others such as CY, DK, ES, IE, LT or LV.

Pensions

In 2010, several Member States had a significantly better performance than the EU average (FR with high levels of expenditure and RO and LU with low levels of expenditure) while some had experienced a significantly lower performance: EL (with relatively high levels of expenditure), BE, CY and MT (with average levels of expenditure) and BG and ES (with lower levels of expenditure).

In terms of developments between 2007 and 2010, some countries with relatively high spending and average or low performance, some have actually devoted a higher than average share of their overall increase in social expenditures to pensions (PL, PT and to a lesser extent AT), which does not seem to reflect higher needs as regards performance (expenditure levels were already high for average or low performance levels). Conversely, some Member States with low levels of expenditure and average or low performance devoted only a relatively small share of their increase in expenditure over 2007–10 to pensions (IE and LT). In these countries, the low weight given to pensions does not seem to reflect the needs given the relatively low expenditure levels and average performance.

([27]) As regards old age and survivors expenditure, the contribution of the change in expenditure in per person aged 65 and older over the period 2007–10 has actually been negative in a some Member States (DE, EL, HU, UK) but very dynamic in some others (BG, CY, EE, LV, MT, PL, PT, RO and SK). As regards family expenditure, the contribution of the change in expenditure in per person aged 18 and under over the period 2007–10 has actually been negative in a few Member States (CZ, NL) but more dynamic than the average in some others (BG, EE, LT, LU, SK). As regards unemployment expenditure, the contribution of the change in expenditure in per unemployed people over the period 2007–10 has actually been negative in nearly half of the Member States and more particularly in CY, DK, ES, HU, IE, LT and LV.

Table 10: Summary: Family expenditure in the crisis (2007–2010)

		Performance in 2010			Share to the contribution of real social protection expenditure growth, corrected for demographic change (2007–10)		
		Low	Av.	High	Low	Av.	High
Expenditure per 18- in 2010	Low	ES, IT, MT	CZ, LV, PL, PT, UK	NL	CZ#, ES, IT#, LV, NL#, PL	MT, PT, UK	
	Av.	BG, RO, SK	BE, EE, EL, FR, LT, HR	CY	BE, FR, RO	CY, EL	BG, EE, LT, SK
	High	HU	AT, DE, IE, LU	DK, FI, SE, SI	HU, IE	DK, FI	AT, DE, LU, SE, SI

Source: DG EMPL calculations.

Notes: Av. for average; Member States are regrouped in three groups for each of the expenditure dimensions (groups of 9 countries for expenditure, levels in 2010 and contributions to expenditure growth 2008–10, corrected for the change in population aged 18 and under, see Chart 4) and based on average levels of standard deviation as regards performance (on average over the main outcomes identified, with thresholds of higher than 0.5 reduced standard deviations or lower than 0.5 reduced standard deviations). The main outcomes are the relative income of households with children, child poverty, poverty reduction by family benefits, the share of children in jobless households, the share of children aged 0–3 in childcare, and the employment rate of mothers with youngest child below 6 years of age.
(#): for negative contributions to total real growth expenditure.

Health and disability

As we have not assessed the performance of healthcare expenditure, we only analyse here its contribution to the overall evolution of social expenditure. Between 2007 and 2010, a number of countries with relatively high levels of expenditure devoted a relatively high share of their expenditure increase to health and disability (DE, IE, NL and the UK). Conversely, some Member States with originally low or average expenditure levels devoted a low share of their expenditure increase to health and disability (in particular LV, LT and HU, where expenditure declined, but also in CZ). This suggests that the dynamics of expenditure may have been unbalanced during the crisis in these countries.

Family

While most Member States had an average performance in 2010 with respect to family expenditures, some had significantly lower performance than the average (notably HU with relatively high expenditure, BG, RO and SK with average levels of expenditure and ES, IT and MT with low levels of expenditure). At the same time, some had higher performance than the average (notably CY with average levels of expenditure, and DK, FI, SE, SI with higher levels of expenditure and NL with relatively low expenditure levels).

Among the countries with relatively high spending and average or low performance, some have devoted a higher than average share of their overall increase in social expenditures to family expenditure (AT, DE and LU), while conversely some Member States with low expenditure levels and low or average performance did not devote a strong share of their expenditure increase to family expenditure (in particular ES and IT or to a lesser extent CZ and PL).

Table 11: Summary: Unemployment expenditure in the crisis (2007–2010)

		Performance in 2010			Share to the contribution of real social protection expenditure growth, corrected for unemployment changes (2007–10)		
		Low	Av.	High	Low	Av.	High
Expenditure per unemployed in 2010	Low	EE, LT, SK, HR	LV, PL, RO, SI, UK		LT#, LV#, UK#	PL, SI	EE, RO, SK
	Av.	EL	BG, CZ, ES, HU, IT, MT, PT, SE	CY	CY#, CZ#, EL#, ES#, SE#	MT, PT#	BG, HU, IT
	High		DE, FR, IE	AT, BE, DK, FI, LU, NL	DK#, FR#, IE#	BE, FI#, NL	AT, DE, LU

Source: DG EMPL calculations.

Notes: Av. for average; Member States are regrouped in three groups for each of the expenditure dimensions (groups of 9 countries for expenditure, levels in 2010 and contributions to expenditure growth 2008–10, corrected for the change in population aged 18 and under, see Chart 4) and based on average levels of standard deviation as regards performance (on average over the main outcomes identified, with thresholds of higher than 0.5 reduced standard deviations or lower than 0.5 reduced standard deviations). The main outcomes are the coverage, the net replacement rate, the poverty rate of the unemployed, the unemployment rate and the long-term unemployed rate.
(#): for negative contributions to total real growth expenditure.

Table 12: Summary: Social exclusion and housing expenditure in the crisis (2007–2010)

		Performance in 2010			Share to the contribution of real social protection expenditure growth (2007–10)		
		Low	Av.	High	Low	Av.	High
Expenditure per capita in 2010	Low	LV	BG, CZ, EE, IT, PL, PT, RO	AT	BG#, PL#	AT, CZ, EE, IT, LV, PT	
	Av.		BE, DE, ES, HU, IE, LT, SI, SK	LU, MT	DE, ES, HU#, MT#, SK#	BE, IE, SI	LT, LU
	High	EL	DK, NL, SE, UK	CY, FI, FR	EL#	DK	CY, FI, FR, NL, SE, UK

Source: DG EMPL calculations.

Notes: Av. for average; Member States are regrouped in three groups for each of the expenditure dimensions (groups of 9 countries for expenditure, levels in 2010 and contributions to expenditure growth 2008–10) and based on average levels of standard deviation as regards performance (on average over the main outcomes identified by function, with thresholds of higher than 0.5 reduced standard deviations or lower than 0.5 reduced standard deviations). The main outcomes are the poverty rate, poverty reduction, the share of the population at risk of poverty and housing cost overburden, the overcrowding rate of poor people, the inactivity trap and the share of jobless households.
(#): for negative contributions to total real growth expenditure.

Unemployment

As regards unemployment expenditure, most Member States had average performance in 2010, while some experienced lower performance than the average (notably EL with average expenditure levels and EE, LT, SK and HR with low levels of expenditure) and some higher than the average (CY with average levels of expenditure and AT, BE, DK, FI, LU, NL with higher levels of expenditure).

Once controlled for the change in the number of unemployment people over 2007–10, among countries with relatively high or average spending and average performance, only Germany has devoted a higher than average share of their overall increase in social expenditures to unemployment expenditure. Conversely, some Member States with low expenditure levels and low or average performance did not devote a stronger than average share of their expenditure increase due to average expenditure per unemployed (LT, LV and UK). In these countries, as well as in a number of other ones, the actual average expenditure per unemployed people decreased in real terms over the period (CY, CZ, DK, EL, ES, FR, IE, PT and SE).

Social exclusion and housing

As regards social exclusion and housing expenditure, while most Member States had average performance in 2010, two experienced lower performance than average (EL with relatively high expenditure and LV with low levels of expenditure) and several other higher than average performance levels (notably AT, LU and MT with average or low levels of expenditure).

The balance of expenditure growth does not seem to have been skewed towards social exclusion and housing in the crisis, with high increases only in three countries with high expenditure levels but average performance levels (NL, SE and UK). Nevertheless, the contribution of social exclusion and housing expenditure has actually been negative in several countries (BG, EL, PL, HU, MT and SK), although performance was actually close to average in all of these Member States.

5. Conclusions

The deteriorating economic and labour market conditions as a result of the crisis have put pressure on household incomes, just as rising budget deficits and debt levels escalated into sovereign debt crises in several Member States, putting European welfare systems under heavy financial strain. As a result increased attention is being paid to the potential for improvements in the efficiency as well as the effectiveness of social protection systems.

This chapter provides an overview of developments across the EU in terms of different forms and areas of social expenditure and a detailed comparison of Member State performances against key common social and employment outcomes. Trends in social protection expenditure are analysed since the onset of the crisis, with a particular focus on the extent to which it has managed to sustain household incomes in comparison with past episodes of economic downturn or recession. It also reviews the effectiveness and efficiency of social spending in terms of key policy outcomes, typically in terms of income smoothing and redistribution but also employment friendliness, and it analyses whether expenditure trends up to 2010 were focused on areas of greatest need.

In the early phase of the crisis (until 2009), social expenditures played an important role in stabilising household incomes in most EU countries, as did the fiscal stimulus measures put in place to sustain aggregate demand and contain major job shedding, in line with the European Economic Recovery Plan of November 2008. Apart from unemployment insurance, other functions such as pensions and health contributed positively to net social benefits, while declining taxes also contributed positively to the change in gross household disposable income (GHDI) in 2009 and in the first two quarters of 2010. From mid-2010 on, the contribution of social benefits to the change in gross household income started to lessen. This occurred because of different factors, which combined differently depending on the Member State, such as, in particular, the increase in the number of long-term unemployed losing their entitlements and the partial phasing-out of both automatic stabilisation and the stimulus measures put in place to counter the crisis (following some improvement in the economic situation and outlook in some Member States). At the same time, the tapering off of the impact of social spending reflected the sheer size of the budget consolidation efforts needed in the current crisis.

Overall, the reduction in social expenditure growth rates after the peak of 2009

(which translated into declines in real terms in 2011 and 2012) appears more pronounced in comparison to economic crises that have occurred over the past three decades.

This underlines the need for a much closer examination of both the effectiveness and efficiency of social protection expenditure, not just in terms of smoothing the business cycle, but of improving income distribution and labour market outcomes, as well as providing public services and contributing to social investment.

The allocation of welfare expenditure to different social functions has strong implications for the overall efficiency and effectiveness of social protection. Concretely, efficiency gains can be obtained in situations whereby the expenditure allocation is oriented towards a specific social function delivering comparatively low economic or social outcomes, but also in situations combining relatively lower spending levels with low outcomes in comparison to the EU average ([28]).

In 2010, EU Member States had different welfare expenditure patterns. As expenditure on pensions, healthcare and disability represents more than three quarters of total expenditure, spending patterns are of particular interest in these areas. While a number of Member States (such as Poland) appear to have a strong orientation towards pension expenditures, relatively few display such a strong orientation towards health and disability spending (the most prominent being Ireland and Croatia). Conversely, pension expenditure in Germany, Denmark, Finland, Ireland and Sweden appear significantly below the EU average (after controlling for the age structure of the population), while the same applies to health and disability spending in Cyprus and Malta.

Beyond these key spending functions, more prominent divergences in the spending patterns of Member States exist in various areas. In terms of family expenditure, there is a higher orientation in Austria, Bulgaria, Denmark, Estonia, Hungary, Lithuania and Luxembourg while there is a lower orientation in the Netherlands and Italy. In terms of unemployment expenditure, the differences are smaller but there is still a stronger focus in Austria, Belgium and Luxembourg against a negative one in Italy, Sweden and the UK. In terms of social exclusion and housing expenditure there is a higher orientation in Cyprus, Lithuania, the Netherlands and the UK and a lower one in Italy and Austria.

The stylised framework presented in the chapter allows for reviewing the relative performance and efficiency of Member States in four broad social protection functions: pensions, unemployment, family and social exclusion and housing**.** For each type of spending, performances can typically be assessed in terms of labour market outcomes, such as employment rates of older workers or of mothers, as well as social outcomes, such as the adequacy of pensions, poverty risk or poverty reduction, or housing overcrowding.

Using this framework, the evidence shows, for example, that high expenditure on pension expenditure is typically associated with strong pension adequacy, but may increase the risk of low labour market attachment among older workers. Likewise, higher levels of unemployment expenditures indicate high coverage and adequacy, but risks creating unemployment traps. Higher levels of family expenditure may be linked to a greater reduction in child poverty, while a strong weight on in-kind benefits is seen as beneficial to the employment rate of women and to the relative income of households with children.

The framework developed in this chapter helps identify situations where the dynamics of different types of social expenditure may not be optimally balanced. Such situations can for instance occur when stronger expenditure increases are observed in less efficient areas (i.e. those with already high expenditure levels but low performance) or conversely, when lower expenditure increases are observed in areas of initially low expenditure levels and relatively low performance (where the analysis suggests the possibility of achieving a greater impact).

([28]) A more in-depth and comprehensive analysis of the overall efficiency of social protection is outside the scope of this chapter.

Annexes

A1 — Sources and measurement of social protection expenditure

Social protection expenditure trends can be assessed in different ways, and are most frequently looked at as a share of GDP or as a share of other public expenditures, or in volumes (deflated by some price index, generally HICP) or expenditures per capita. This paper focuses on trends in volumes, since other measures actually reflect a number of other effects, such as changes in GDP levels or changes in the levels of other public expenditures. In particular, it can be noted that in periods of relatively high growth, the share of expenditure in GDP would not increase if real expenditure growth were at a quicker pace than its long-term trend.

Two main data sources on social protection expenditures are used in this analysis, the European System of Integrated Social Protection Statistics (ESSPROS until 2010) and the National Accounts (until 2013).

ESSPROS data on social protection expenditure is compiled by Eurostat in accordance with the methodology of the European System of Integrated Social Protection Statistics 'ESSPROS Manual 2011'. Social protection is defined as encompassing 'all interventions from public and private bodies intended to relieve households and individuals of the burden of a defined set of risks or needs, provided that there is neither a simultaneous reciprocal nor an individual arrangement involved'. As such, the field of observation of the ESSPROS goes beyond that of social security (i.e. social protection provided by governments) to include benefits provided by private social protection schemes, in so far as they have similar effects on social security for the beneficiary. Social protection expenditure includes social benefits, classified by function, and administrative and other costs incurred by social protection schemes. This data is currently available for up until 2010 and in gross terms. An exercise to provide net data as well has been the subject of pilot programmes and is now in the regulation process. The eight policy areas covered in the ESSPROS are the following: sickness/healthcare, disability, old age, survivors, family/children, unemployment, housing, social exclusion. ESSPROS also provides the information whether given benefits are provided in cash or as services directly to citizens ('in kind'), and also whether they are means-tested or not.

Data on social protection expenditure from the **National Accounts** is in accordance with the European System of Accounts 1995 (ESA95) and covers 'Social transfers in kind' and 'Social benefits other than social transfers in kind'. Generally speaking, the levels for total expenditure on social protection are somewhat higher than in the ESSPROS. The main differences are that:

- First, National Accounts also include the function of Education in social protection expenditure. Due to this, developments in expenditure on social transfers in National Accounts are influenced by developments in the Education function (unlike social protection expenditure in the ESSPROS). The order of magnitude of this effect on the level of growth of the total social transfers' aggregate from the National Accounts can however be gauged based on the COFOG classification of the National Accounts: it has been on average around only 0.1 pp. since 2000 for both the EU-27 and EA-17 and in each year has been lower than 0.5 pp. Therefore, it does not impact significantly on the changes in social transfers' growth described below for 2011 and 2012.

- Second, while the ESSPROS covers both current and capital transfers, National Accounts only cover current transfers.

- Third, the treatment of certain reductions in taxes and other obligatory levies payable by households is accounted for in a different way by the ESSPROS and National Accounts (e.g. flat rate allowances, paid in cash where the taxable income of eligible households is too low to benefit from a reduction).

- Fourth, while in the ESSPROS, social benefits in kind may be granted by any type of scheme (e.g. unfunded employers' schemes), in the National Accounts they refer exclusively to benefits provided by government units (social security and social assistance), those provided by other schemes being treated as cash benefits.

For more details on the main differences compared with the European System of Integrated Social Protection Statistics (ESSPROS) in the way social benefits in cash and in kind are distinguished please refer to the Manual on sources and methods for the compilation of COFOG Statistics, page 65–66, Eurostat ([29]). Data that was missing in the National Accounts (for Malta, Luxembourg, Bulgaria and Ireland) was complemented by estimates available from the AMECO database of the European Commission.

Furthermore, to reflect on trends in real social expenditure, the deflator used here is the HICP, since it allows for estimating the trend in the overall real value or purchasing power provided by social expenditure. Indeed, the HICP is a price index that reflects changes in a basket of goods and services, which appears closer to the actual expenditure on consumption of households in comparison to the deflator of household consumption from the National Accounts (which also for instance includes imputed rents). Furthermore the deflator of consumption in the National Accounts reflects changes in the structure of consumption over time and thus appears less suitable than the HICP which does not directly reflect yearly changes in the consumption structure, which are partly a reaction to price changes.

A2 — Various definitions of efficiency and related measurement issues

International organisations and academic scholars have paid considerable attention to the challenge of measuring the efficiency of social protection systems ([30]).

Generally defined as the ratio of output to input (see Mandl, Dierx and Ilzkovitz 2008), efficiency is most commonly applied to the assessment of (industrial) production processes, where a certain number of inputs are used to produce standardised output under the objective of profit maximisation. A related concept of Pareto efficiency can also be derived as a situation where it is not possible

([29]) http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-RA-07-022/EN/KS-RA-07-022-EN.PDF

([30]) See notably European Commission (2008).

to improve an outcome without worsening another one, for a given level of expenditure. Furthermore, administrative efficiency in principle relates to the administrative costs related to the provision of social protection.

The measurement of technical efficiency usually relies on the idea of a best practice frontier. Over the course of the last two decades, a number of papers and reports have tried to apply the concept of production efficiency to the social field, either through parametric or non-parametric approaches. Two main methodological alternatives can be used to determine this best practice frontier.

So-called parametric approaches assume an underlying production function. The error term of the estimation (which reflects the unexplained variation in outputs) then serves as an indicator of efficiency. The results of parametric analyses thereby depend on (and change with) the set of control variables included and the functional form chosen. Grigoli and Kapsoli (2013) provide an overview of existent studies on emerging and developing countries, as well as a discussion of some of the challenges in using regression analysis to measure social efficiency.

Alternatively, non-parametric methods are used to derive a best practice frontier and do not require the specification *a priori* of a functional form, but allow for the specification of different assumptions (e.g. on the production process). The most common techniques are the 'Data Envelope Analysis (DEA)' and the 'Free Disposal Hull' (FDH). The DEA method involves the use of linear programming to construct a piece-wise frontier over the data, where different assumptions can be made over the input or output orientation (whose variable is fixed in order to resolve the programming component) and the type of returns to scale ([31]). The FDH method does not make *a priori* assumptions on the convexity of the production frontier.

While a growing literature provides attempts to measure social efficiency using both parametric and non-parametric approaches (basically SFA and DEA, respectively), the application of the concept of production efficiency to the public sector remains problematic for several reasons. Borrowed from the measurement of technical efficiency in production, an efficiency frontier can most reliably be computed at the micro-level for a large number of production units that use well-defined inputs designated to produce standardised outputs. For the purpose of comparability, the production environment should be either homogeneous or have no significant impact on the achieved outputs.

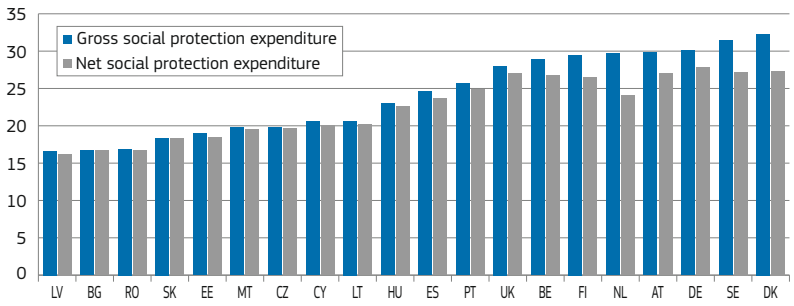
As discussed in detail by Ravallion (2005) and Pestieau (2007), these ideal conditions hardly hold for the 'production processes' that underlie social outcomes. Although one of the advantages of DEA is to consider multiple output and input settings, the accounting of social outcomes and public sector inputs is hardly complete. Social policies affect several and sometimes opposing objectives, which would all need to be taken into account for a complete analysis. As social spending tends to serve several policy objectives, input (typically benefits/transfers) often cannot easily be assigned to a specific outcome. Family benefits, for instance, are not exclusively targeted at mitigating child poverty, but may as well follow education and employment targets. Likewise, social outcomes can be addressed by more than one social protection function, which widens the set of relevant input factors.

More importantly, employment and fiscal policies as well as a wide range of contextual factors (demographic, economic, cultural, lifestyle factors, etc.) often also have a significant impact on social outcomes. Based on the assumption of a direct and causal relationship between input and output indicators, non-parametric approaches do not allow accounting for the impact of environmental factors, and might therefore be misleading. In their study of public spending efficiency in redistributing income, Afonso *et al.* (2008), for instance, have tried to address these concerns by estimating the impact of such environmental factors on the DEA efficiency scores in a second-stage regression. Their results suggest a substantial bias in the estimated efficiency scores when relevant context factors are omitted.

While regression analyses do allow the inclusion of both direct inputs and context indicators as explanatory factors, the sample size needed for robust estimates also increases with the number of control variables included. Non-parametric methods are also sensitive to the sample size and the number of inputs and outputs considered. Park *et al.* (2000) use simulations to illustrate the considerable imprecision inherent to FDH estimates which are based on a sample size of 100 or fewer, even when only a few input and output factors are included. Attempts to model the 'production' of social outcomes based on an EU sample of 28 heterogeneous observations run the risk of simplification notably due to the omission of factors, which implies that results of cross-country studies on social efficiency and country rankings need to be interpreted with care. Nevertheless, in spite of related potential limitations, the study by Aubyn *et al.* (2009) is a useful attempt to use both semi-parametric (two-stage DEA) and parametric methods (SFA) for the evaluation of the efficiency and effectiveness of public spending on tertiary education.

([31]) Coelli et al. (2005) and Thanassoulis (2001), for instance, provide a detailed overview of the DEA methodology.

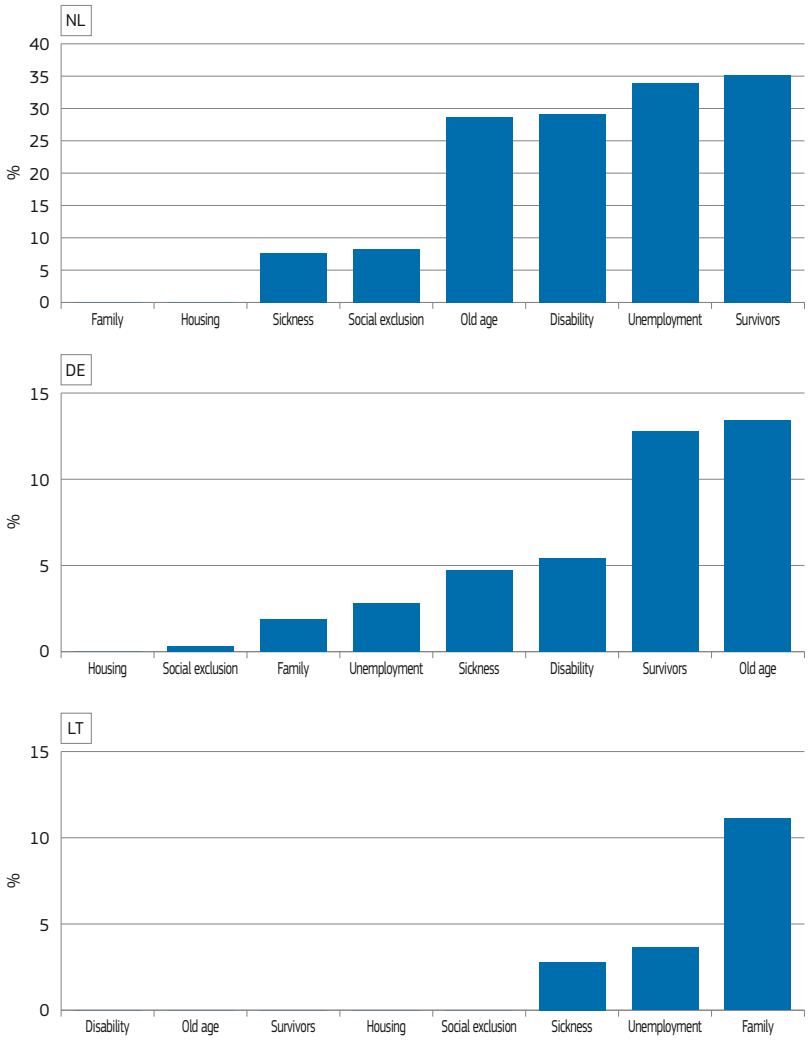
Chart A1: Gross versus net social protection expenditure in the EU in 2009 (as a share of GDP)



Source: ESSPROS.

Note: Net expenditure data is not available for: IE, EL, FR, IT, LU, PL, SI. Data is provisional for: EE, PT.

Chart A2: Difference in taxation of benefits by spending function in 2009 in NL, DE and LT



Source: ESSPROS, DG EMPL calculations.

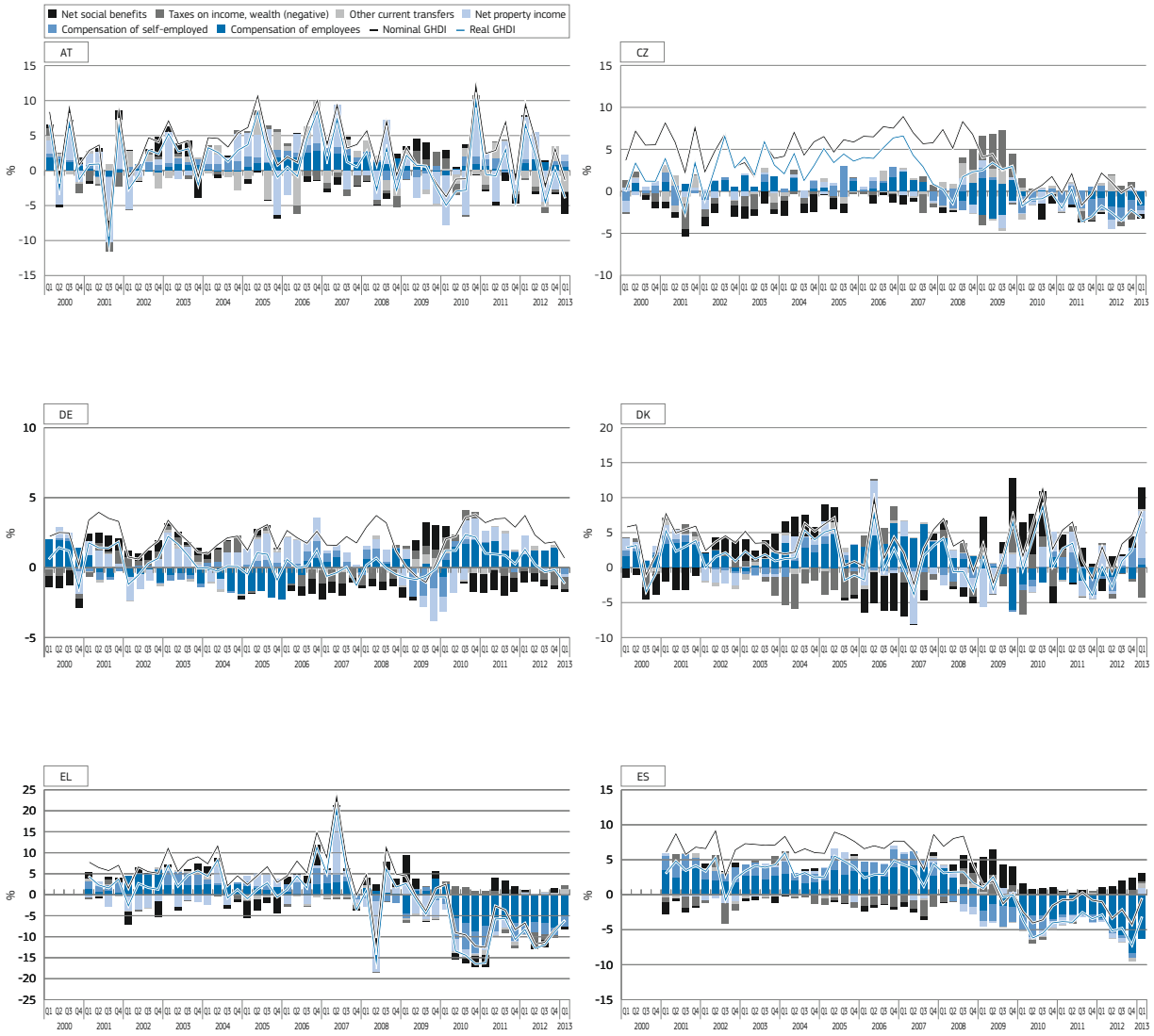
A3 — Net social expenditures

In 2008 Eurostat started to collect information on the taxes and social contributions paid on gross social protection benefits by recipients. The net value of social benefits is derived by deducting the combined value of the two forms of obligatory levy (income taxes and social contributions) applied by general government to the income of fiscal units that relates to liable (cash) social benefits.

Chart A1 reports gross and net social protection expenditure for the Member States where net values are available. In 2009, the average obligatory levy on all social benefits ranges from less than 1 % in Bulgaria, Czech Republic, Romania and Slovak Republic to more than 10 % in Denmark, Finland, Sweden and a maximum of 19 % in the Netherlands.

Chart A2 shows considerable discrepancies in the overall taxation of different functions of social expenditure within selected Member States. The pattern of these discrepancies varies also across Member States. For instance, in a country with a high average overall taxation of social benefits such as the Netherlands the overall tax on expenditure for family and children is zero, while in Lithuania is 9 pp. higher than the national average (2 %). The pattern of taxation of unemployment benefits versus other social benefits is also very different across Member States. For example, the overall taxation of unemployment benefits is 80 % higher than the overall taxation of all social benefits in the Netherlands, 51 % higher in Lithuania and 63 % lower in Germany.

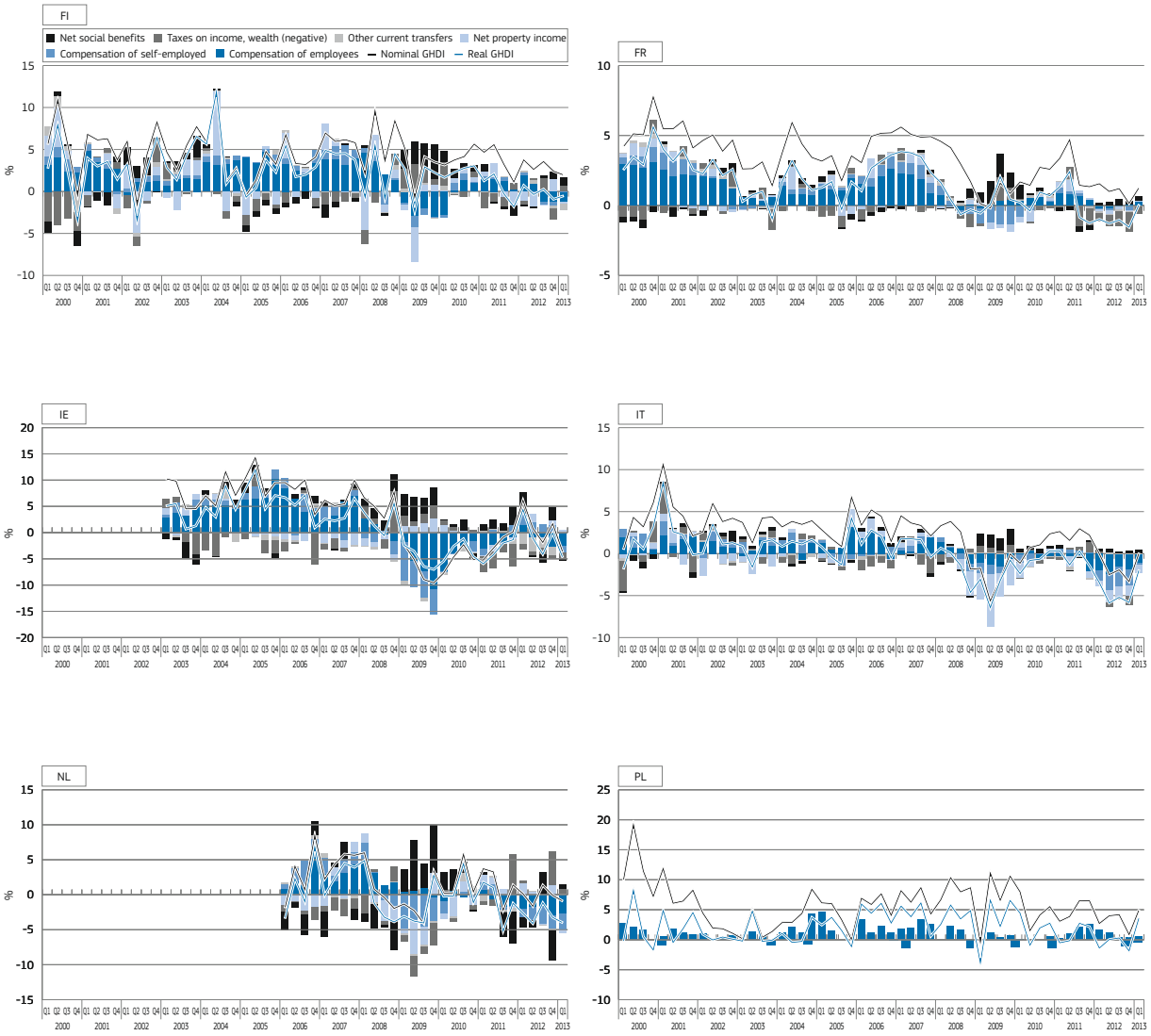
Chart A3: Contributions to GHDI real growth in Member States (Q1 2000–Q1 2013)



Source: National Accounts.

Note: GHDI year-on-year changes (expressed as a percentage) and contributions of the various components to this change. For Poland and Romania data is only available for GHDI and compensation of the self-employed.

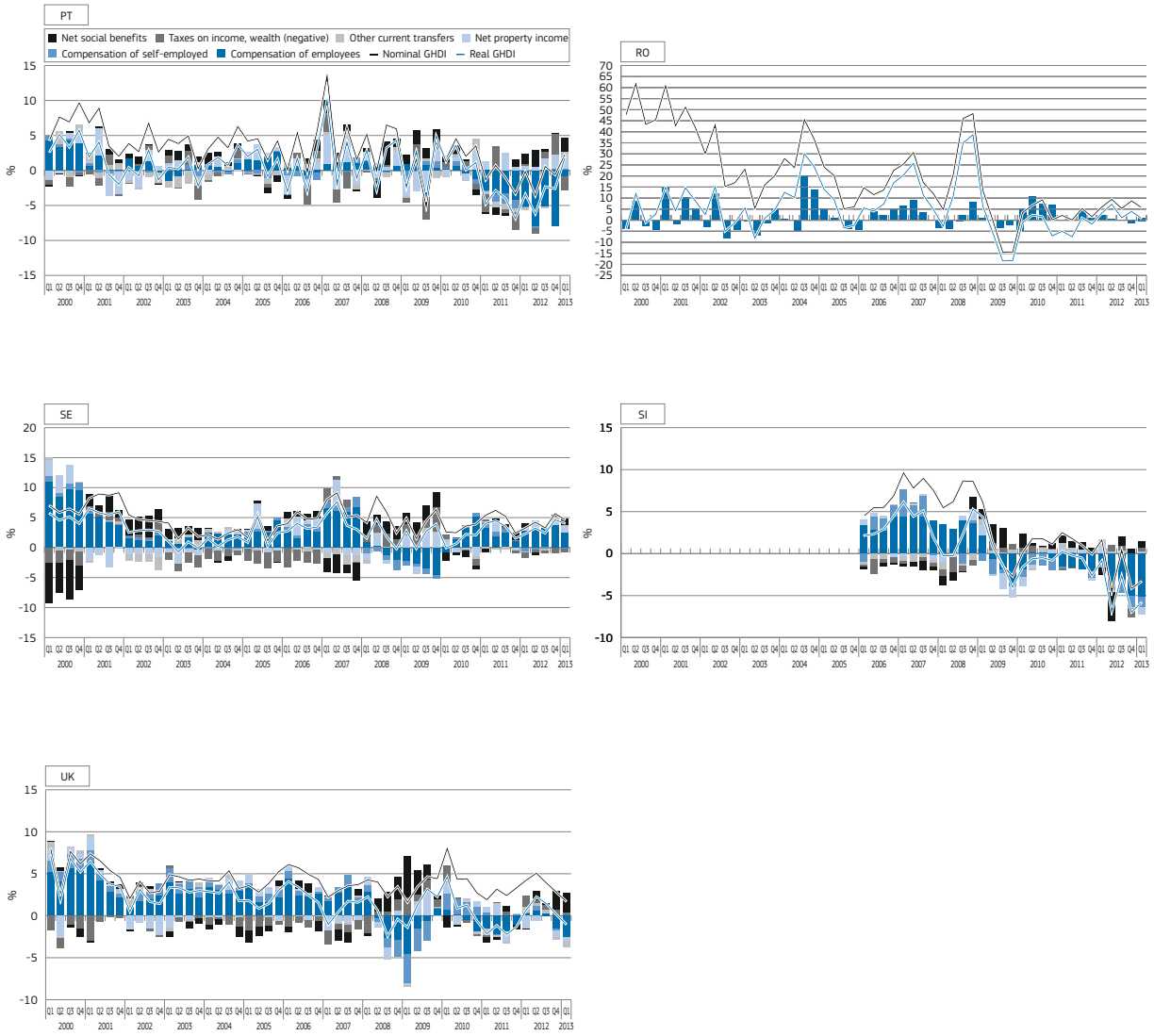
Chart A3: Contributions to GHDI real growth in Member States (Q1 2000–Q1 2013) (cont.)



Source: National Accounts.

Note: GHDI year-on-year changes (expressed as a percentage) and contributions of the various components to this change. For Poland and Romania data is only available for GHDI and compensation of the self-employed.

Chart A3: Contributions to GHDI real growth in Member States (Q1 2000–Q1 2013) (cont.)



Source: National Accounts.

Note: GHDI year-on-year changes (expressed as a percentage) and contributions of the various components to this change. For Poland and Romania data is only available for GHDI and compensation of the self-employed.

Table A4: Statistical output of factor analysis — Pensions

Factor analysis/correlation — Number of obs = 26
Method: principal factors — Retained factors = 3
Rotation: (unrotated) — Number of params = 36

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	4.84	1.99	0.45	0.45
Factor2	2.85	1.27	0.27	0.71
Factor3	1.59	0.83	0.15	0.86
Factor4	0.76	0.18	0.07	0.93
Factor5	0.57	0.39	0.05	0.99
Factor6	0.19	0.06	0.02	1.00
Factor7	0.13	0.06	0.01	1.02
Factor8	0.07	0.05	0.01	1.02
Factor9	0.02	0.03	0.00	1.02
Factor10	-0.01	0.04	0.00	1.02
Factor11	-0.04	0.04	0.00	1.02
Factor12	-0.08	0.04	-0.01	1.01
Factor13	-0.12	.	-0.01	1.00

LR test: independent vs. saturated: chi2(78) = 323.77 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
rel_income	-0.72	0.42	0.25	0.24
ARR_m	-0.47	0.45	0.20	0.53
ARR_f	-0.34	0.73	-0.13	0.33
AROP_65m	0.35	-0.82	0.01	0.21
AROP_65f	0.46	-0.75	0.00	0.23
working_life	0.88	0.30	0.13	0.11
ER55_59	0.83	0.44	0.02	0.11
ER60_64	0.90	0.19	-0.17	0.12
PT55_64	0.44	0.28	0.64	0.32
UR_55_64	0.00	0.23	-0.90	0.13
IA_55_64	-0.83	-0.44	0.31	0.02
LLL_55_64	0.67	0.20	0.30	0.42
MT_benefits	0.17	-0.14	0.05	0.95

Factor analysis/correlation — Number of obs=26
Method: principal factors — Retained factors=3
Rotation: orthogonal varimax (Kaiser on) — Number of params=36

Factor	Variance	Difference	Proportion	Cumulative
Factor1	4.37	1.07	0.41	0.41
Factor2	3.30	1.70	0.31	0.71
Factor3	1.60	.	0.15	0.86

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
rel_income	-0.44	-0.73	0.19	0.24
ARR_m	-0.21	-0.63	0.15	0.53
ARR_f	0.06	-0.80	-0.18	0.33
AROP_65m	-0.09	0.88	0.05	0.21
AROP_65f	0.04	0.88	0.05	0.23
working_life	0.91	0.15	0.19	0.11
ER55_59	0.94	0.01	0.07	0.11
ER60_64	0.89	0.27	-0.11	0.12
PT55_64	0.49	-0.07	0.66	0.32
UR_55_64	0.15	-0.15	-0.91	0.13
IA_55_64	-0.95	-0.03	0.26	0.02
LLL_55_64	0.67	0.13	0.34	0.42
MT_benefits	0.08	0.20	0.06	0.95

Kaiser-Meyer-Olkin measure of sampling adequacy

Variable	kmo
rel_income	0.83
ARR_m	0.66
ARR_f	0.68
AROP_65m	0.69
AROP_65f	0.53
working_life	0.63
ER55_59	0.47
ER60_64	0.57
PT55_64	0.31
UR_55_64	0.15
IA_55_64	0.49
LLL_55_64	0.89
MT_benefits	0.30
Overall	0.54

Table A5: Statistical output of factor analysis — Unemployment

Factor analysis/correlation
Method: principal factors
Rotation: (unrotated)

Number of obs = 24
Retained factors = 3
Number of params = 48

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	6.01	3.31	0.42	0.42
Factor2	2.70	0.89	0.19	0.61
Factor3	1.81	0.56	0.13	0.73
Factor4	1.25	0.45	0.09	0.82
Factor5	0.80	0.04	0.06	0.88
Factor6	0.76	0.23	0.05	0.93
Factor7	0.53	0.18	0.04	0.97
Factor8	0.35	0.10	0.02	0.99
Factor9	0.25	0.13	0.02	1.01
Factor10	0.12	0.08	0.01	1.02
Factor11	0.04	0.04	0.00	1.02
Factor12	0.00	0.01	0.00	1.02
Factor13	-0.01	0.01	0.00	1.02
Factor14	-0.02	0.04	0.00	1.02
Factor15	-0.06	0.03	0.00	1.01
Factor16	-0.09	0.02	-0.01	1.01
Factor17	-0.11	.	-0.01	1.00

LR test: independent vs. saturated: chi2(136) = 416.84 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
coverage	0.62	0.16	-0.09	0.59
AROP_U	-0.43	-0.14	0.11	0.79
NRR	-0.01	0.74	-0.35	0.33
LTU_rate	-0.71	0.46	0.36	0.16
U_trap	0.22	0.74	-0.33	0.29
ER	0.89	-0.03	0.15	0.18
UR	-0.56	0.49	0.61	0.08
invol_PT	-0.68	0.10	0.22	0.48
inactivity_rate	-0.66	-0.29	-0.57	0.15
NEET	-0.79	0.11	0.27	0.29
U_in_LLL	0.86	-0.06	0.23	0.21
I_in_LLL	0.84	0.05	0.30	0.20
LMP_wanting_work	0.49	0.51	-0.40	0.34
trans_U_E	0.51	-0.27	0.15	0.65
trans_U_I	0.27	-0.44	0.25	0.67
MT_ben	-0.18	-0.59	-0.11	0.61
share_high_skilled	0.49	0.35	0.42	0.46

Factor analysis/correlation — Number of obs = 24
Method: principal factors — Retained factors = 3
Rotation: orthogonal varimax (Kaiser on) — Number of params = 48

Factor	Variance	Difference	Proportion	Cumulative
Factor1	4.21	0.45	0.29	0.29
Factor2	3.76	1.21	0.26	0.56
Factor3	2.55	.	0.18	0.73

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
coverage	-0.45	0.39	0.23	0.59
AROP_U	0.33	-0.25	-0.21	0.79
NRR	0.06	-0.04	0.81	0.33
LTU_rate	0.89	-0.10	0.19	0.16
U_trap	-0.10	0.13	0.83	0.29
ER	-0.58	0.69	-0.02	0.18
UR	0.93	0.18	0.13	0.08
invol_PT	0.66	-0.28	-0.06	0.48
inactivity_rate	0.06	-0.92	-0.06	0.15
NEET	0.78	-0.31	-0.08	0.29
U_in_LLL	-0.52	0.72	-0.09	0.21
I_in_LLL	-0.43	0.79	-0.02	0.20
LMP_wanting_work	-0.42	0.19	0.67	0.34
trans_U_E	-0.38	0.37	-0.26	0.65
trans_U_I	-0.21	0.23	-0.49	0.67
MT_ben	-0.14	-0.36	-0.49	0.61
share_high_skilled	0.01	0.72	0.17	0.46

Kaiser-Meyer-Olkin measure of sampling adequacy

Variable	kmo
coverage	0.59
AROP_U	0.60
NRR	0.35
LTU_rate	0.61
U_trap	0.42
ER	0.57
UR	0.41
invol_PT	0.72
inactivity_rate	0.46
NEET	0.80
U_in_LLL	0.76
I_in_LLL	0.81
LMP_wanting_work	0.60
trans_U_E	0.60
trans_U_I	0.48
MT_ben	0.32
share_high_skilled	0.56
Overall	0.58

Table A6: Statistical output of factor analysis — Family

Factor analysis/correlation — Number of obs = 27
Method: principal factors — Retained factors = 4
Rotation: (unrotated) — Number of params = 54

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	5.20	2.52	0.43	0.43
Factor2	2.67	0.83	0.22	0.65
Factor3	1.85	0.71	0.15	0.80
Factor4	1.14	0.43	0.09	0.90
Factor5	0.71	0.28	0.06	0.96
Factor6	0.43	0.24	0.04	0.99
Factor7	0.19	0.06	0.02	1.01
Factor8	0.13	0.04	0.01	1.02
Factor9	0.09	0.06	0.01	1.03
Factor10	0.03	0.04	0.00	1.03
Factor11	-0.01	0.01	0.00	1.03
Factor12	-0.03	0.05	0.00	1.02
Factor13	-0.07	0.02	-0.01	1.02
Factor14	-0.10	0.03	-0.01	1.01
Factor15	-0.12	.	-0.01	1.00

LR test: independent vs. saturated: chi2(105) = 310.52 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
rel_income	-0.30	0.58	-0.40	0.11	0.39
AROP_child	0.90	-0.26	0.13	0.20	0.06
poverty_gap	0.86	0.17	0.01	0.24	0.17
persistent_poverty	0.71	-0.24	0.25	0.05	0.38
SMD_child	0.77	-0.07	-0.37	0.28	0.19
AROP_red_by_fam_bens	-0.74	0.03	-0.35	0.07	0.33
gend_empl_gap	0.11	-0.55	0.33	-0.44	0.38
empl_imp_of_parenth	-0.09	-0.72	-0.61	-0.06	0.10
ER_FT_mothers	0.28	0.84	0.22	-0.12	0.15
ER_PT_mothers	-0.62	-0.23	0.54	0.43	0.09
invol_PT	0.77	0.18	-0.03	0.00	0.37
inact_PT_lack_care	0.62	0.15	0.00	0.27	0.52
childcare_FT	-0.27	0.71	0.15	-0.10	0.40
childcare_PT	-0.51	-0.18	0.57	0.47	0.17
MT_benefits	0.33	-0.01	0.43	-0.50	0.46

Factor analysis/correlation — Number of obs=27
Method: principal factors — Retained factors=4
Rotation: orthogonal varimax (Kaiser on) — Number of params=54

Factor	Variance	Difference	Proportion	Cumulative
Factor1	4.37	1.89	0.36	0.36
Factor2	2.48	0.40	0.20	0.57
Factor3	2.08	0.14	0.17	0.74
Factor4	1.93	.	0.16	0.90

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
rel_income	-0.25	0.31	0.21	-0.63	0.39
AROP_child	0.90	-0.17	0.07	0.30	0.06
poverty_gap	0.88	0.15	0.20	0.01	0.17
persistent_poverty	0.67	-0.09	0.02	0.40	0.38
SMD_child	0.78	-0.25	0.34	-0.17	0.19
AROP_red_by_fam_bens	-0.65	-0.16	-0.09	-0.46	0.33
gend_empl_gap	-0.07	-0.28	-0.03	0.74	0.38
empl_imp_of_parenth	-0.15	-0.91	0.23	-0.06	0.10
ER_FT_mothers	0.21	0.86	0.22	-0.07	0.15
ER_PT_mothers	-0.32	-0.04	-0.90	0.00	0.09
invol_PT	0.69	0.16	0.35	0.11	0.37
inact_PT_lack_care	0.68	0.11	0.10	-0.07	0.52
childcare_FT	-0.27	0.70	0.03	-0.21	0.40

Variable	Factor1	Factor2	Factor3	Factor4	Uniqueness
childcare_PT	-0.20	0.02	-0.89	-0.01	0.17
MT_benefits	0.11	0.26	0.15	0.66	0.46

Kaiser-Meyer-Olkin measure of sampling adequacy

Variable	kmo
rel_income	0.46
AROP_child	0.62
poverty_gap	0.58
persistent_poverty	0.74
SMD_child	0.65
AROP_red_by_fam_bens	0.63
gend_empl_gap	0.49
empl_imp_of_parenth	0.36
ER_FT_mothers	0.41
ER_PT_mothers	0.43
invol_PT	0.86
inact_PT_lack_care	0.80
childcare_FT	0.63
childcare_PT	0.42
MT_benefits	0.44
Overall	0.57

Table A7: Statistical output of factor analysis — Social exclusion

Factor analysis/correlation — Number of obs = 26
Method: principal factors — Retained factors = 3
Rotation: (unrotated) — Number of params = 27

Factor	Eigenvalue	Difference	Proportion	Cumulative
Factor1	4.49	3.39	0.63	0.63
Factor2	1.11	0.16	0.16	0.79
Factor3	0.94	0.33	0.13	0.92
Factor4	0.61	0.39	0.09	1.01
Factor5	0.22	0.15	0.03	1.04
Factor6	0.07	0.09	0.01	1.05
Factor7	-0.02	0.02	0.00	1.05
Factor8	-0.04	0.06	-0.01	1.04
Factor9	-0.10	0.10	-0.01	1.03
Factor10	-0.19	.	-0.03	1.00

LR test: independent vs. saturated: chi2(45) = 175.18 Prob>chi2 = 0.0000

Factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
AROP	0.91	0.10	0.33	0.04
gap	0.85	0.28	0.12	0.18
SMD	0.61	0.06	0.14	0.60
AROP_red	-0.90	-0.11	0.24	0.12
inact_trap	-0.82	0.17	0.26	0.22
inact_trap~r	-0.40	0.71	-0.07	0.33
low_wage_t~p	-0.50	0.59	0.10	0.39
in_work_pov	0.78	0.28	-0.04	0.31
jobless_HH	-0.03	-0.14	0.80	0.33
MT_ben_SE	0.21	0.16	0.10	0.92

Factor analysis/correlation — Number of obs=26
Method: principal factors — Retained factors=3
Rotation: orthogonal varimax (Kaiser on) — Number of params=27

Factor	Variance	Difference	Proportion	Cumulative
Factor1	3.75	1.94	0.53	0.53
Factor2	1.81	0.83	0.25	0.78
Factor3	0.98	.	0.14	0.92

Rotated factor loadings (pattern matrix) and unique variances

Variable	Factor1	Factor2	Factor3	Uniqueness
AROP	0.91	-0.30	0.22	0.04
gap	0.90	-0.13	-0.01	0.18
SMD	0.59	-0.22	0.07	0.60
AROP_red	-0.81	0.33	0.34	0.12
inact_trap	-0.61	0.55	0.32	0.22
inact_trap~r	-0.05	0.81	-0.13	0.33
low_wage_t~p	-0.17	0.76	0.07	0.39
in_work_pov	0.81	-0.12	-0.16	0.31
jobless_HH	0.04	-0.04	0.81	0.33
MT_ben_SE	0.27	0.06	0.05	0.92

Kaiser-Meyer-Olkin measure of sampling adequacy

Variable	kmo
AROP	0.62
gap	0.85
SMD	0.87
AROP_red	0.63
inact_trap	0.70
inact_trap~r	0.37
low_wage_t~p	0.61
in_work_pov	0.66
jobless_HH	0.11
MT_ben_SE	0.32
Overall	0.62

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Chapter 7

Indicators of inclusive growth to complement GDP growth[1]

1. Introduction

The 'Beyond GDP' debate has drawn attention to the need to complement GDP measures with indicators that encompass environmental and social aspects of progress. Indeed, there is growing debate around the limitations of GDP as a measure of key societal goals, and as a result alternative or additional measurement concepts are being tested and increasingly used for policy making at regional, national and international level. One key aspect is the need to complement GDP growth with measures which highlight the inclusive nature of that growth. This reflects the fact that maximising economic growth is not an end in itself, and that while growth is a key component of well-being via ensuring improvements in living standards, the benefits of that growth need to be widely and fairly distributed across society.

Equity considerations are fundamental in that the growth process cannot enjoy sustained democratic support if its fruits are reaped only by a privileged few. In this respect successive revisions of the EU Treaties have led to the objectives of the EU becoming more explicitly focused on integrating economic development with the pursuit of social and environmental quality and sustainability. The crisis has provided a new impetus to pursuing this wider vision of growth, with the adoption of the new European strategy for growth, 'Europe 2020', in 2010. This strategy is about delivering growth that is: smart, through more effective investment in education, research and innovation; sustainable, thanks to a decisive move towards a low carbon economy; and inclusive, with a strong emphasis on job creation and poverty reduction. The strategy is focused on five ambitious goals in the areas of employment, innovation, education, poverty reduction and climate/energy.

Inclusive growth is a top priority aiming at 'a high-employment economy delivering economic, social and territorial cohesion' in which 'benefits of growth and jobs are widely shared'. In this context, the Europe 2020 strategy includes a headline target on reducing poverty or social exclusion ([2]), which was introduced to complement economic growth in this manner. Inclusive growth is also reflected in the recent European Commission Communication on the Social Investment Package (SIP) ([3]), which underlines the necessity to reinforce policies that invest in human capital from a long-term perspective ([4]).

Despite these aspirations, there is widespread concern that the benefits of economic growth are not being shared fairly, and that the current crisis has made matters worse. The OECD report on income inequality, Divided We Stand (2011), has highlighted that the gap between rich and poor in OECD countries had widened continuously over the three decades to 2008, reaching an all-time high. A more recent OECD report (OECD (2013)) shows that the global economic crisis has squeezed incomes from work and capital in most countries and that in general, but particularly in some of the countries where the crisis hit harder, poorer households either lost more income from the recession or benefited less from recovery.

To better detect these phenomena, additional indicators could be considered, allowing for a better measurement of progress of societies and helping address the limitations and possible distortions arising from the use of traditional measures alone. However, on the social side, there is still a need to clarify which indicators best highlight the social realities behind the macro-economic averages and aggregates that typically dominate policy making discussions. There is a need to better measure not only how progress affects society on average, but also how the benefits are distributed across society. In this respect, a key recommendation of the important Stiglitz-Sen-Fitoussi Report (2009) was that governments cannot expect to measure progress using only a single indicator, and that a 'dashboard' was needed, containing a mixture of critical individual and aggregate indicators.

More recently, various international organisations have voiced their preferences regarding appropriate indicators for the measurement of progress, in particular with a view to the upcoming

[1] By Paul Minty and Bartek Lessaer.

[2] To lift at least 20 million people out of the risk of poverty or social exclusion by 2020.

[3] See http://ec.europa.eu/social/main.jsp?catId=1044&langId=en

[4] The SIP package highlights how those countries that moved towards a growth model including a social investment approach within their social policies early and consistently, have more inclusive growth than the others.

Post-2015 Development Agenda. The United Nations Open Working Group on Sustainable Development Goals has highlighted a need for disaggregated data regarding reaching vulnerable populations and addressing inequalities. The United Nations Sustainable Development Solutions Network has proposed to reduce by half the share of households with incomes less than half of the national median income. The World Bank evokes the concept of 'shared prosperity', and favours tracking income growth among a nation's bottom 40% of the income distribution. The International Labour Organisation (ILO) accentuates the creation of decent jobs and inclusive growth. The OECD is committed to addressing the widening gap between the rich and poor, the soaring youth unemployment and the lack of access to services in their new initiative for inclusive growth. It seeks to combine strong economic growth with improvements in living standards and outcomes that matter for people's quality of life (e.g. good health, jobs and skills, a clean environment and community support). The London School of Economics Growth Commission (2013) favours the use of median household income alongside GDP to track the distributional effects of growth.

This chapter focuses on one specific aspect of this debate, namely how to assess inclusive growth/shared prosperity in the beyond GDP context, and in particular the possibility to integrate distributional measures in the monitoring of growth i.e. to go beyond the functioning of the economic system as a whole and consider the diverse experiences and living conditions of individuals and households. It mainly reflects on the use of income-based measures of inclusive growth and/or shared prosperity, and analyses how taking account of the distributional aspects of income can modify growth outcomes. It also analyses how distributional measures relate to assessments of well-being, and how they inform the wider sustainability agenda.

The chapter therefore explores the relevance and feasibility of measures that could be helpful to complement our understanding of economic growth and to better measure societal progress, broadly reflecting the recommendations of the Stiglitz *et al.* (2013) report and the current debate among the major international organisations on this issue.

The analysis in the chapter makes use of a wide range of data sources, principally National Accounts, EU Statistics on Income and Living Conditions (EU-SILC), the ECB Household Finance and Consumption Survey (HFCS), the Eurofound European Quality of Life Survey, and Eurostat indicators of quality of life and sustainable development. The chapter also makes use of relevant literature and studies, especially those by the OECD, the EU Joint Research Centre (JRC), and the European Foundation for the Improvement of Living and Working Conditions (Eurofound).

2. Why is it necessary to complement GDP and to examine inclusive growth?

'*Some dismiss inequality and focus instead on overall growth—arguing, in effect, that a rising tide lifts all boats. But assume we have a thousand boats representing all the households in the United States, with boat length proportional to family income. In the late 1970s, the average boat was a 12 foot canoe and the biggest yacht was 250 feet long. Thirty years later, the average boat is a slightly roomier 15 footer, while the biggest yacht, at over 1100 feet, would dwarf the Titanic! When a handful of yachts become ocean liners while the rest remain lowly canoes, something is seriously amiss.*' (Berg and Ostry, 'Warning! Inequalities May Be Hazardous to Your Growth', IMF Direct (April 8, 2011))

This section explores why there is a need to complement GDP as the main measure of societal progress and, in particular, to capture distributional issues.

2.1. Limitations of GDP for measuring societal progress

Gross Domestic Product (GDP) is the best known measure of economic activity. Developed in the 1930s, it has become a standard benchmark used by policy-makers throughout the world and is widely used in public debates. GDP measures the monetary value of all final goods and services produced for the market, and within a country's borders. It aggregates the value added of all money-based economic activities, and is based on a clear methodology that allows comparisons to be made over time and between countries and regions.

As highlighted in the 2009 Communication 'GDP and beyond: Measuring progress in a changing world' (European Commission (2009)), GDP has also come to be regarded as a proxy indicator for overall societal development and progress in general. In practice, however, it cannot be relied upon to inform policy debates on all issues due to its design and coverage. GDP does not measure economic activities that do not generate monetary income, nor does it put a price on unmeasured externalities, such as the costs of pollution, or the benefits of societal cohesion, even though the goals of environmental and societal sustainability, to which they relate, are seen as of central concern in the Union. Most fundamentally of all, GDP per capita, and its growth over the years, does not tell how the fruits of a higher level of production are shared within a society.

Concerns over the limitations of this measure are not just limited to technicians, with citizens also expressing doubts about the use of GDP growth alone to evaluate the progress of society. A 2008 Eurobarometer poll showed that more than two thirds of EU citizens felt that social, environmental and economic indicators should also be used to evaluate progress, confirming the findings from an international poll in 2007 which had produced similar results ([5]).

Studies have also revealed that citizens can feel distanced from statistical information. A survey from 2009 demonstrated that only 46% of Europeans 'tend to trust' official statistics, such as those concerning unemployment, inflation or economic growth ([6]). A part of this may be due to how such statistics are used to assess societal progress. For example, even when GDP is reported as growing, disposable incomes and public services may be perceived as shrinking, which may actually be the case if it is accompanied by rising inflation, tax increases, growing unemployment, redundancies in public sector jobs, or cutbacks in public services. In a recent paper Atkinson (2013) highlights the limited impact of GDP statistics on the public in the UK and the disconnection between

([5]) Special Eurobarometer 295 / March 2008; a similar poll conducted in 10 countries on the five continents shows an even higher level of support for going beyond GDP, with three quarters agreeing.

([6]) Special Eurobarometer 323 / August-September 2009 on 'Europeans' knowledge of economic indicators'. Question QC6.

the statistical evidence and their perceptions of developments:

'*In the autumn of 2012, statistics showing that GDP in the United Kingdom grew by 1 per cent in the third quarter of 2012 were widely reported in the media and heralded by the government as a sign of the success of its economic policies. But this announcement probably meant little to the UK average citizen, who could see no connection between a statistic produced by the Office for National Statistics and their own economic circumstances.*'

Moreover, as societies become more diverse, indicators based on averages or 'the typical consumer' do not provide sufficient information for the needs of citizens and policy-makers. In this respect, complementing GDP with additional concise metrics that reflect wider public concerns would demonstrate a stronger link between EU policy and the preoccupations of EU citizens.

The need to complement GDP with indicators on social aspects of progress is emphasised in the Stiglitz-Sen-Fitoussi report (2009), which highlights that trends in material living standards and economic well-being are better monitored through measures of household income and consumption than just market production (GDP). In this respect, both income and wealth are fundamental determinants of an individual's well-being. Moreover, to enable a real debate to take place on equity and fairness, the distribution of income, wealth, education, health and environmental quality must be known, as well as evidence on who is gaining and losing from economic growth.

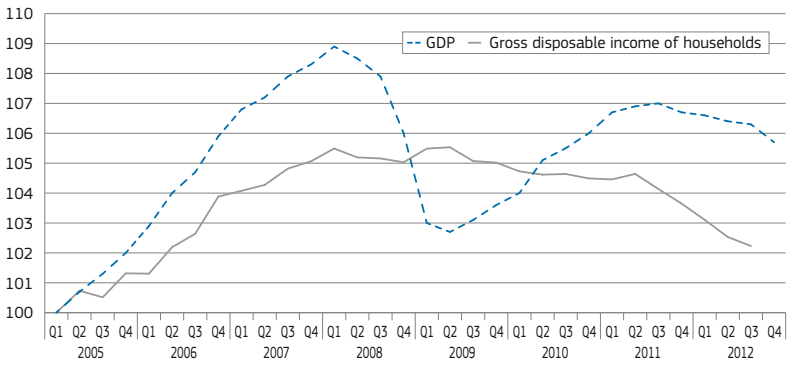
In his recent paper, Atkinson (2013) goes as far as to propose that, rather than starting with Gross Domestic Product (GDP) and the instruments of economic policy, and then considering the social consequences, the policy-making process could be turned on its head ([7]). The starting point should be the living standards and well-being of individuals and their families. He highlights that the fundamental concern of the policy-maker should be with the interests of individual citizens, and that social welfare should be defined in these terms, not in terms of macro-economic aggregates such as growth, inflation or employment, which should be monitored but only used in light of their meaning for individuals and families.

Arguing that '*At present, neither EU nor national government policies are tailored to the person in the street, and this is one major reason why people are indeed out on the streets in protest*', Atkinson calls for the rapid adoption of a new perspective for the measurement of changes in economic performance based on the impact on household living standards and on an explicit consideration of distributional consequences. Concretely, he suggests use of 'household spendable income' as an appropriate measure of household disposable income, adjusted for household size, as the headline indicator of progress.

To illustrate the importance of promoting the use of more appropriate data on the household sector, Chart 1 plots the cumulated growth, since the first quarter of 2005, of GDP volumes and of aggregate household gross ([8]) disposable income in real terms. It shows that, in the early stages of the 2008/2009 economic downturn, household income was hardly affected by the crisis, despite the sharp fall in GDP, suggesting that publicly-funded automatic stabilisers and stimulus packages managed to protect household incomes during the early part of the crisis.

However, household income subsequently decreased while GDP resumed growth until both reached the same level of cumulated growth by the second quarter of 2010. GDP then continued to grow through to mid-2011, but household income fell further, and sharply so over late 2011 and into 2012, as GDP again contracted. Hence, the path followed by household gross disposable income was very different from that for GDP. Moreover, in the period before the crisis, household income rose at a rate considerably less than GDP. All this clearly shows that GDP, despite being the most commonly used aggregate derived from National Accounts, does not sufficiently capture changes in the material well-being of households, not least since movements in GDP and in household income (which is what really matters to people) can diverge considerably.

Chart 1: Cumulated real growth of GDP & aggregate Gross Disposable Income for Households in the euro area (2005q1=100)



Source: Eurostat, National Accounts.

Note: Cumulated growth since the first quarter of 2005 of GDP volumes and of aggregate household gross disposable income in real terms (i.e. deflated by price index for final consumption expenditure of households).

2.2. The need for distributional measures

However, it is not sufficient to only monitor developments in aggregate household income — it is also important to integrate distributional measures. One of the reasons why average per capita measures of income, consumption and wealth often fail to reflect peoples' perceptions of how

([7]) Macro-economic policies, and indeed all policies, are means to an end, not ends in themselves, and the ultimate goal is individual well-being.

([8]) For National Accounts based indicators the terms 'gross' and 'net' do not refer to the pre- and post-tax values. In fact, the difference between the gross and net figures in National Accounts is that the term 'net' refers to the deduction of consumption of fixed capital (a National Accounts term for depreciation of fixed assets). Hence, disposable income reflects the distribution and re-distribution of current transactions, thus corresponding to the after-tax situation, also when using the term gross as in 'Gross household disposable income'.

Table 1: Trends in real household income by income group, mid-1980s to late 2000s – Household incomes increased faster at the top

	Average annual change, in percentages		
	Total population	Bottom decile	Top decile
Austria	1.3	0.6	1.1
Belgium	1.1	1.7	1.2
Canada	1.1	0.9	1.6
Czech Republic	2.7	1.8	3.0
Denmark	1.0	0.7	1.5
Finland	1.7	1.2	2.5
France	1.2	1.6	1.3
Germany	0.9	0.1	1.6
Greece	2.1	3.4	1.8
Hungary	0.6	0.4	0.6
Ireland	3.6	3.9	2.5
Italy	0.8	0.2	1.1
Luxembourg	2.2	1.5	2.9
Netherlands	1.4	0.5	1.6
Portugal	2.0	3.6	1.1
Spain	3.1	3.9	2.5
Sweden	1.8	0.4	2.4
United Kingdom	2.1	0.9	2.5

Source: OECD Database on Household Income Distribution and Poverty.

their resources and consumption possibilities change over time is simply because the benefits of growth are not equally distributed, with some people becoming worse off even if average incomes have increased.

As examined later in the chapter, inequality can also have a significant impact on social and economic cohesion, which are overarching objectives of the European Union. Moreover, far-reaching reforms, such as those required to combat climate change or to promote new patterns of consumption, can only be achieved if efforts made and benefits received are felt to be equitably shared among countries, regions, and economic and social groups.

Some suggest that social and economic challenges appear to be associated with rising income inequalities, a view which has gained prominence through a widely cited book by Richard Wilkinson and Kate Pickett entitled '*The Spirit Level, Why More Equal Societies Almost Always Do Better*' (2009). This argues that more equal societies perform better in terms of a wide range of social outcomes.

In this context, the Stiglitz-Sen-Fitoussi report (2009) makes the following recommendation *(Recommendation 4)* to give more prominence to addressing inequalities through the monitoring of the distribution of income, consumption and wealth:

'Average income, consumption and wealth are meaningful statistics, but they do not tell the whole story about living standards. For example, a rise in average income could be unequally shared across groups, leaving some households relatively worse-off than others. Thus, average measures of income, consumption and wealth should be accompanied by indicators that reflect their distribution.'

When there are large changes in inequality, GDP or any other aggregate statistic may fail to provide an accurate assessment of the situation in which most people find themselves. In fact, if inequality increases enough relative to the increase in average per capita GDP, most people can be worse off even though average income is increasing.

Table 1 highlights the trend in real household income for different income deciles over the past two decades. It shows that, for many countries, there is indeed a marked variation in income growth across income groups. In general, growth is higher for the top decile than for the bottom one, although there are clear exceptions including Greece, Ireland, Portugal and Spain.

All this confirms that average measures, and especially average measures of GDP growth alone, do not give a reliable picture of social progress.

3. Measures of inclusive growth

This section examines recent trends in GDP growth and the corresponding trends in various measures of inclusive growth, in order to better examine the distribution of the benefits of growth and identify the main winners and losers. The focus is on various indicators of income and wealth distribution, mainly based on National Accounts, EU-SILC and the recent European Central Bank led Household Finance and Consumption Survey, but similar considerations could also apply to measures of consumption.

The section first examines developments in broad indicators of the effect of economic growth on the population overall (e.g. the wage share of GDP growth, aggregate disposable household income and median equivalised disposable income ([9])).

It then considers various distributional aspects in relation to income, such as changes in median disposable income by quintile group and trends in standard indicators of income inequality such as the Gini coefficient and the S80/S20 ratio. It also examines alternative measures of 'distributionally adjusted' income, such as the Sen index.

([9]) Equivalised disposable income corresponds to the income that individuals have available for spending and saving, adjusted for household size and composition.

Box 1: Decomposition of National Accounts data

The European System of Accounts is the main tool behind EU economic statistics as well as many economic indicators (including GDP). As a foundation for coherent policy-making, a data framework is needed that consistently includes environmental and social issues along with economic ones. In its June 2006 conclusions, the European Council called on the EU and its Member States to extend the National Accounts to key aspects of sustainable development. Over time, National Accounts data will therefore be complemented with integrated environmental-economic accounting that provides data that is fully consistent. As methods are agreed and the data becomes available this will be complemented, in the longer term, with additional accounts on social aspects.

At the macro-economic level, National Accounts provide a coherent and harmonised system at international level for analysing the relationship between income, savings and household wealth. However, they lack information on the distribution of these items, which would allow us to better understand the behaviour of households and better describe inequalities. At the micro level, the measures of income distribution, consumption and wealth are provided by data from surveys of households. However, due to definitions and concepts specific to each approach, but also differences in coverage, aggregates estimated from surveys need to be reconciled with the data of National Accounts so as to provide a fully consistent dataset for analysing distributional issues.

In 2011, the OECD and Eurostat launched a joint expert group (referred to as the 'Expert Group on Measuring Disparities in a National Accounts Framework') to study the feasibility of establishing an internationally comparable methodology for generating distributional information consistent with National Accounts ([1]). This included work on enhancing existing indicators in National Accounts, and on the decomposition of National Accounts data, for example by income or household groups consistent with National Accounts totals.

In the first phase the expert group focused on a comparison between micro and macro data sources on household income, consumption and wealth in order to better understand the similarities and divergences between both data sources. In the second phase the group examined the allocation of National Accounts totals to groups of households using a range of micro sources, and the subsequent derivation of experimental disparity measures for income, consumption and savings.

Preliminary results (see Fesseau *et al.* (2012)) of the work undertaken by the experts from the countries which are part of the expert group are as follows:

- Even if micro data sources do not provide similar information for all components of household economic resources as defined in the System of National Accounts, existing micro data covers the majority of the income and consumption aggregates in most countries. National Accounts components for which there is no micro data are mainly related to imputed items (e.g. social transfers in kind, employer's imputed contributions, etc.).
- Despite these shortcomings, the work being undertaken demonstrates the relevance of a reconciliation of micro and macro sources. It provides explanations of divergences and facilitates the understanding of gaps between micro and macro aggregates for users.
- Whilst the study demonstrates that micro and macro measures can be reconciled for most macroeconomic income and consumption components, it does not provide a full integration of both sources. Further work is needed to assess the quality of the distributional information provided by micro sources, and to consider the relevance of imputing distributions for National Accounts components with no adequate micro information.

([1]) There were actually two different, but related, projects within this collaboration, one led by the OECD that was carried out by a network of experts from each country, and the other carried out by Eurostat which used EU-SILC data and had as an output NA household income distributed by household type.

Finally, it makes use of the recently released results from the ECB Household Finance and Consumption Survey in order to examine the wealth situation of households across and within euro area countries, and in particular to examine inequalities in the distribution of wealth, as an indication of the long term outcome of economic development.

Regarding data sources, National Accounts should be the ideal source but, while they provide a coherent and harmonised system at international level for analysing the relationship between income, savings and household wealth, they do not contain information on their distribution, which would allow us to better understand the behaviour of households and better describe inequalities. Work is underway, however, to address this and to make it possible in the future for National Accounts data to be decomposed to cover distributional aspects (see Box 1).

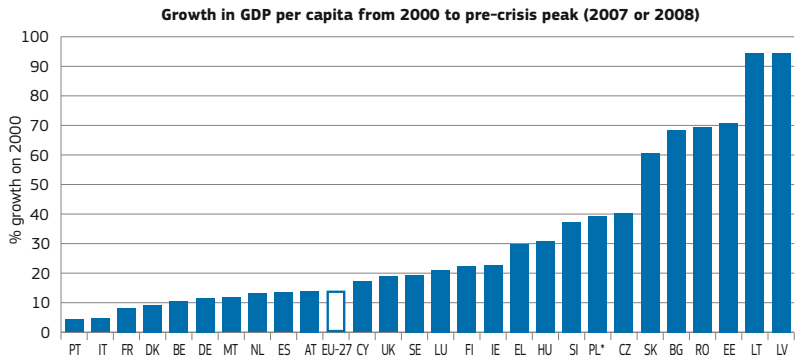
3.1. Developments in broad indicators of the effect of economic growth on the population in general

This section reviews developments in broad indicators of the effect of economic growth on the population overall, covering items such as the wage share of GDP growth and developments in aggregate disposable household income and in median income. It demonstrates why GDP growth is an insufficient indicator of progress and why there is a need to also monitor developments at household or individual level.

3.1.1. GDP per capita

Growth in GDP, and in particular growth in GDP per capita, is often used as a measure of improvements in standards of living in a society, on the rationale that all citizens benefit from their country's increased economic production.

Chart 2: Growth in GDP per capita from 2000 to the pre-crisis peak in 2007 or 2008



Source: Eurostat, National Accounts.

Note: *Poland kept growing past the 2007–08 peak observed in other countries. In 2012, GDP in Poland reached 1.5 times its 2000 level.

The major advantage of GDP per capita as an indicator of standard of living is that it is measured frequently, widely, and consistently. It is measured in most countries on a quarterly basis, allowing trends to be seen quickly. It is measured widely in that some measure of GDP is available for almost every country in the world, allowing inter-country comparisons. It is measured consistently in that the technical definitions of GDP are relatively consistent among countries.

However, GDP per capita is not a true measure of the standard of living in an economy but a measure of total national economic activity — a separate concept. Similarly, GDP per capita is not a measure of personal income in that real incomes for the majority may decline even if GDP increases.

The argument for using GDP as a standard-of-living proxy is not that it is a good indicator of the absolute level of standard of living, but that living standards tend to move with per capita GDP, so that changes in living standards can be readily detected through changes in GDP. However, even this argument has its limitations. Figures show that, up until the financial and economic crisis, there was a broad improvement across Member States in GDP per capita (Chart 2), particularly among the Central and Eastern European Member States. Taken at face value, this would suggest significant rises in living standards for the population in most Member States, but different intervening factors can result in the actual improvement experienced by households and individuals being rather different to that implied by the growth in GDP per capita alone.

To start with, there are various components included in the measurement of GDP growth which are not directly transferable to immediate income effects for households, such as the capital share of national income and the amount of economic growth channelled into investment. Moreover, GDP includes incomes payable to companies and individuals residing abroad, which will not directly impact on national income within the country itself, while it excludes income received from the rest of the world. In this case data on Gross National Income (GNI) may be more relevant ([10]). In addition, redistribution effects of tax and benefits systems can further cloud the link between economic growth and developments in household and individual income. Ultimately, therefore, GDP growth per capita is not ideally suited to describing developments in the material welfare situation of households within a given country.

([10]) GDP measures the total final market value of all goods and services produced within a country during a given period. GNI is equal to GDP less taxes (less subsidies) on production and imports, compensation of employees and property income payable to the rest of the world plus the corresponding items receivable from the rest of the world (i.e. GDP less incomes payable to non-resident units plus incomes receivable from non-resident units). Thus GNI is the sum of gross incomes receivable by resident institutional units or sectors. In contrast to GDP, GNI is not a concept of value added, but a concept of income.

Atkinson (2013) provides a list of technical reasons why an assessment of economic performance based on a measure of household disposable income can differ from that indicated by GDP per capita, including the fact that there can be changes in the share of household income in total national income, spendable income may have moved differently from total household income, changes in National Accounts procedures may have no counterpart in household surveys, and changes in household composition can affect the equivalised ([11]) income of households. Moreover, if a distributionally-adjusted measure of household income (see Section 3.2.5) is used, then changes in the inequality of income will also be a factor.

3.1.2. Income components of GDP and the labour share

Among the income components of GDP (see Box 2), compensation of employees represented a relatively constant share of around half of GDP for the EU as a whole over the period 2000–2012, with a downward trend of 2 percentage points in total between 2001 and 2007 (Chart 3). Gross operating surplus and gross mixed income combined represented around 39% of GDP, and taxes of production and imports less subsidies accounted for around 12%. However, the shares of these components of GDP vary considerably between EU Member States.

The majority of household income is mainly from work (the so-called market-based income) so it would be appropriate to monitor developments with an appropriate measure of the income derived from economic production which is destined for household use, such as the labour share of GDP. This is a measure of the compensation of employees adjusted for the imputed compensation of the self-employed (i.e. from the 'mixed income' component) for the total economy.

The labour share of income generally declined from 2000 through to 2007, implying a reduced participation in the benefits of growth for workers (Chart 4). Although it subsequently increased in 2008 and 2009 with the onset of the

([11]) Equivalised disposable income corresponds to the income that households have available for spending and saving, adjusted for household size and composition.

Box 2: The income components of GDP

GDP is a central measure of the economic performance of a country which can be calculated using three approaches:

- The output approach, which sums the gross value added of various industries, plus taxes and minus subsidies on products;
- The expenditure approach, which sums the final use of goods and services (final consumption and gross capital formation), plus exports and minus imports of goods and services (external balance);
- The income approach, which sums compensation of employees, net taxes on production and imports, gross operating surplus and mixed income.

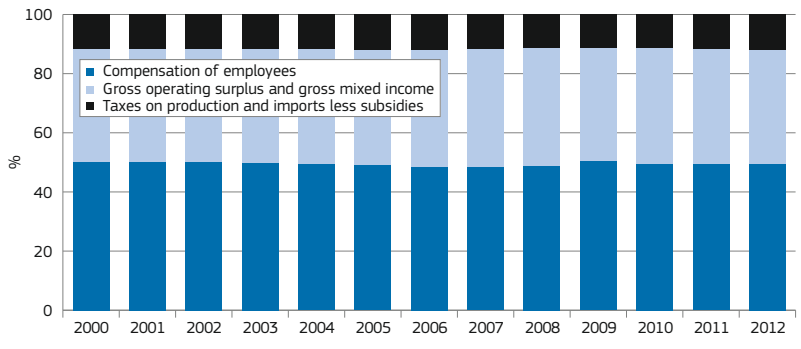
The latter, income approach, measures GDP by adding together incomes that firms pay for the factors of production they hire, i.e. wages for labour, interest for capital, rent for land and profits for entrepreneurship. This shows how GDP is distributed among different participants in the production process. The GDP income components are related to each other according to the following equation:

GDP = *compensation of employees + gross operating surplus + gross mixed income + taxes less subsidies on production and imports*

- **compensation of employees (COE)**: the total remuneration, in cash or in kind, payable by an employer to an employee in return for work done by the latter during the accounting period; the compensation of employees consists of wages and salaries (in cash and in kind) and of employers' social contributions.
- **gross operating surplus (GOS)**: the surplus (often called 'profits') due to owners of incorporated businesses i.e. the surplus (or deficit) on production activities before interest, rents or charges paid or received for the use of assets have been taken into account. It corresponds to the income which units obtain from their own use of production facilities, i.e. the excess amount of money generated by incorporated enterprises' operating activities after paying labour input costs. In other words, it is the capital available to financial and non-financial corporations which allows them to repay their creditors, to pay taxes and eventually to finance their investment.
- **gross mixed income (GMI)**: this is the remuneration for the work carried out by the owner (or by members of his/her family) of an unincorporated enterprise (e.g. small family businesses like farms and retail shops or self-employed taxi drivers, lawyers and health professionals); this is referred to as 'mixed income' since it cannot be distinguished from the entrepreneurial profit of the owner (i.e. it includes both the remuneration of the capital and labour (of the family members and self-employed) used in production).
- **taxes on production and imports less subsidies**: these consist of compulsory (in the case of taxes) unrequited payments to (taxes) or from (subsidies) general government or institutions of the European Union, in respect of the production or import of goods and services, the employment of labour, and the ownership or use of land, buildings or other assets used in production.

crisis, this reflects the sharp decline in economic activity during the same period and the fact that profits are more cyclically sensitive than wage incomes, with many firms posting substantial losses in the depths of the recession. In this respect it can be noted that the labour share declined again in the following two years as some firms laid off workers or reduced wages, and profits recovered. From a longer-term perspective, it is generally agreed that the labour share of income has substantially decreased over recent decades ([12]), indicating a long-term trend of reduced participation of workers in the benefits of growth.

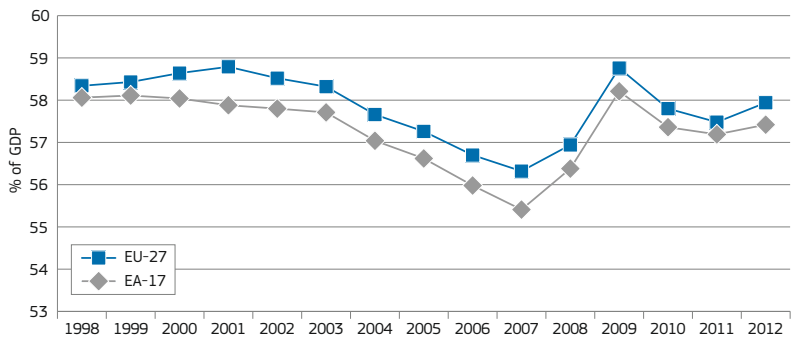
Chart 3 : Share of GDP by income component for the EU-27, 2000–2012



Source: Eurostat, National Accounts.

([12]) See for example, 'Le Capital au XXIème siècle' from Thomas Piketty (available at http://piketty.pse.ens.fr/fr/capital21c).

Chart 4: Labour share of income (wage share as a percentage of GDP)



Source: Commission Services.

3.1.3. Household disposable income

While GDP per capita is mainly an indicator reflecting the level of economic activity, household disposable income is seen as an indicator better adapted to describe the material welfare situation of households. The current European System of Accounts includes indicators that highlight socially relevant issues, such as the aggregate disposable income of households and the 'adjusted' disposable income figure that takes into account differences in social protection regimes between countries. The use of such indicators figure among the recommendations of the Stiglitz-Sen-Fitoussi report:

We conclude that giving more prominence to income measures of households, especially indicators of adjusted disposable income, are simple and useful ways to enhance the relevance of National Accounts statistics to the measurement of material living standards.

Within the system of National Accounts, it is possible to attribute the distribution of the income generated by economic activity to the following: non-financial corporations, financial corporations, general government, non-profit institutions serving households, and households. Hence, income can be computed for private households as well as for the economy as a whole.

Disposable income of households may be defined as the net amount earned, or received as social transfers, during the accounting period but excluding exceptional flows relating to capital transfers or changes in the volume/value of their assets. It is mainly composed of wages received, revenues of the self-employed, income from property and other net income sources such as interest received on deposits *minus* interest paid on loans and dividends.

Some of the income that citizens receive is taken away in the form of taxes, and so is not at their disposal. However, it is used to provide public goods and services, to invest in infrastructure and elsewhere, and to transfer income to other (normally more needy) individuals. A commonly employed measure of household income adds and subtracts these transfer payments with the resulting figure referred to as a measure of aggregate household disposable income.

As shown earlier for the euro area (Chart 1), growth trends in GDP and real aggregate household disposable income can differ considerably (for a more detailed analysis see also ESDE 2012 ([13]) (Chapter 3) on trends in household disposable income and GDP, and the role of welfare systems in stabilising incomes during the crisis). Chart 5 shows that, at EU level, households ([14]) receive around two thirds of the total gross disposable income generated from economic activity, but that the share declined from 66.6% in 2001 to 63.5% in 2007 before adjusting upwards again with the crisis, and stabilising at around 65% in 2011 and 2012.

In other words, the share of the benefits from GDP and its growth which accrues to households can vary over time.

Chart 6 shows the trends in the gross disposable income share for the household sector in the larger EU Member States since 2000. This highlights the extent to which variations in the share can be more marked at individual Member State level. Hence households will be significantly affected not only by the overall growth rate in economic activity (GDP growth) but also by the changes in the share of the income derived from that activity which accrues to them.

However, the above measure of disposable income only captures monetary transfers between households and the government, and neglects the in-kind services that government provides. A measure that corrects for differences in institutional arrangements may be warranted in order to ensure accurate comparisons over time or across countries. Adjusted disposable income is a measure derived from National Accounts that goes some way towards addressing this, at least where 'social transfers in kind' by government are concerned. It improves the comparison of income levels across countries by taking into account the different degrees of involvement of governments in the provision of free services to households.

Gross ([15]) adjusted disposable income is derived from the gross disposable income of an institutional unit or sector by adding the value of the social transfers in kind receivable by that unit or sector, and by subtracting the value of the social transfers in kind payable by that unit or sector. For the household sector, adjusted gross disposable income includes the flows corresponding to the use of individual services which households receive — either free of charge or subsidised — from the government. These services mainly include education, health and social security services, although services such as housing, cultural and recreational services are frequently provided in this way as well.

([13]) Available at http://ec.europa.eu/social/main.jsp?langId=en&catId=113&newsId=1774&furtherNews=yes.

([14]) Actually households plus the non-profit institutions serving households.

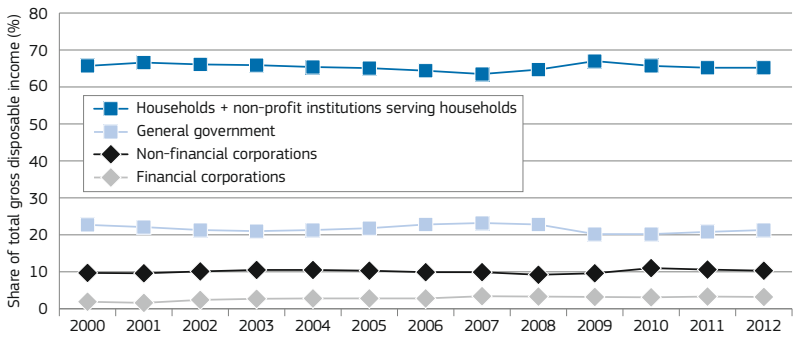
([15]) Recall that in National Accounts 'gross' refers to items calculated before deduction of consumption of fixed capital and 'net' refers to items calculated after this deduction.

Comparison at individual Member State level of the cumulative growth in both real disposable income of households and the adjusted real disposable income figure with that for real GDP once again shows that trends in household income can be rather different from those for GDP (Chart 7). Moreover the changes in GDP and in household disposable income can move in opposite directions and vary in magnitude from year to year.

While the different time series show similar patterns for all three indicators in some Member States (essentially the Baltic States), movements in GDP and household income tend to vary in the majority of cases. In some, such as the Czech Republic, Germany, Poland, Slovenia and Slovakia, real GDP growth has generally outpaced growth in real household disposable income in recent years, even when taking into account the impact of social transfers in kind. In these countries, households have clearly not benefited in full from economic expansion, at least over the period up until the onset of the crisis.

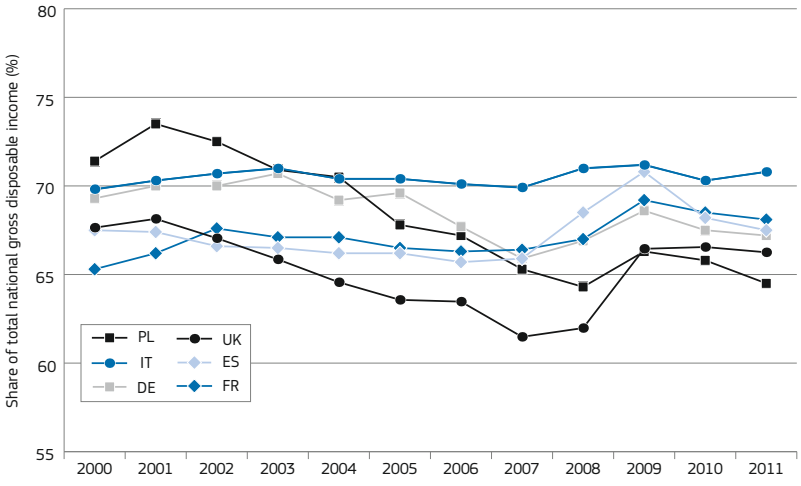
In others, including Denmark, France, Portugal, Romania, Finland and Sweden, household incomes grew at a faster rate than GDP over the period from 2000 to 2011, and in some cases (Denmark, Finland, France, and Sweden) did not appear to be affected by the crisis and continued to rise. In contrast, a clear impact on household incomes can be observed in the Baltic States, Greece, Hungary, Italy, Portugal, Romania and Spain. The divergence in the trends between the unadjusted and adjusted income figures highlights those countries where increased effort has been put into social transfers in kind, most notably in Belgium, Denmark, the UK and above all the Netherlands.

Chart 5: Trends in the shares of income from economic activity by institutional sector, EU-27 from 2000 to 2012



Source: Eurostat, National Accounts.

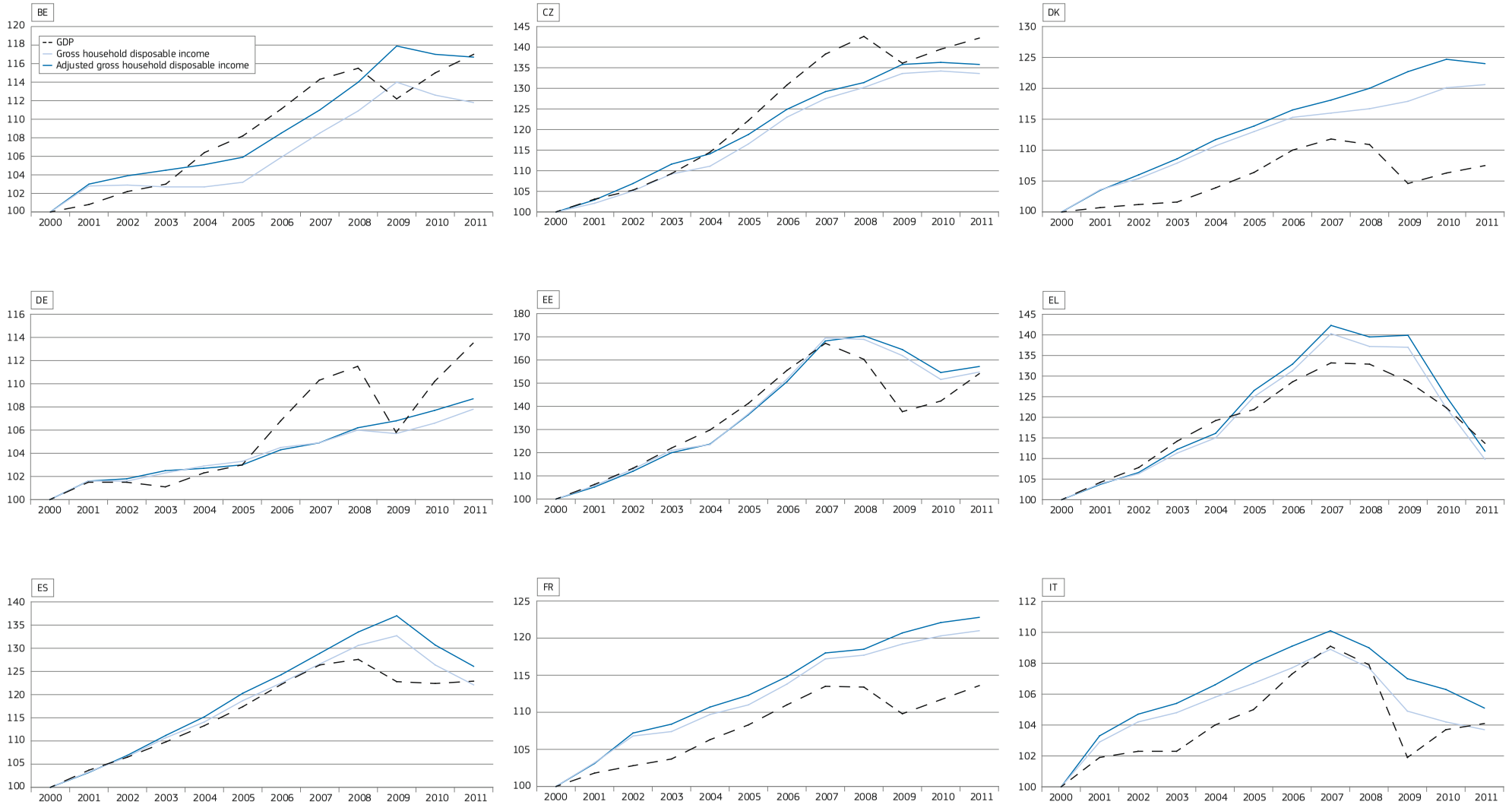
Chart 6: Trends in the shares of household income in total income from economic activity for the larger EU Member States, from 2000 to 2011

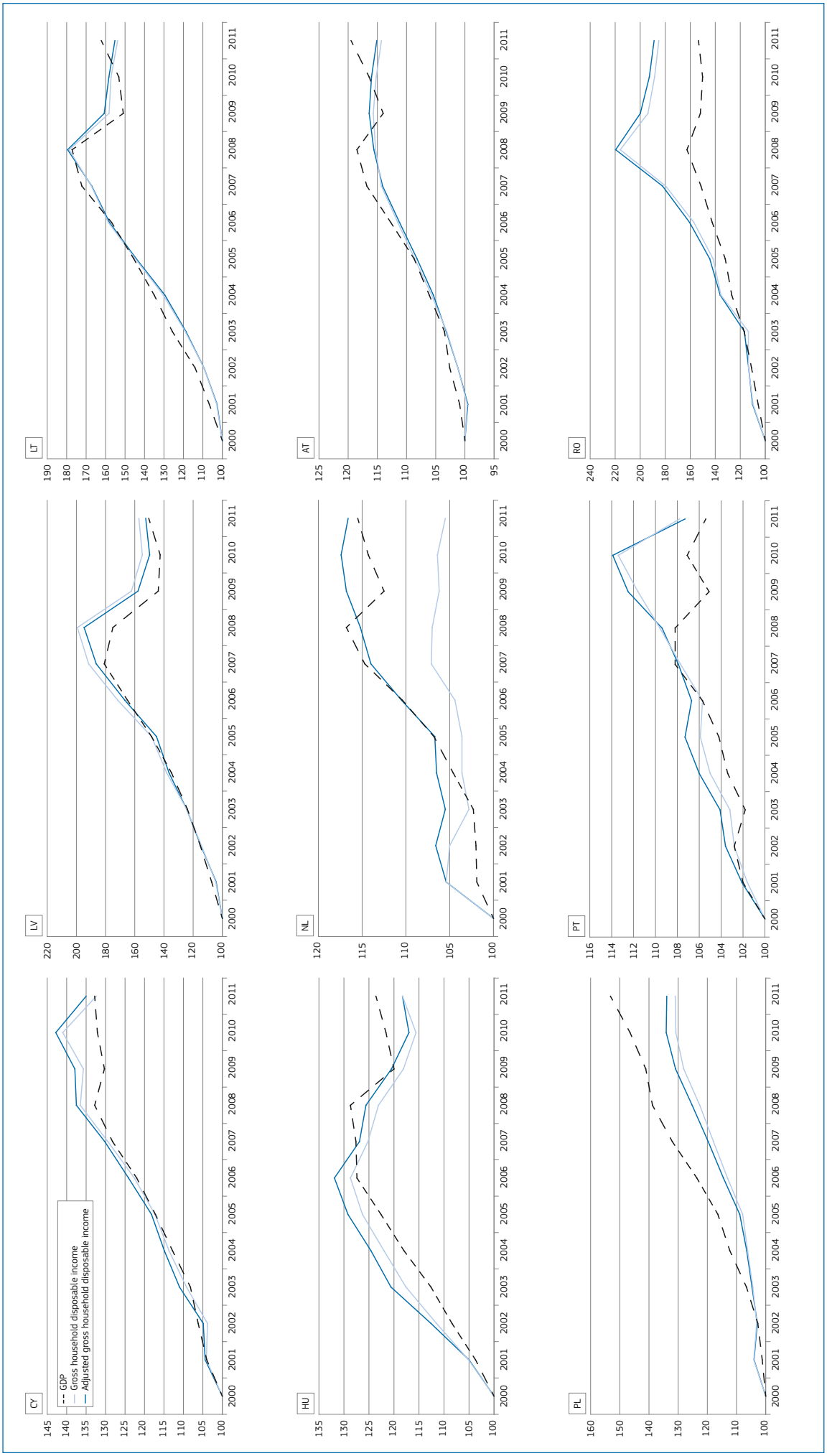


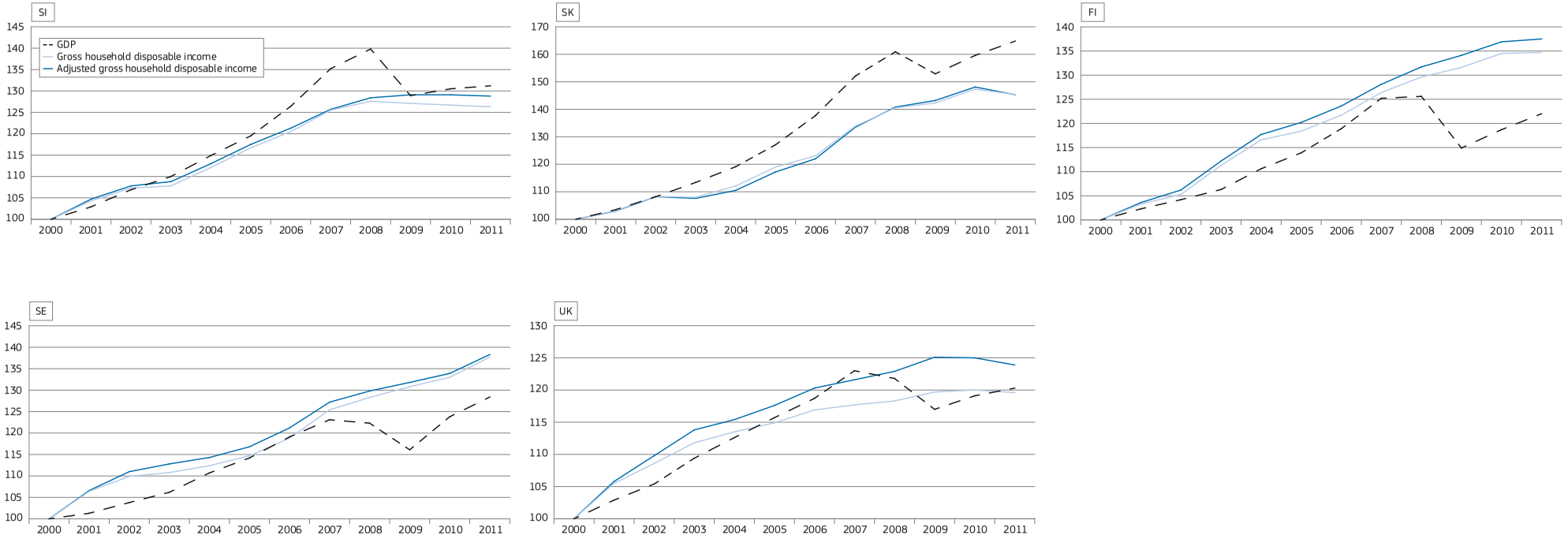
Source: Eurostat, National Accounts.

In conclusion on this point, developments in household disposable income and income adjusted for in-kind transfers received from government differ considerably from GDP developments in many Member States. Household disposable income, and in particular the adjusted disposable income, therefore appears to be a relevant indicator to monitor alongside GDP since it is a more appropriate measure of citizens' command over economic resources.

Chart 7: Cumulated growth of real GDP, gross household disposable income and adjusted gross household disposable income across selected EU Member States, 2000–2011




GDP
Gross household disposable income
Adjusted gross household disposable income
CY
LV
LT
HU
NL
AT
PL
PT
RO



Source: Eurostat, National Accounts.

Note: Cumulated growth (as index with 2000=100) since 2000 of GDP volumes, gross household disposable income in real terms and adjusted gross household disposable income in real terms (i.e. deflated by the price index for the final consumption expenditure of households, 2000=100). The scale of the y-axis varies across the sub-charts.

3.1.4. Median income

As highlighted by Stiglitz *et al.*, average or aggregated measures of income give no indication of how the available resources are distributed across persons or households. For example, average income per capita can remain unchanged while the distribution of income becomes less equal. It is therefore necessary to look at disposable income for different groups.

A first step is to measure median income (the income level such that half of all individuals are above it and half below). The median individual is, in some sense, the 'typical' individual. If inequality increases, the difference between median and mean ([16]) income may well increase, meaning that a focus on the mean (commonly, and hence misleadingly, referred to as the average) may not give an accurate picture of the economic well-being of the 'typical' member of society ([17]).

As part of its assessment of the reform in the way the UK authorities measure and monitor changes in material well-being and its distribution, the LSE Growth Commission (2013) suggests publishing median household income alongside the data on GDP on a regular basis. It argues that a focus on household income provides a better way of capturing what people actually receive out of national income, with the median better than the mean since it is reflective of progress in the middle of the income distribution. For example, increases in GDP that go solely to the rich would not increase this measure. It also emphasises that '*looking at median income would create more focus on inclusive growth that generates wider benefits, and reminds us to look more deeply into distributional issues, particularly for the poorest parts of society*'. The Growth Commission recognises that the median is not perfect either but argues that it is better to use it than ignore distribution issues entirely, and that it is easy to communicate to the public. Moreover, it sees the monitoring of developments in median income as a particularly valuable way of gauging the inclusiveness of the growth that is generated.

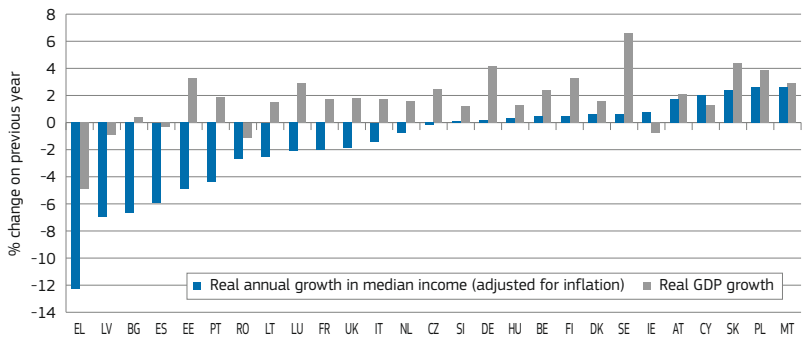
In this section we therefore examine developments in living standards, as measured by the growth in median equivalised disposable income ([18]) (adjusted for inflation ([19])) in EU Member States over recent years. Preference is given to using equivalised disposable income as it takes into account the impact of household size and structure. Moreover, this indicator gives an immediate impression of real income growth for a typical citizen, which also takes into account the impact of price changes. It can be compared directly to the figure for real GDP growth per capita to see to what extent the average citizen is benefiting from economic growth.

Chart 8 shows, for illustrative purposes, the change in median equivalised disposable income in 2010 compared with 2009 ([20]) (after adjusting for inflation) along with real GDP growth. This allows us to see the extent to which changes in GDP in real terms are associated with changes in real median equivalised disposable income, as measured in EU-SILC. It demonstrates that the evolution of real GDP and that of median equivalised disposable income can be rather different. For example, there are several countries where the two indicators did not even change in the same direction between 2009 and 2010. Moreover, even when changes were in the same direction, there were many cases where there was a substantial difference in the magnitude of the changes. It can be noted that, even when GDP growth was positive, the growth in income was, almost without exception, lower, and in several cases was actually negative.

Looking at changes over several years in some selected Member States (Chart 9) confirms the lack of a strong generalised link between annual changes in GDP per capita in real terms and changes in real median equivalised disposable income. Although the two indicators evolved in a broadly similar fashion in Ireland (apart from in 2006), for other Member States there were large differences in the annual changes for several years, underlining the point that monitoring developments in median income bring an added dimension to the assessment of social progress.

In light of the above, it can be argued that the annual growth rate in real median income should be a key indicator to complement GDP (per capita) growth figures. The income figure would be the inflation-adjusted median equivalised disposable income derived from EU-SILC, which would provide an immediate impression of income growth for a typical citizen, taking into

Chart 8: Real annual growth in median equivalised disposable income (adjusted for inflation) and real GDP growth, 2010 compared to 2009



Source: Eurostat, National Accounts and EU-SILC.

([16]) The mean is the sum of the set of data values divided by the number of data values. The median is the middle point of the data set, in which half the values are above the median and half are below. Large differences between the mean and the median reflect a very unequal distribution with very high values at the top. This is due to the fact that the mean is sensitive to the presence of very high values at the top of the distribution, whereas the median is not.

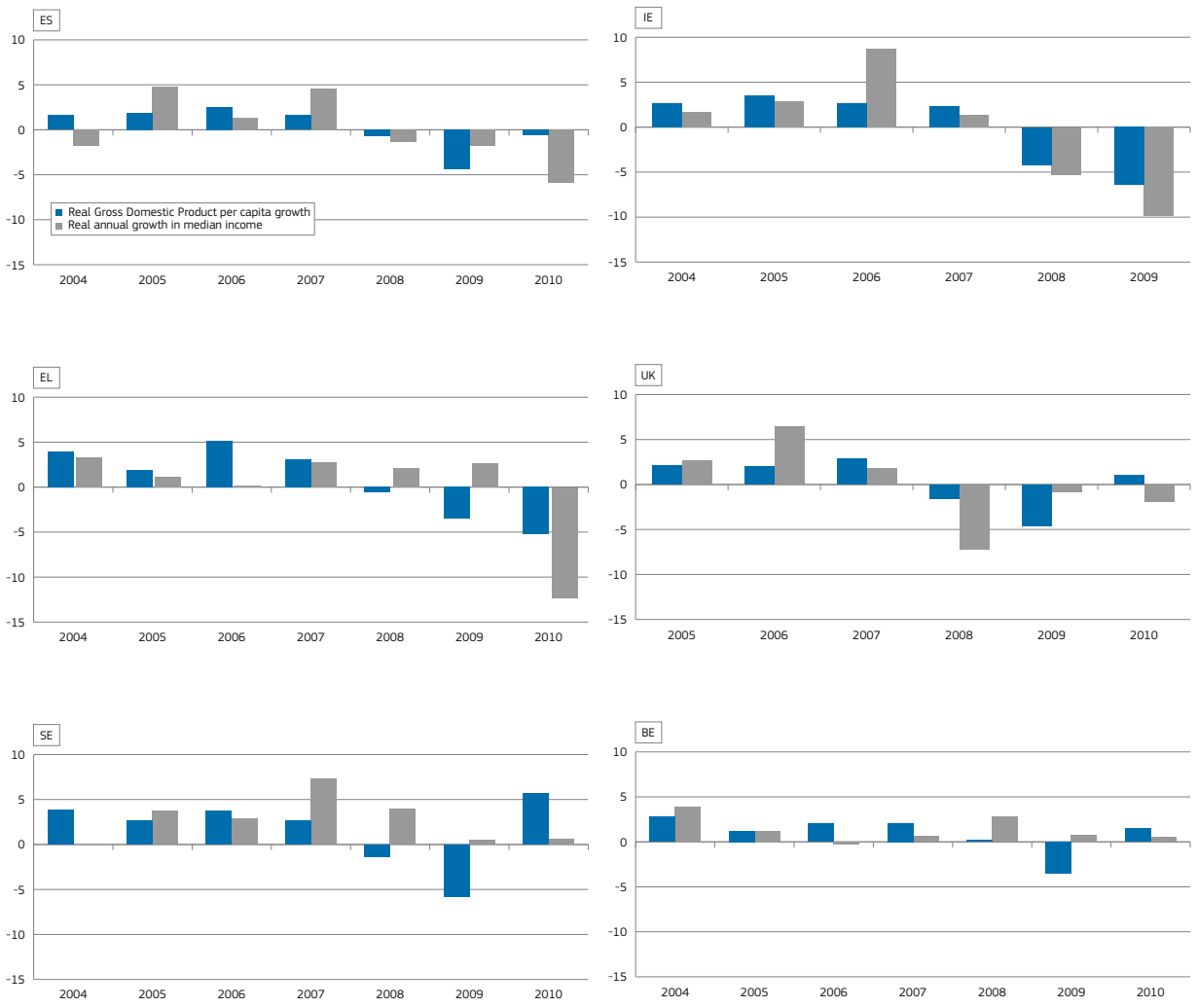
([17]) For example, if all the increases in societal income accrue, say, to those in the top 10 %, median income may remain unchanged, while average income increases.

([18]) The median is the point on the income scale at which half earn more and half earn less, and equivalised disposable income corresponds to the income that households have available for spending and saving, adjusted for household size and composition.

([19]) To take account of inflation use is made of the HICP (Harmonised Index of Consumer Prices).

([20]) The results are purely illustrative of the different patterns in real GDP growth and growth in real median income which may be observed, as growth patterns between 2009 and 2010 were rather unusual.

Chart 9: Annual change in real GDP per capita and in real median equivalised disposable income (%)



Source: Eurostat, National Accounts and own calculations based on Eurostat, EU-SILC ([1]).

([1]) The EU-SILC data series on household income starts in 2004 (2005 EU-SILC edition) for the EU-25 and in 2006 (2007 EU-SILC edition) for the EU-27.

account price changes, and provide a clear indication of the extent to which the average citizen is benefiting from economic growth.

However, in order to obtain median income figures with similar timeliness to those for GDP it would be necessary to undertake steps to reduce the delays in making data available from EU-SILC, although nowcasting techniques ([21]) might be used to provide estimates of income developments before official figures become available (see for example Navicke, Rastrigina and Sutherland (2013)).

([21]) Nowcasts are similar to economic forecasts, and aim to provide estimates of the evolution of the income distribution, and key income poverty indicators up to year N, for income year N.

3.2. Integrating distributional measures in the monitoring of growth

So far results have been presented based on broad indicators of the effect of economic growth on the population at large. However, even these aggregate indicators, which are focused more on household/individual level developments rather than market production, are not enough to gauge social developments sufficiently. For that, some indications of the distributional effects across the population are required. Hence it is important to examine developments in the different parts of the income distribution in order to have a better picture of the distribution of the benefits of economic growth. While median income provides a reasonable measure of what is happening to the more 'typical' individual or household around the centre of the income distribution, for many purposes it is also important to know what is happening at the bottom of the income distribution (as captured in poverty statistics), and at the top.

3.2.1. Developments in income distribution

Data for the period 2004 to 2010 highlights the extent to which there can be variations in income growth across the different segments of the income distribution. Different patterns are visible across Member States in the relative change in median income per quintile indexed to the respective income figure in 2004, as illustrated in Chart 10.

In some countries, such as Austria, but also Cyprus and Malta, the developments in median income have been broadly similar across quintiles over recent years. In others, such as Denmark, the overall growth in median income in the lowest (i.e. the 1st) quintile ([22]) has clearly been below that for other quintiles, indicating that the poorer segment of the population has shared less in the benefits of growth. A similar pattern is shown by the other Nordic Member States, Finland and Sweden, where median income growth for the lowest quintile has also lagged behind.

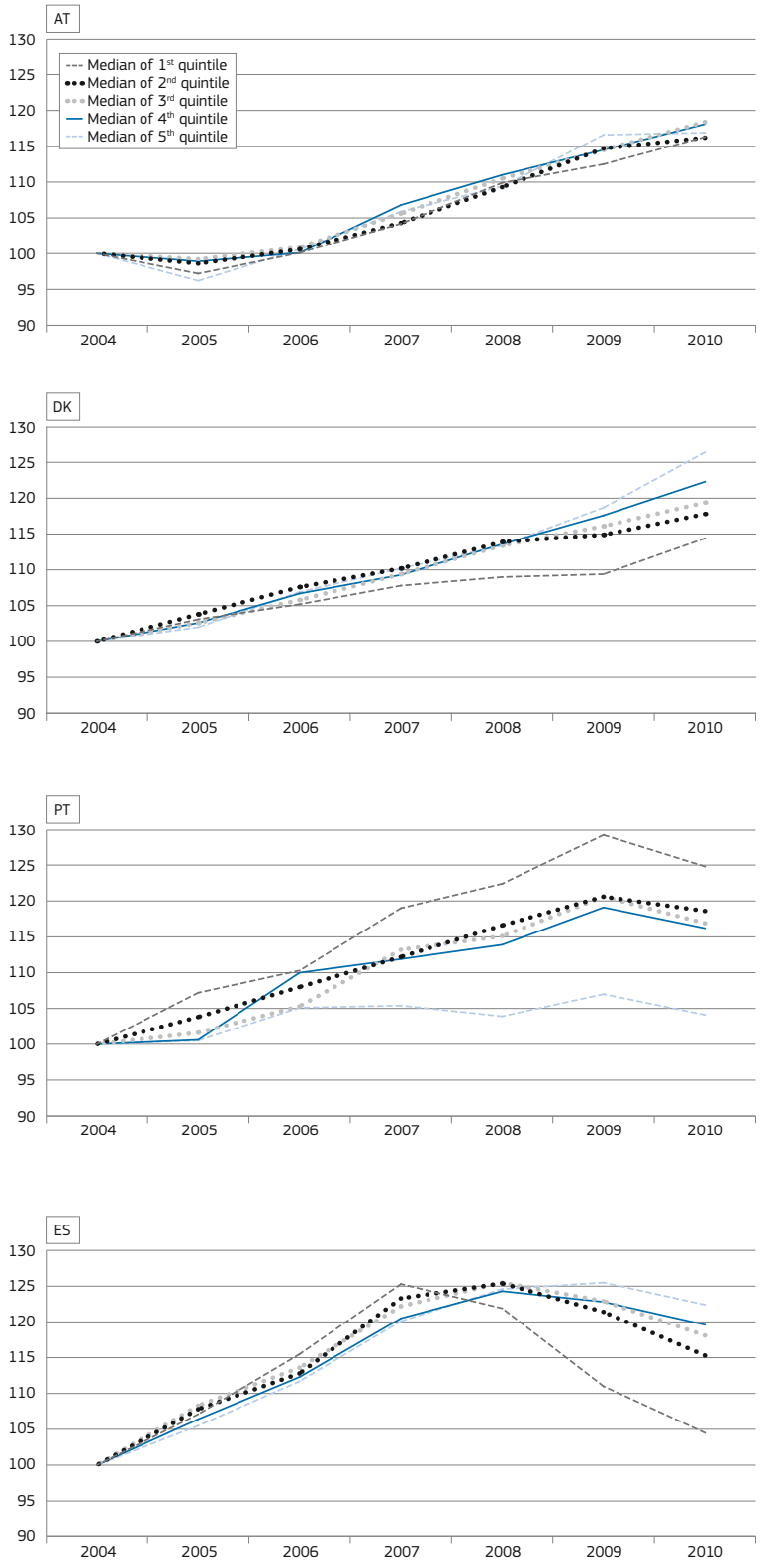
In contrast, in several other Member States it appears that the median income of the lowest quintile has grown relatively more than that of the other quintiles compared to 2004, showing a similar pattern to that of Portugal. Other such cases include the Czech Republic, Poland, Romania, the UK and Ireland (although in the latter median incomes of all quintiles have dramatically adjusted downwards following the crisis, and especially for the bottom quintile).

Finally, in a few countries, incomes of the lowest quintile increased relatively more in the period before the crisis, but subsequently fell more sharply than in the upper quintiles when the crisis hit, with the result that overall income growth for this group has been the weakest. This is clearly the case in Spain, but Italy also shows a somewhat similar pattern.

In light of the above, it is clearly necessary, not just to monitor developments in the median income situation of the population as a whole, but to monitor median income developments *within* different parts of the income distribution, most notably that within the lowest income quintile, in order to identify to what extent this more vulnerable group is falling behind general income developments and not benefiting from economic growth. For comparative purposes, it would seem appropriate to also show the developments for the top income quintile.

An appropriate indicator, therefore, to monitor the developments in income for the different segments of the population could be the annual growth rate in the median equivalised disposable income for the lowest income quintile, together with that for the top income quintile. Moreover, these indicators of how the median incomes for the different extremes of the income distribution have changed over the last year would be particularly informative if they took into account underlying changes in inflation. Presenting the annual growth rate in median equivalised income for the lowest income quintile and for the top income quintile in real terms would show more clearly how incomes had developed for the less well-off and the comparatively rich, taking into account price developments.

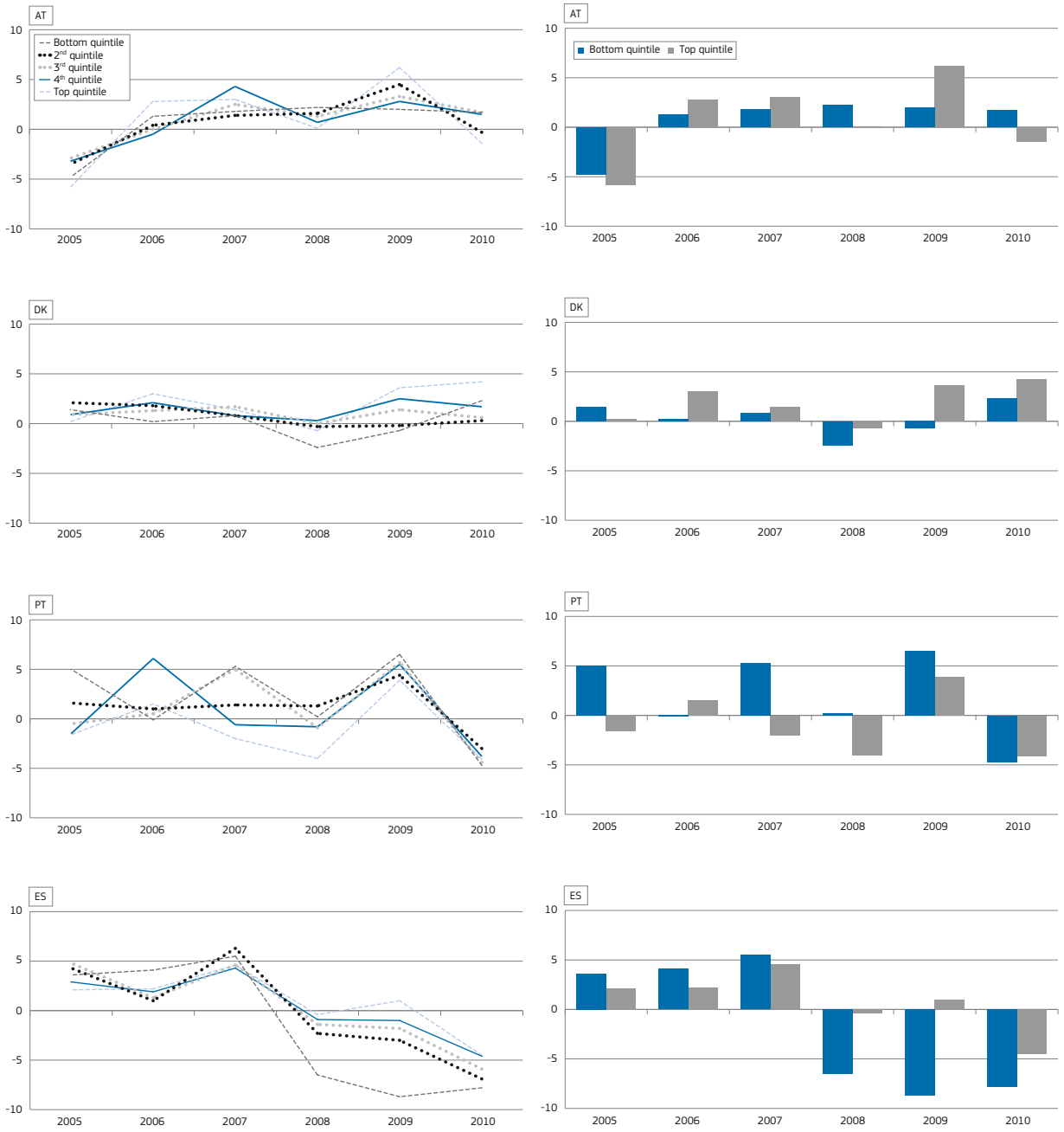
Chart 10: Index of median income by quintile (2004 = 100) for selected Member States



Source: Own calculations based on Eurostat, EU-SILC.

([22]) The 1st or lowest quintile corresponds to that with the lowest income and the 5th or highest quintile to the richest group.

Chart 11: Annual growth in median income across quintiles (adjusted for inflation) and the evolution in median income growth in the bottom and top quintiles (adjusted for inflation) for selected Member States (%)



Source: Own calculations based on Eurostat, EU-SILC.

The following charts (Chart 11) provide examples of the annual growth rates (as percentages) in equivalised disposable income in real terms across quintiles for the specific Member States mentioned above, together with (on the right hand side) the annual real growth rates of the median income of the lowest and top income quintiles. These once again highlight the different patterns across countries in the evolution of real median income across quintiles, while the charts focusing on the time series for the lowest quintile illustrate how the situation of the poorer income group has developed, and clearly highlight the differing experiences across countries.

An equivalent monitoring of the annual growth rate in real median income for the highest income quintile helps complete the picture, allowing for a direct comparison with the evolution in income at the other end of the distribution. These charts, once again, highlight the broadly similar real income growth (other than in 2009) in the top and bottom quintiles in Austria, the stronger income growth evolution for the top quintile in Denmark, in contrast to the generally weaker evolution for the top quintile in Portugal (while the bottom quintile saw stronger income growth overall), and in Spain the much stronger deterioration in incomes for the lower income group immediately following the crisis, while the top quintile remained relatively unaffected until 2010.

3.2.2. Standard indicators of income inequality

Apart from focusing in detail on the developments in median income for different segments of the income distribution, several well-established overall measures of inequality in the income distribution exist (see Box 3). The choice of which indicator to use entails a judgement concerning which particular aspects of differences in the income distribution are considered the most important, for example the gap between the income going to the top quintile compared to that going to the bottom quintile (S80/S20), or that of the top 10% compared to that of the bottom 40% (Palma ratio), or the extent to which the distribution of income among individuals deviates from a perfectly equal distribution (Gini coefficient).

Box 3: Standard Indicators of Income Inequality

The most widely used indicators of income inequalities are the following:

- **Gini coefficient**: measures the extent to which the distribution of equivalised disposable income among individuals deviates from a perfectly equal distribution. A Gini index of zero represents perfect equality and 1 (or 100%), perfect inequality. Practically, it measures the area between the Lorenz curve (which plots the cumulative shares of total income against the cumulative share of the population) and a line defined by hypothetical perfect equality in income distribution. It is relatively insensitive to the tails of the income distribution, being more sensitive to changes around the mode, making it relatively robust to problems associated with reliability of extreme values.
- **S80/S20 ratio** (or the income quintile share ratio): the ratio of total income received by the 20% of the population with the highest income (the top quintile) to that received by the 20% of the population with the lowest income (the bottom quintile). If S80/S20 is equal to x, it implies that the income of the richest 20% of the population is higher by a factor of x than the income of the poorest 20%. The ratio is an appealing measure of disparity as it is both easily understandable and represents an effective way to measure the distance between the extremes of a distribution. However, by its very nature, it ignores information on income and income dispersion between the 20th and the 80th percentiles, which constitutes the majority of the population under consideration. The presence of extreme income values, belonging to either the upper or the lower tail of the income distribution, could produce a high value of the ratio, even if the interquantile range from the 20th to 80th percentile is fairly equitable.
- **Atkinson index**: An inequality index that allows for varying sensitivity to inequalities in different parts of the income distribution; it incorporates a sensitivity parameter (ε), which can range from 0 (meaning indifference about the nature of the income distribution), to infinity (concern only with the income position of the very lowest income group). In practice, (ε) values of 0.5, 1, 1.5, or 2 are used. The Atkinson index is measured as follows:

$$A_\varepsilon = 1 - \frac{1}{n}\sum_{i=1}^{n}\left(\frac{y_i^{1-\varepsilon}}{\mu}\right)^{\frac{1}{1-\varepsilon}}$$

  where y_i defines the income level of an individual/household *i*, μ is the mean income, *n* is the number of individuals/households and ε is a parameter of sensitiveness to transfers at different levels of the distribution. ε can also be understood as a measure of the degree of 'aversion to inequality'.
- **Palma ratio (top 10%/bottom 40%)**: The Palma ratio (see Palma (2011) and Cobham and Sumner (2013)) is the ratio of the top 10% of the population's share of income, divided by the poorest 40% of the population's share of income. It is based on the observation that, in countries at quite different income levels, the five 'middle' deciles (5 to 9) tend to capture around 50% of national income. However, the other half of national income is shared between the richest 10% and the poorest 40%, but the share held by each varies considerably across countries. Intuitively easier to understand than Gini it may be a more relevant measure of inequality for poverty reduction policy. For a given, high Palma value, it is clear what needs to change: to narrow the gap, by raising the share of national income of the poorest 40% and/or by reducing the share of the top 10%.
- **Percentile ratio**: The ratio of the income received by the pth centile to another centile, for example P90/P10 or P90/P50.

The Gini coefficient is the one most widely used to date in the inequality literature. The Atkinson index is one of the most popular welfare based measures of inequality, which allows for greater weight to be placed on changes in a given portion of the income distribution. For example, the Atkinson index can be made sensitive to changes at the lower end of the income distribution, which is the end that usually arouses more concern. The relative advantage of the quintile and percentile ratios is that they provide an easily understandable measure of inequality, and allow for seeing how relative differences within the income distribution develop. Indicators that consider the extremes of the distribution, like S80/S20 or the Palma ratio, are more advantageous if changes in the middle of the distribution are of less concern.

3.2.3. Recent trends in inequality

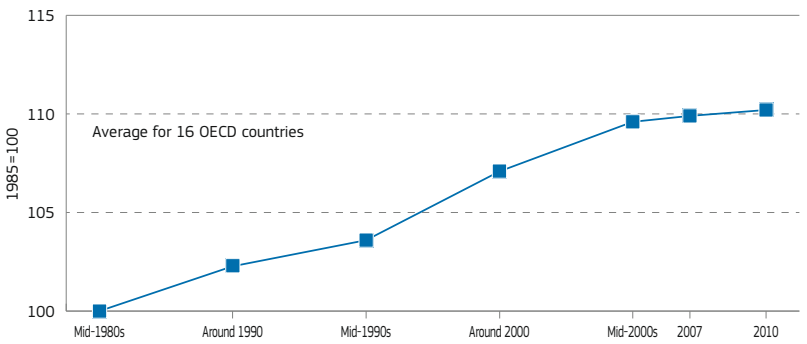
Almost all available indicators suggest that income inequalities have been rising in the industrialised nations since 1970 (for example see Jenkins and Micklewright (2007)) but with considerable variations between countries in terms of both the patterns and timing of changes. Research, such as that by the Growing INequalities' Impacts (GINI) project ([23]), confirms a general long-term rising trend in income inequalities, albeit with important country variations and occasional trend reversals.

Developments in income inequality were the subject of a comprehensive publication by the OECD (2011a), which highlighted a general trend of widening income disparities. While in the mid-1980s the Gini coefficient for the working age population was equal to around 0.29 in OECD countries, it rose to 0.32 in the late 2000s. Particularly striking was the increase in income inequality of traditionally relatively more equal societies, such as the Nordic countries and Germany. The causes of this rising income inequality have attracted much political and scholarly debate, with the OECD (2011a) report providing a wealth of explanatory mechanisms, ranging from rising wage inequality to different tax and benefits policies and household structures.

The principal reasons given for the overall trend include a polarisation in market-derived incomes (a growing difference between low and very high earnings, the increasing importance of unevenly distributed capital income, and job-rich versus job-poor households) as well as changes in family structure (smaller households), and the fact that tax and benefit systems have become less redistributive in many countries since the mid-1990s.

The single most important driver has been greater inequality in wages and salaries, which reflects the fact that earnings account for about three quarters of total household incomes among the working-age population in most OECD countries. The earnings of the richest 10% of employees have risen rapidly in most cases, with top earners moving away from the middle earners faster than the lowest earners, thereby extending the gap between the top and the increasingly squeezed middle-class.

Chart 12: Trends in the OECD average Gini coefficient of income inequality (mid-1980's - 2010).



Source: OECD (2013).

Greater earnings gains for workers with higher skills (driven by technological progress), the increased prevalence of atypical labour contracts (especially part-time work), more low-paid people in work and the declining coverage of collective-bargaining arrangements in many countries are all seen to have contributed to a widening distribution of wages.

Other factors which have contributed to rising inequality, although much less so than the changes in the labour market, include changing family structures (which make household incomes more diverse and reduce economies of scale) and changing marriage behaviours, the effects of cuts to benefit levels and the tightening of eligibility rules to contain expenditures for social protection, and the failure of transfers to the lowest income groups to keep pace with earnings growth.

A newly released OECD report (OECD 2013) highlights the development of income inequality during the initial part of the crisis, covering the period 2007–10. It shows that market income (i.e. work + capital income) decreased considerably during 2007–10, but that disposable income fell less strongly, due to an offsetting effect stemming from an increase in social transfers and/or lower direct taxes and social security contributions. However, the loss in income was not evenly shared among income groups, with the result that income inequality (as measured by the Gini coefficient) continued to edge upwards during the crisis (Chart 12).

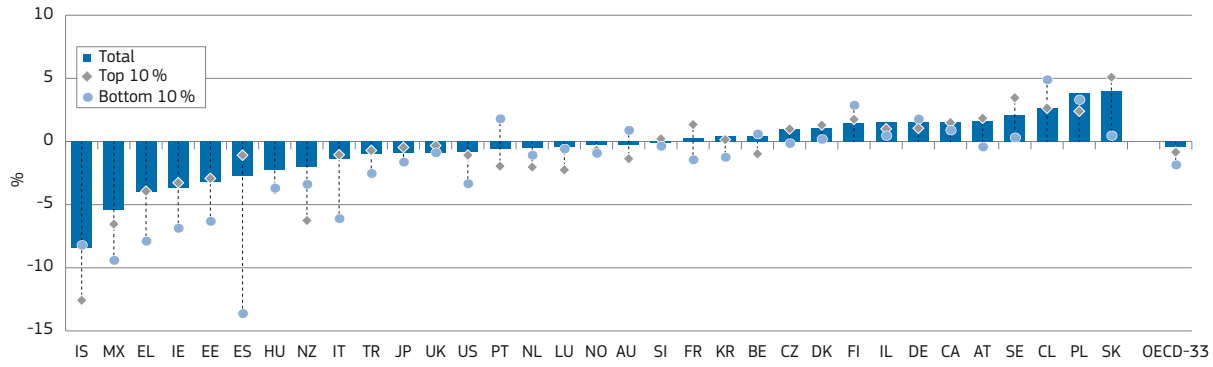
Focusing on the top and bottom 10% of the population in 2007 and 2010 shows that lower income households either lost more from income falls, or benefited less from the often sluggish recovery (Chart 13). Across the OECD countries, real household disposable income stagnated. The average income of the top 10% in 2010 was similar to that in 2007 while the income of the bottom 10% in 2010 was lower than that in 2007 by 2% per year. Among EU Member States, particularly pronounced differences in household income declines were recorded in Spain and Italy, and to a somewhat lesser extent in Greece, Ireland and Estonia.

In general, but particularly in some of the countries where the crisis hit hardest, poorer households either lost more income during the recession or benefited less from recovery. The OECD warns that the data only describes the situation up to 2010, since which time governments have shifted the focus towards consolidation. Given the persistence of sluggish growth, the job crisis and the adoption of austerity measures, the OECD raises concerns about the ability of the tax-benefit systems to keep income inequality and poverty in check.

However, analysis of the income quintile ratio (S80/S20) in the period for which high quality harmonised data on household income is available from EU-SILC, namely 2006 to 2011 (reflecting the income of 2005 to 2010) shows a slightly different and more varied picture concerning recent developments in inequality across EU Member States. The group of nine countries presented on Chart 14 experienced a trend towards greater equality of the income distribution, despite some volatility in a few cases. In Hungary, the ratio of the total income received by the 20% of the population with the highest income to that received by the 20% of the population with the lowest income declined by nearly 30%. The reduction in the income ratio was also strong in Latvia (16.5%) and in Portugal (14.9%).

([23]) http://www.gini-research.org/articles/home

Chart 13: Annual percentage changes in household disposable income between 2007 and 2010, by income group



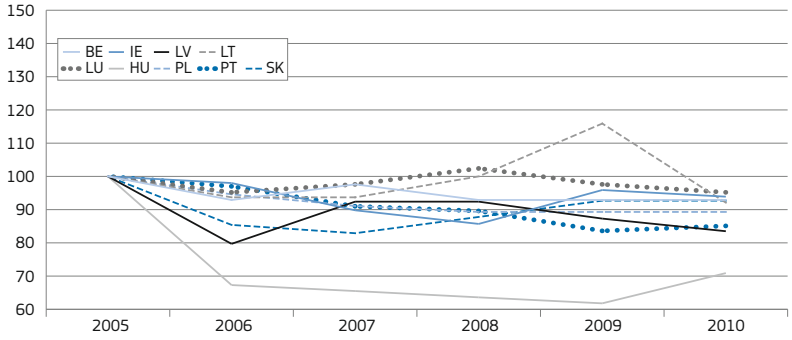
Source: OECD (2013).

That development differs markedly from the situation observed in the Czech Republic, Cyprus, Malta, the Netherlands, Austria, Finland, and the UK (see Chart 15), where there was little change in the income ratio over the period, with the 2010 values all close to the ones recorded in 2005.

There is, moreover, a group of countries where income, as measured through EU-SILC, became markedly less equally distributed between the top 20% and bottom 20% of the population (Chart 16). The biggest relative rise in the S80/S20 inequality ratio was in Denmark, Spain and Bulgaria, all with rises of the order of 30%. Moreover, Bulgaria experienced a notable pre-crisis surge in the inequality ratio, which peaked in 2006, before gradually adjusting downwards again over the following years, a pattern also observed in Romania and in Germany. For both Denmark and Spain, the rise in inequality was much more evident following the onset of the crisis, while for France the trend has been one of a more gradual continuous rise across the whole period.

Chart 17 covers countries (Estonia, Greece, Italy, Slovenia and Sweden) where the volatility of the income quintile ratio does not enable straightforward conclusions to be drawn about recent trends. In these countries, inequality dropped at some stage between 2005 and 2010 (in 2006 in Sweden, in 2007 in Estonia and Italy, in 2008 in Slovenia and in 2009 in Greece) but in all of them the decline in inequality was subsequently followed by an upward adjustment, resulting in values in 2010 being almost the same as in 2005.

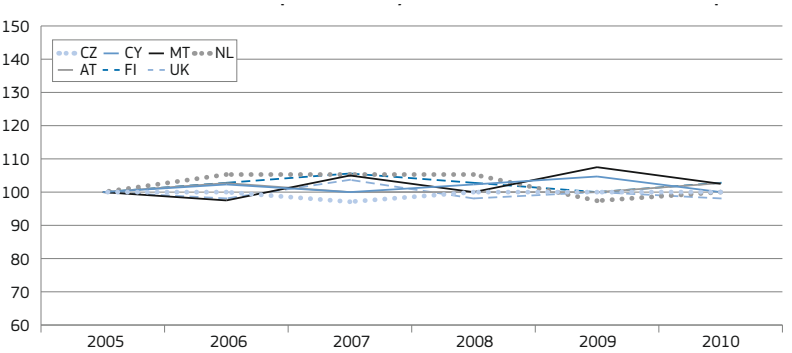
Chart 14: Index of S80/S20 ratio 2005-2010 (2000=100) ([1]): Countries where inequality diminished and the income quintile ratio fell



Source: Calculations by Commission services based on Eurostat data from EU-SILC.

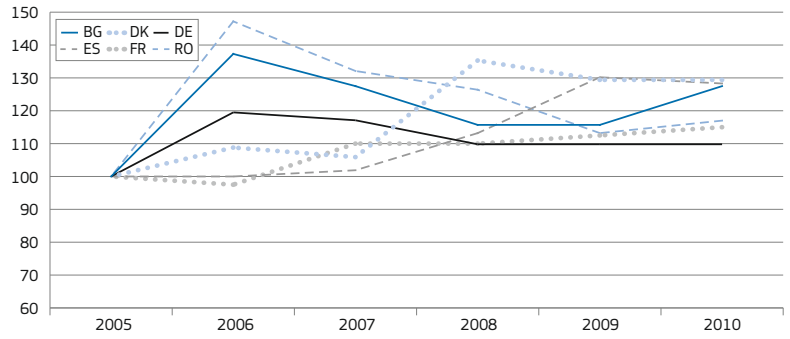
([1]) The years in the Chart refer to the year in which the income was achieved. In Eurostat tables, the income of e.g. 2005 appears among the results from 2006, i.e. the year of the EU-SILC data collection.

Chart 15: Index of S80/S20 ratio 2005-2010 (2000=100): Countries where the income quintile ratio stayed within a narrow band around the initial point



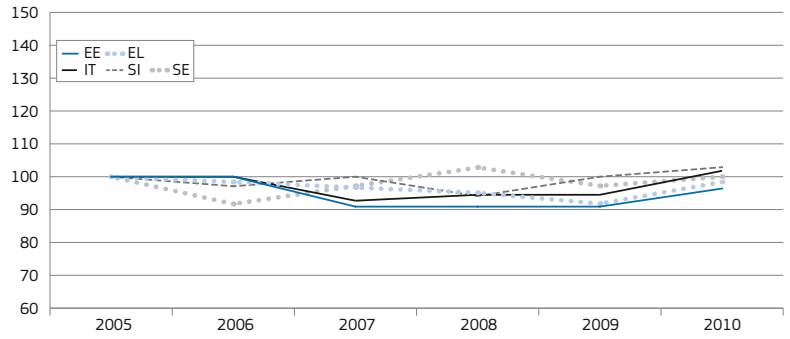
Source: Calculations by Commission services based on Eurostat data from EU-SILC.

Chart 16: Index of S80/S20 ratio 2005-2010 (2000=100): Countries where inequality rose and the income quintile ratio went up



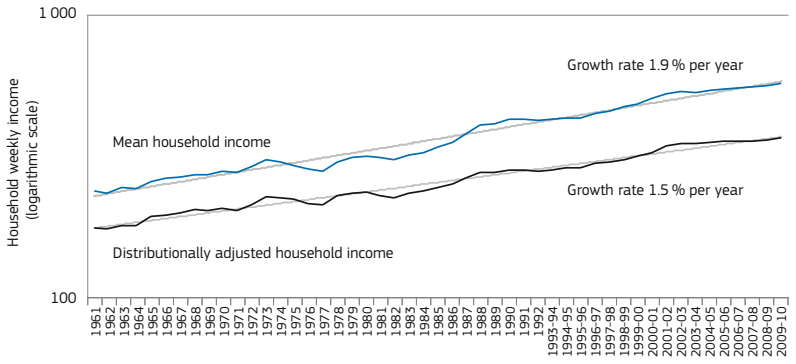
Source: Calculations by Commission services based on Eurostat data from EU-SILC.

Chart 17: Index of S80/S20 ratio 2005-2010 (2000=100): Countries where the income quintile ratio dropped substantially at some point but moved back to the initial level



Source: Calculations by Commission services based on Eurostat data from EU-SILC.

Chart 18: Inequality adjusted household income growth in the UK, 1961–2010



Source: Adapted from Atkinson (2013). *Note:* The upper series shows the mean household income in real terms, expressed in 2011/12 prices, measured on a logarithmic scale, so that constant proportionate growth takes the form of a straight line. The second series shows the mean income multiplied by a distributional adjustment equal to 1 minus the Gini coefficient. The data is from the Institute for Fiscal Studies website ([1]).

([1]) Available at http://www.ifs.org.uk/fiscalFacts/povertyStats.

3.2.4. Distributionally-sensitive indices of national income

There are several ways of adjusting data on GDP per capita, or any other income variable, to take account of distributional variations in income across the population (see Box 4). Such 'distributionally sensitive' measures of national income/income growth use an index of income equality to produce adjusted time series of growth, and this section reviews the extent to which these can modify growth outcomes.

Atkinson (2013) provides an illustration of the potential distributional effect using the long run historical experience of the United Kingdom (Chart 18). This shows the impact of the distributional adjustment applied to mean household income, using the Gini coefficient (i.e. the mean income multiplied by a distributional adjustment equal to 1 minus the Gini). When account is taken of rising inequality, the annual growth rate of household income over the period 1961–2010 falls from 1.9% to 1.5% — a significant difference. The distributional adjustment also changes the relative performance in different periods. Whereas mean income grew at 3.2% per annum in the 1980s, compared with 2.1% in the 1990s, the distributionally-adjusted growth rates are virtually the same (2.1% in the 1980s and 2.0% in the 1990s). In effect, the worsening of the income distribution in the 1980s effectively wiped out the gain from the higher growth rate.

Sen has shown how weights based on a person's rank in the distribution (so that a person who is F per cent of the way from the bottom receives a weight of 2(100-F)/100), imply that the distributional impact should be measured by the Gini coefficient. The implications of applying such a distributional adjustment are shown in Chart 19, which shows the change in the distributional adjustment (1-Gini) between 2005 and 2010.

In this chart, a positive change means that income inequality has fallen, so that the distributionally adjusted income has risen, and vice-versa. For example, the Gini coefficient in Portugal was 0.377 in 2005 and 0.342 in 2010, producing the 5.6% ([24]) improvement in

([24]) ((1-0.342)-(1-0.377))/(1-0.377) as a percentage.

the distributional adjustment shown in the chart. Distinct downward shifts in the adjustment factor can be seen in the cases of Bulgaria, Denmark, France, Germany (although in this case it reflects a sharp jump in the Gini in 2006 which declined slightly thereafter) and Spain, reflecting rises in income inequality. In contrast, the distributional adjustment factor rose by 5% or more in Hungary, Latvia and Portugal and, to a lesser extent (over 2%), in Belgium, Ireland, Lithuania, Poland and Slovakia, due to reductions in inequality over the period.

Looking at how the above inequality adjustment has impacted on trends in an overall aggregate measure of national income, namely in terms of real GDP per capita developments between 2005 and 2010 (Chart 20), it is clear that the adjustment can have a substantial impact on growth figures in a considerable number of countries. For example, positive developments in reducing inequality over this period in some countries resulted in the inequality-adjusted GDP per capita growth figure being around 4 percentage points higher than the unadjusted figures in Lithuania, Poland, and Slovakia, and around 6 percentage points or more higher in Hungary, Latvia and Portugal. In Ireland the reduction in inequality has helped to dampen the extent of the fall in GDP per capita by around 3 percentage points. In contrast, worsening inequality has led to an even stronger negative adjusted growth figure in Denmark and Spain, and in France to the growth figure falling from close to static growth to a decline of over 4%. Similarly, strong raw growth figures in Bulgaria and Germany are dampened considerably when the effects of rising inequality are taken into account through the adjusted figures. In only a few cases (Cyprus, the Czech Republic, Finland, Italy, Romania and Slovenia) did the adjustment for changes in inequality have little or no effect.

Focusing on how the distributional adjustment impacts on the time series for an alternative income measure, namely real annual growth in mean equivalised income ([25]) (Chart 21), it is again clear that the adjustment can have substantial effects. For example, in Denmark and Spain, two of the countries identified above as having rising inequality over the period 2006 to 2010, it is clear that

([25]) The reference period covered here is generally 2006 to 2010 (for Romania, 2007 to 2010).

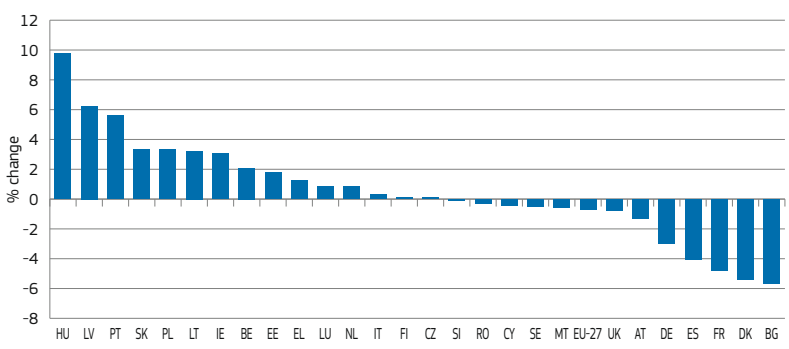
Box 4: Distributionally-sensitive measures of national income

The most commonly used distributionally-sensitive measures of national income are those developed by Sen (1976, 1979) and Atkinson (1970). Both approaches are based on the product of real mean income and an index of income equality, with the mean income adjusted downwards by a factor that depends on the extent of inequality. Recently, Jenkins has proposed an adjustment to the Atkinson measure which helps identify who gains and who loses from growth. These measures are described below:

- **Sen index** of 'real national income': the appropriate adjustment factor is (1-Gini), i.e. one minus the Gini coefficient. Since a higher inequality implies a lower (1-Gini), this penalises regions or countries with higher inequalities, i.e. mean income is adjusted downwards if inequality measured by Gini is high. Shaikh and Ragab (2008) show that inequality-discounted GDP per capita (i.e. adjusted by the factor 1-Gini) can be interpreted as a measure of the relative per capita income of the first seventy per cent of a nation's population, and as such is a measure of the income of the 'vast majority' of the population. This provides a simple and intuitive meaning for (1-Gini), in that comparing countries in terms of their inequality-adjusted average per capita incomes turns out to be equivalent to comparing them in terms of the real per capita incomes of the first seventy per cent of the population.
- **Atkinson index**: the equality index = 1 - A(ε) (i.e. one minus the Atkinson inequality index A(ε), where ε ≥ 0 is the inequality-aversion parameter). Larger values mean that greater weight in A(ε) is given to income differences towards the bottom of the income distribution relative to those in the middle or top; ε = 0 is the case in which no distributional adjustment is made.
- **Jenkins** (1997) proposes an increasing transformation of the Atkinson measure, showing that it is additively-decomposable by population subgroup. The advantage is that one can then write the income measure for the population as a whole as a size-weighted sum of the income measures for each population subgroup, thereby having a consistent accounting framework for summarising who gains and who loses.

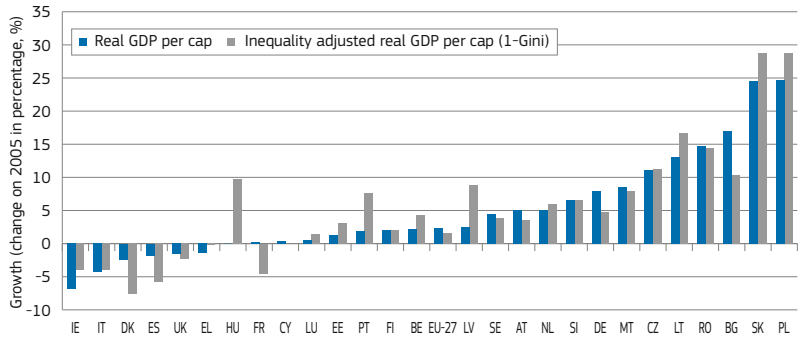
As Jenkins (2012) points out, transparency and understandability suggest using measures that incorporate inequality indices that are already commonly used in official statistics. This would favour the use of the Gini-based measure of Sen, which uses an indicator of inequality which is well-established and widely available, an added advantage being that the Gini coefficient is less sensitive than many other inequality indices to outlier values.

Chart 19: Change in the distributional adjustment (1-Gini) from 2005 to 2010



Source: Eurostat, EU-SILC.

Chart 20: Change in real GDP per capita and inequality adjusted real GDP per capita between 2005 and 2010

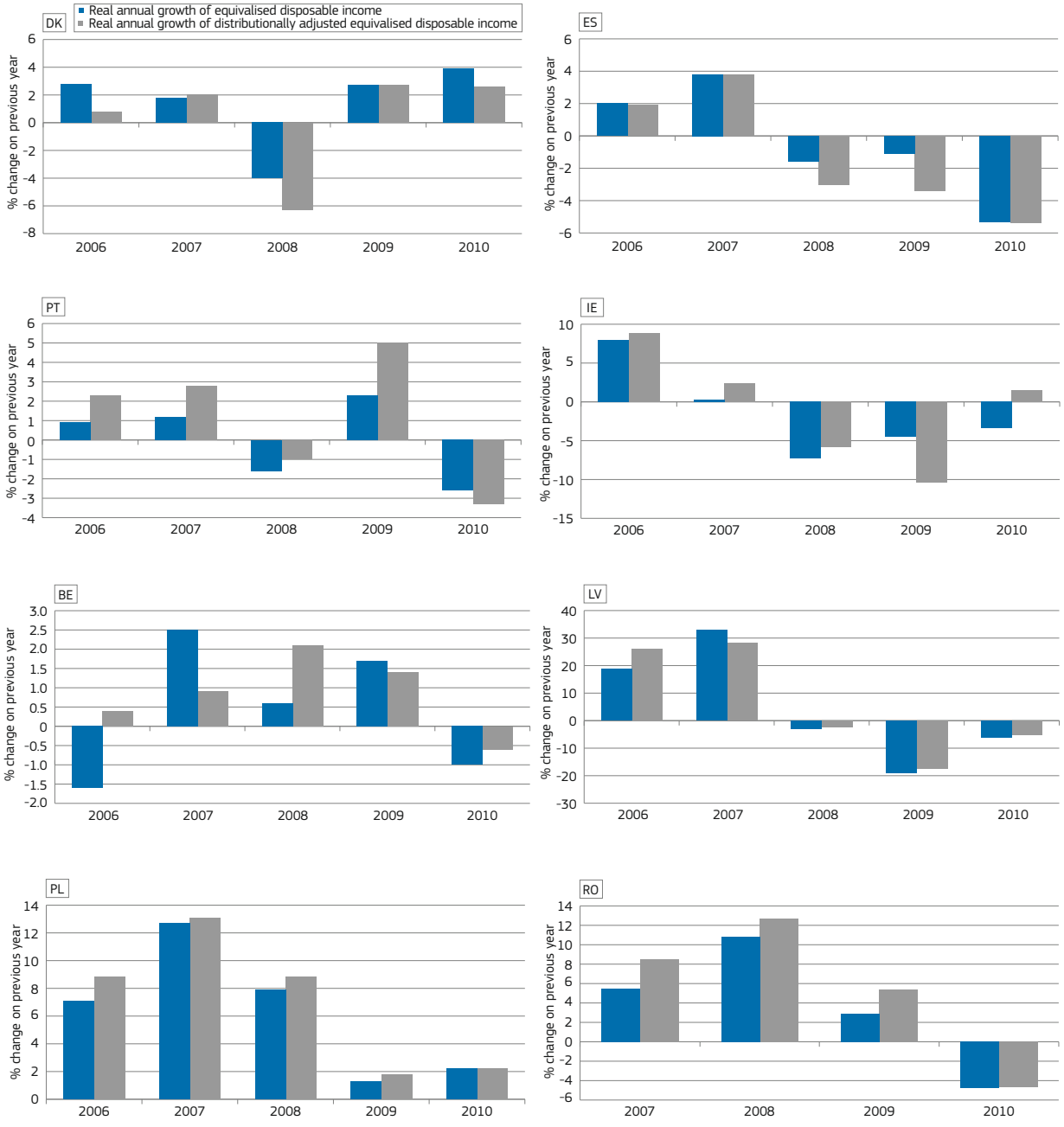


Source: Own calculations based on Eurostat National Accounts and EU-SILC indicators.

the inequality adjusted growth in income has almost consistently been below the growth in mean income across the whole period. However, for both, the largest disparity in the adjusted and unadjusted real income growth occurred in the initial phase of the crisis, with rising inequality increasing the drop in incomes still further.

In other countries the results from making the distributional adjustment vary. In Portugal the adjusted real income growth has almost always been more positive in recent years, reflecting the almost continuous decline in inequality.

Chart 21: Annual real growth rate of distributionally adjusted mean equivalised disposable income (Sen index) and mean equivalised disposable income for selected Member States, 2006 to 2010



Source: Own calculations using Eurostat, EU-SILC and National Accounts (HICP) data.

Note: The scale of the y-axis varies across the sub-charts.

The situation has been rather similar in Ireland, apart from the year 2009 when a sharp jump in inequality led to a more pronounced downwards adjustment, although the situation was turned around the following year.

In several countries, including Latvia, Poland and Romania, the annual growth patterns since 2006 are very similar overall for both the adjusted and unadjusted series, but indicate a general and continuous slight improvement in income distribution. Finally, in a few countries such as Belgium, the impact of the distributional adjustment is more volatile, with adjusted incomes trailing in some years and being ahead in others. Nevertheless that gap between the adjusted and unadjusted figures often appears substantial.

Such measures of the impact of inequality in the income distribution on overall income developments provide an alternative way of monitoring the inclusiveness of growth to those highlighted earlier (e.g. median income and median income developments for the lowest and highest quintiles).

Of course timeliness is an issue with regard to complementing GDP figures by distributionally sensitive estimates of real income growth, which generally require estimates of inequality from household surveys. Here efforts are currently underway to make data more quickly available from the EU Statistics on Income and Living Conditions. At the same time, greater use of tax-benefit microsimulation models is being explored in order to 'nowcast' the contemporary income distribution (i.e. use past distributional data and link it to more recent economic and labour market developments and tax-benefit policy changes to forecast the current situation) before the survey-based estimates became available — just as modelling and imputation are employed for deriving timely GDP estimates (see for example Navicke, Rastrigina and Sutherland (2013)).

3.3. Measures of wealth distribution

One complementary area to examine is the inequality in the distribution of wealth. Indeed, the distribution of income only provides a limited snapshot of the true inequality situation in a society, while wealth, which reflects the ability to command resources such as personal savings and assets that have been accumulated over time, ensures the sustainability of material living conditions over the long term. Moreover, the relationship of wealth to income is not straightforward: high levels of income inequality do not necessarily go together with high levels of wealth inequality, and income-poor households are not always wealth-poor.

The following section reports on the results from the first wave of the European Central Bank's wealth survey (see Box 5) and examines the distribution of wealth both across and within euro area countries.

3.3.1. Variation in wealth across euro area countries

According to the ECB HFCS, household net wealth varies substantially across euro area countries. The median ranges from €51 400 (in Germany) to €397 800 (in Luxembourg), while the mean ranges from €79 700 (in Slovakia) to €710 100 (in Luxembourg). The marked variation is the result of many factors, including income, household structure, home ownership, house prices, the provision of public housing, expected public pensions, inter-generational transfers/inheritances, taxation of housing and cultural aspects.

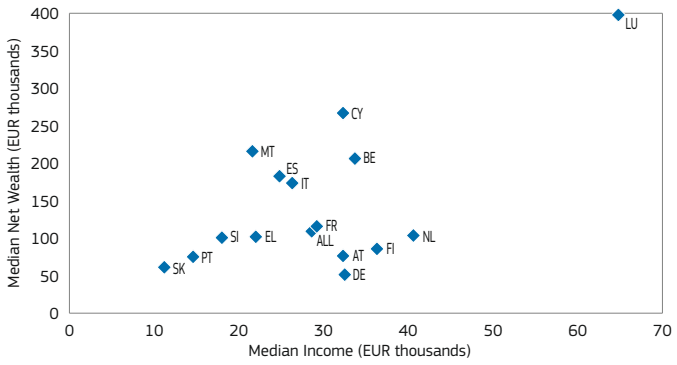
Box 5: European Central Bank's Household Finance and Consumption Survey (HFCS)

The European Central Bank (ECB) has recently published the results of the first wave of the Household Finance and Consumption Survey (HFCS). The HFCS includes data from over 62 000 households in 15 euro area countries, collected (predominantly) in 2010. It provides detailed household-level data on wealth as well as data on various aspects of household balance sheets and related economic and demographic variables, including income, voluntary pensions, employment and measures of consumption. Nevertheless, it must be noted that the ability to do completely robust cross-country comparisons using HFCS data is affected by several data issues, which include the following:

- The lack of information on access to 'collective' wealth such as publicly provided healthcare, social security and pension provisions.
- Incomplete coverage of all pension assets ([1]), especially of statutory pension systems.
- The different fieldwork periods in different countries, which can be especially problematic in periods of economic turmoil.
- Values of property are based on respondents' own evaluations.
- Response rates are low in certain countries (of the order of 20% or below in Belgium, Germany and Luxembourg).

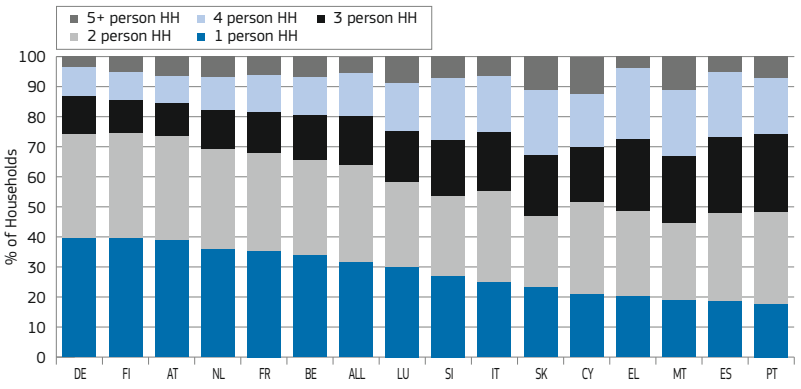
([1]) The definitions of net wealth and financial assets adopted in the ECB (2013a) report include voluntary private pensions and whole life insurance, but do not include public and occupational pensions.

Chart 22: Median net household wealth and household income across euro area countries



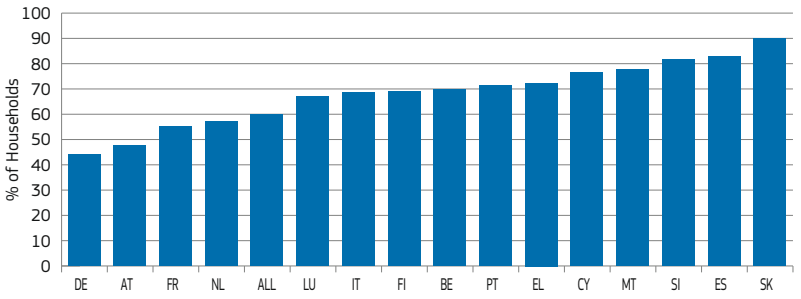
Source: European Central Bank, Household Finance and Consumption Survey.

Chart 23: Composition of households by household size



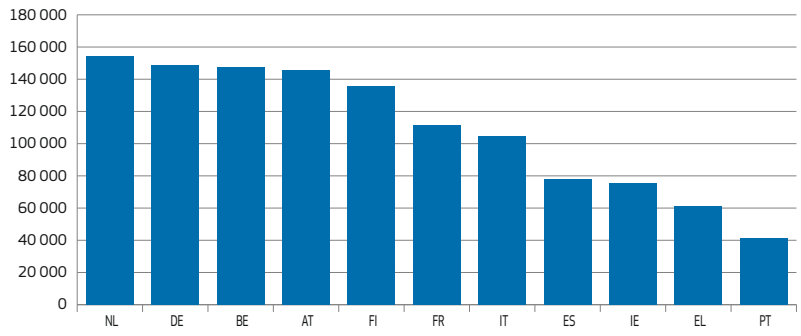
Source: European Central Bank, Household Finance and Consumption Survey.

Chart 24: Share of households which are owner-occupiers



Source: European Central Bank, Household Finance and Consumption Survey.

Chart 25: Total capital stock per capita (euro)



Source: Reproduced from De Grauwe and Ji (2013).

Chart 22 shows median net wealth plotted against median income. The chart gives the impression that, in general, there is a positive relationship between median household income and median household net wealth for most countries, with Austria, Germany, Finland and the Netherlands being clear exceptions (high income but low net wealth) together with Cyprus and Malta (net wealth much higher than expected relative to income levels). Note that Austria and Germany are both near the top of the distribution in terms of income. However, without Luxembourg (clearly an outlier), there would be no strong link between median household wealth and income. This at first sight is unexpected as a large part of wealth is generally built up though the accumulation of income. Particularly surprising is data suggesting that Austria and Germany are among the countries with the lowest household wealth, while GDP per capita and median incomes are among the highest.

A few key factors explain much of the variation in private net wealth across euro area countries:

- First, the underlying distribution in the size and composition of households, which varies considerably across countries, influences the wealth of the 'typical' household. There are far more single households in the Northern than in the Southern euro area members (Chart 23). In Austria, Finland and Germany, around 40% of households are single households, meaning there is less opportunity to 'pool' assets in households in these countries. In Southern Member States single households only account for some 20% of households. The very different household structures across countries clearly influence some of the typical measures of the distribution of household wealth. Another significant related issue is that home-ownership rates for single-person households are much lower.

- Second, an examination of the components of household net wealth shows that most of the variation across countries is due to varying traditions involving home ownership, given that property is clearly the biggest factor in household net wealth. Germany and Austria have the lowest home ownership rates in the euro area (Chart 24), and while an 'average (or typical) household' in Germany and Austria is a 'renter' household, in the other euro area countries it is a 'homeowner' household.

In effect, the HFCS figures on the private wealth of households only offer a limited insight into the living standard or true wealth of a society, as they do not reflect households' access to 'collective' wealth (such as publicly provided healthcare, social security and pension provisions). For example, if part of the 'wealth' is collectively owned in the welfare state this makes it less necessary for individuals to save to cover themselves against risks. In Northern countries especially, part of citizens' wealth is collectively owned — good healthcare infrastructure, and reliable social security, are assets that citizens can rely on. Moreover, if saving for old age and major health expenditures are largely handled through publicly organised social security systems, lower income groups have less reason to build up wealth, whereas if the state does not arrange this, then individuals are forced to do so from their private means. Hence comparative

ratios of net private wealth across countries alone can give a highly distorted picture regarding the wealth of societies.

This is very much in line with the findings of De Grauwe and Ji (2013), who use Eurostat and OECD data to calculate total capital stock per capita, which includes government and corporate sector wealth, to provide a more comprehensive measure of the wealth of a nation. On this basis, Germany is second highest in the euro area, and the total capital stock per capita of Northern countries is more than twice as high as Southern countries such as Greece and Portugal (Chart 25).

In this context, Maestri *et al.* (2013) find that social expenditure is an important driver of the cross-country variation in wealth inequality, with low spending on housing policies and old age pushing poorer households to accumulate some savings. In countries where poorer households are supported by housing policies and subsidies, there is much less incentive to accumulate (housing) wealth.

3.3.2. Inequality in wealth within euro area countries

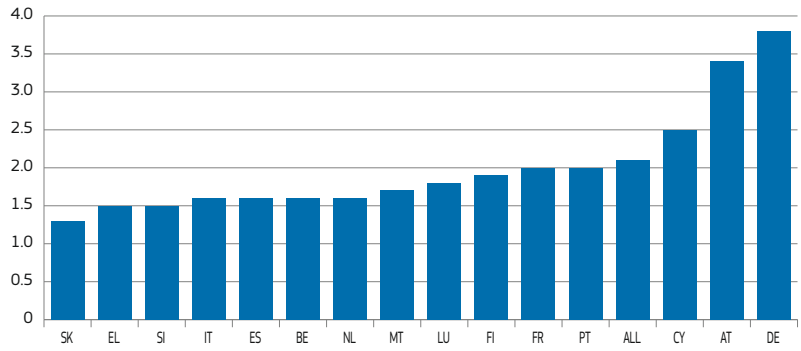
Comparison of the median and mean net wealth figures gives an indication of the distribution of wealth within each country. The larger the ratio of the mean to the median, the greater the inequality in the distribution of wealth (Chart 26). Clearly Austria and Germany stand out as countries with by far the highest inequality in wealth (both with ratios of around 3.5 or more, while in most other countries it is below 2). This indicates that household wealth in Austria and Germany ([26]) is more concentrated in the richest households than in the other euro area countries.

The distribution of mean net wealth by quintiles (Chart 27) for Austria and Germany highlights the strongly skewed nature of the distribution towards the upper quintiles, while net wealth among the two bottom quintiles is slightly negative (bottom quintile) or not much above zero (second quintile). This compares with a much less skewed distribution in countries such as Slovenia and Slovakia, where wealth is relatively more sizable among the lower quintiles.

Using a range of sources, Maestri *et al.* (2013) examine the evolution of wealth inequality over time and report that increased polarisation took place during the 1980s and 1990s in most countries. They find that the evolution of capital, financial assets, debt, their fiscal treatment and the 'superstar' phenomenon all help to explain trends over time. The evolution of capital compared to labour and their respective returns, together with the weakening of taxation on capital, contributed to increased wealth inequality, with the 'superstar' phenomenon contributing to the increase in wealth shares at the top.

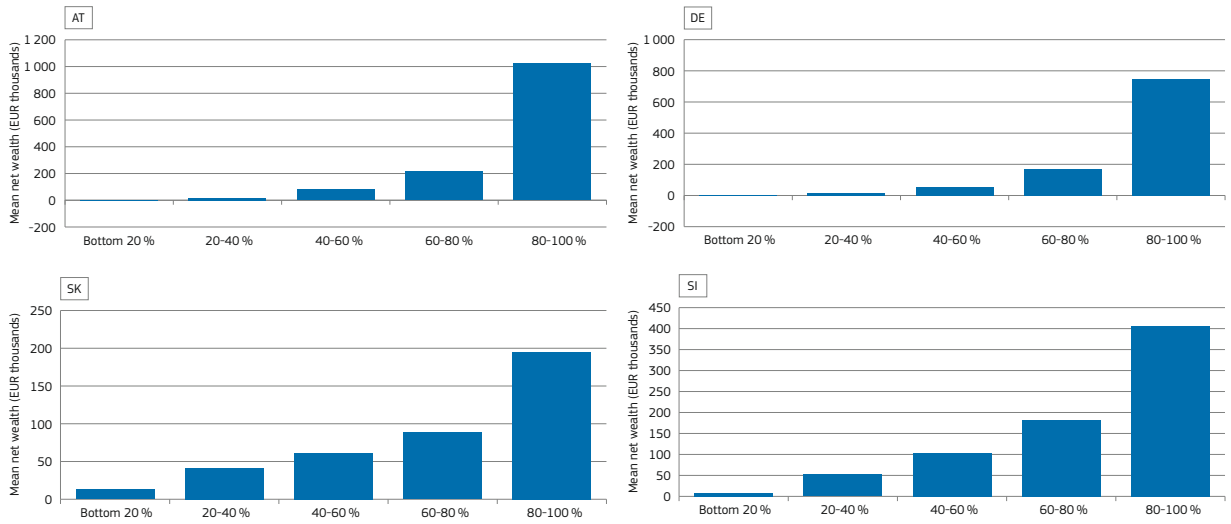
([26]) The relatively low level of median wealth in Germany is not a new finding. In the 2008 OECD report 'Growing Unequal' a similar low net worth for the median household is also reported for Germany.

Chart 26: Ratio of mean wealth to median wealth in euro area countries



Source: European Central Bank, Eurosystem Household Finance and Consumption Survey.

Chart 27: Mean net wealth by wealth quintiles



Source: European Central Bank, Household Finance and Consumption survey.
Note: The scale of the y-axis varies across the sub-charts.

4. How do distributional measures relate to quality of life outcomes and the broader sustainability agenda?

There has been growing political awareness and concern about rising inequality, especially given its apparent negative effect on quality of life and other social outcomes (see for example Wilkinson and Pickett (2009)). Critics, such as Stiglitz have argued that inequality is not only socially divisive but also economically disruptive, for example via its impact on social capital. This section considers the evidence supporting this view as presented in recent studies and literature.

There are a number of reasons why a high level of inequality, or rapidly increasing inequality, might be detrimental, both socially and economically. Increased inequality can cause rifts in society that undermine cohesion and trust and even lead to civil unrest. From an economic perspective, it might lead to the waste of human capital and economic potential.

Ideally this chapter would address all aspects of the gap between rich and poor, going beyond income and wealth and relate also to inequalities in health, life satisfaction and quality of life. Various aspects associated with low socio-economic status — such as low income, greater risk of unemployment, poor health, exposure to pollution, low-quality nutrition and high stress — risk having a cumulative and self-reinforcing effect that may be obvious to those who witness it but which is not always fully recognised in policies ([27]).

Despite these limitations, there is a growing awareness that less inequality is not just a social goal but can actually foster growth through the better use of human capital by creating better opportunities among the more disadvantaged, with fewer negative spill-over effects of inequality on society at large (Asplund (2004); Korpi (1985, 2005)).

4.1. Inequality and links to measures of quality of life and other social outcomes

The Communication 'GDP and Beyond' (European Commission, 2009) called for GDP to be complemented by indicators of quality of life and well-being and for better reporting on distribution and inequality. In the same vein, the Stiglitz report made a series of recommendations:

- Quality of life depends on people's objective conditions and capabilities (*Recommendation 6*).
- Quality of life indicators in all the dimensions (…) should assess inequalities in a comprehensive way (*Recommendation 7*).
- Surveys should be designed to assess the links between the various quality of life domains (*Recommendation 8*).
- Measures of both objective and subjective well-being provide key information about people's quality of life (*Recommendation 10*).

Seeking to accommodate these recommendations, the European Statistical System has committed itself to using the European Union statistics on income and living conditions (EU-SILC) instrument as the core tool for measuring quality of life, including the incorporation of further topics and subjective questions. Moreover, it will complement the coverage of the different dimensions of quality of life (such as health, education and personal safety) using additional data sources (Eurostat, 2012)) ([28]). Among the various currently available data sources on quality of life and well-being, Eurofound's European Quality of Life Survey and the Eurobarometer surveys (notably the long term data series on life satisfaction) can be mentioned. Furthermore, various well-being data sets exist worldwide. Together these sources are enabling researchers to draw international comparisons and study well-being in a variety of cultural and socio-economic contexts.

Traditionally, economists have used the term 'utility' to measure well-being, with its maximisation being seen as the primary pursuit of human activity. Today few economists would fully subscribe to that, with most recognising that it is difficult to measure, and particularly difficult to compare either over time or between people (Van Praag B., Ferrer-i-Carbonell, A. (2009)).

In practice, consumer preferences for goods and services as expressed through market exchanges were seen as the only measurable manifestations of the search for human satisfaction. Nevertheless, in order to analyse human welfare beyond consumption and material conditions, and to bring it closer to everyday concepts of happiness and personal prosperity, economists have begun to make increasing use of 'subjective well-being' as a criteria in their empirical work in this area (Box 6).

According to Rayo, L. and Becker, G. S. 2007, 'The principal motivating factor in our lives is the pursuit of happiness. In most cultures, when seeking this end, individuals place a high priority on income, and spend much of their waking time procuring this intermediate goal. The connection between income and happiness is by no means trivial, however.' For example, personality and genes show a strong influence on one's subjective well-being. Only 20% to 50% of subjective well-being can be explained by external factors such as one's environment and the resources at one's disposal and therefore could be a matter for policy. The longer the period during which subjective well-being is measured and the longer the period for possible adaptation, the bigger the role of personality and genes in explaining the variance in reported well-being (Diener E., Lucas, R. E. (2003)).

([27]) For an example of an attempt at a scientific measurement of the interplay of these factors see Blanchflower et al. 2011 available at www.andrewoswald.com/docs/DecBiomarkersBlanchChristakisOs2011.pdf

([28]) There is an ongoing project at Eurostat for measuring Quality of Life Indicators. Its mandate, approved by the Directors of Social Statistics in March 2012, is to finalise a dashboard of ESS indicators based on the 8+1 dimensions mentioned in the Stiglitz report, and identify potential gaps and make recommendations for future indicators to be collected. A first preliminary dashboard was published in May 2013 at this link: http://epp.eurostat.ec.europa.eu/portal/page/portal/quality_life/introduction

Box 6: What is subjective well-being and how is it relevant for social policy?

Subjective well-being refers to three closely related yet distinctive aspects of the human condition:

a. *Life satisfaction* — a cognitive evaluation of one's life as a whole, summarising a lengthy period of life, not just a momentary emotional state. It is a sense of contentment, a conviction that one has been living a good life which is up to one's expectations.

b. *A hedonistic experience or effect*, with a range of positive and negative emotional states such as joy, pride, pain, anger, worry, anxiety, and including happiness. It is less sensitive to income than life satisfaction (Kahneman D. and Deaton A. (2010)).

c. *The eudaimonic aspect* — a sense of purpose and direction in life linked to a conviction that one's actions have meaning and value, and serve a good purpose. The word is derived from the Ancient philosophical debates, notably of Aristotle and the Stoics, about ethics and virtue and about what constitutes a good life.

The body of studies about experienced (subjective) well-being, life satisfaction and happiness has grown almost exponentially over the past thirty years. The kinds of underlying assumptions in this domain are that:

1. People know when they are happy and can communicate this fact.
2. When you ask people how they feel and whether they are doing well, they will be able to give a meaningful answer.
3. Large samples help cope with possible noise in the answers stemming from particular circumstances that are volatile and not of a defining character for a person's quality of life. Surveying large populations is likely to cancel out much of that noise.
4. The measurement errors resulting from the choice of methodology, e.g. the framing of the well-being question and its place in a sequence of questions, can be minimised through the standardisation of survey designs across populations.
5. Despite its intrinsically subjective nature, the scores and answers to subjective well-being questions correlate with miscellaneous other indications about a person's happiness, e.g. activity of the pre-frontal cortex of the brain measured by EEG, systolic blood pressure, hypertension and heart conditions, etc.
6. Cultural bias (i.e. the observation that subjective well-being answers may be driven by cultural norms and normative visions) remains a debated methodological issue and there are reasons to be cautious about cross-country comparisons of levels of subjective well-being. (The cultural bias in subjective well-being measurement will be the subject matter of a joint research project between the OECD and the European Commission in 2014.)

Policy uses of subjective well-being

The Stiglitz report states in its recommendations that '*Measures of both objective and subjective well-being provide key information about people's quality of life. Statistical offices should [therefore] incorporate questions to capture people's life evaluations, hedonic experiences and priorities.*' Insights from subjective well-being studies offer a number of indications as to where and how governments can help maximise happiness of societies and reduce suffering, including the following:

1. With regard to subjective well-being, people are sensitive to their relative position in society — people care about their relative position in terms of income, wealth and status as much as they care about their objective plight. Therefore priority should be given to achieving a fair distribution of resources. Moreover, policies designed to raise everybody's income without addressing underlying inequalities will fail to maximise societal well-being.
2. People are loss-averse, meaning that, psychologically, losses are more important than gains (i.e. the loss of the same amount of resource incurs a greater satisfaction loss than the satisfaction gained from an increase of the same amount of resource). As Kahneman puts it: 'when directly compared or weighted against each other, losses loom larger than gains' (Kahneman (2011)).
3. Economic growth, meaning the increase of production or the volume of monetary exchanges, can have externalities that are detrimental to human well-being.

If the lessons from the well-being studies undertaken over the past thirty years by some of the world's most renowned economists, psychologists and sociologists are to be taken seriously, economic policy should recognise that among the key determinants of low subjective well-being are material deprivation, poor health and being limited by disability, while high subjective well-being is driven mainly by social relationships, good work/life balance, and quality public services. The focus should therefore be on tackling deprivation, poor health and disabilities, and better integrating vulnerable people into society, maintaining reasonable working hours allowing for a social life and the development of personal interests, and finally maintaining quality public services despite austerity. As stated in a recent UK Office of National Statistics report (ONS 2012), '*What determines happiness includes physical and mental health, the strength of family and community ties, autonomy and a sense of control over one's life, and leisure time.*'

The so-called Easterlin paradox suggests that a society's economic development as measured by GDP per capita and its average level of happiness are not linked, at least when the level of economic development is such that basic needs are satisfied ([29]). The thesis is named after Richard Easterlin, whose seminal paper of 1974 was entitled '*Does Economic Growth Improve the Human Lot?*'. He had tracked responses to a happiness question in the US General Social Survey between 1949 and 1970 and observed that average reported happiness showed no long-term trend and declined between 1960 and 1970 despite a steady growth in GDP per capita throughout the period. However, it must be noted that the Easterlin paradox is still debated in the scientific literature ([30]).

The explanation by Easterlin highlights that some unintended consequences of growth, such as pollution, may diminish the positive effects of growth on happiness. Another standard explanation points to the fact that human beings care about status and their relative position (Oswald, 2003 and Wilkinson, 2009). Raising the income of everybody, even in equal measure, while maintaining the pecking order, is unlikely to bring significant gains in happiness, particularly to those lower down in the pecking order. A different explanation could be attempted based on the distinction between pleasures and comforts introduced by Scitovsky in his classic book '*The Joyless Economy: The Psychology of Human Satisfaction*'. In contrast to pleasures, which are arousing experiences, he sees comforts ultimately producing no significant hedonic experience at all (Scitovsky T. (1976)). In effect, modern societies are better at raising comfort than pleasure.

In the same context, Tim Jackson from the UK Sustainable Development Commission, has returned to an earlier debate about the limits of growth, indicating that:

'Every society clings to a myth by which it lives. Ours is the myth of economic growth. For the last five decades the pursuit of growth has been the single most important policy goal across the world. The global economy is almost five times the size it was half a century ago. If it continues to grow at the same rate the economy will be 80 times that size by the year 2100' (Jackson (2009)).

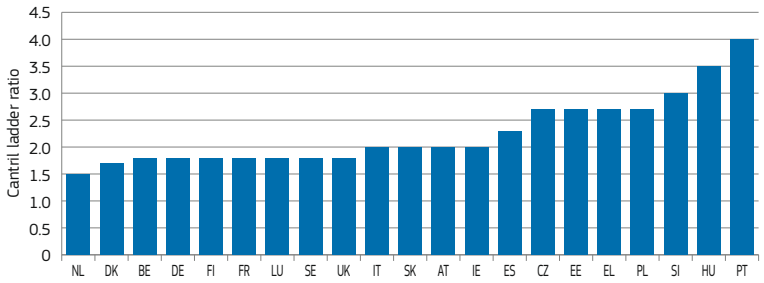
4.1.1. Variation in quality of life and other social outcomes across and within countries, and by income level

The Stiglitz report states in its recommendation number 10 that 'Measures of both objective and subjective well-being provide key information about people's quality of life. Statistical offices should [therefore] incorporate questions to capture people's life evaluations, hedonic experiences and priorities.'

In practice, perceived inequalities in experienced well-being are large. In many countries, the 20% of the population with the highest levels of well-being report life satisfaction of over 6 points higher than the 20% of the population with the lowest levels of well-being, with satisfaction being measured on a scale of 0–10.

Chart 28 presents an overview of the variation across EU Member States in life satisfaction by showing the ratio between the 90th and 10th percentiles of the distribution. The calculation is based on Gallup data and measures life satisfaction using

Chart 28: Inequality in life satisfaction — ratio between the 90th and 10th percentile of Cantril ladder scores, 2010

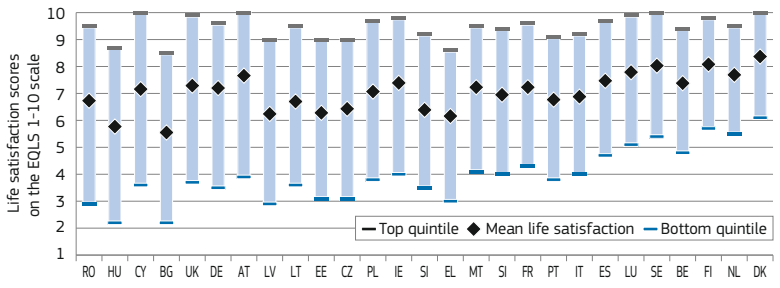


Source: The Gallup World Poll, calculations by the OECD.

Note: The Cantril ladder measures life satisfaction on a scale from 0 to 10. The data for Estonia is from 2009.

Reading Note: The Cantril ladder measures life satisfaction on a scale from 0 to 10. The ratio shown above is based on the scores for the 10th and 90th percentiles which represent integer values as they refer to the single 10th and 90th percentile respondent in an idealised sample of 100 respondents or 100th and 900th respondent in a sample of 1 000. The values do *not* refer to average scores of the 1st and 10th segment of the sample.

Chart 29: Life satisfaction gap between the top and bottom 20% of the life satisfaction distribution



Source: European Quality of Life Survey 2011/2012, calculations by Eurofound.

Note: The distribution and the respective quintiles used here refer to the life satisfaction itself, not income. Countries are ordered by the distance between top and bottom.

([29]) See http://www.wikiprogress.org/index.php/Easterlin_Paradox for a good summary of the debate around the Easterlin paradox — Wikiprogress is a website launched by the OECD at the World Forum on Statistics, Knowledge and Policy in Busan in 2009.

([30]) Betsey Stevenson & Justin Wolfers, 2013. 'Subjective Well-Being and Income: Is There Any Evidence of Satiation?', American Economic Review, American Economic Association, Vol. 103(3), pages 598–604; 'The Great Happiness Moderation' (with Sarah Flèche and Claudia Senik), in Happiness and Economic Growth: Lessons from Developing Countries, A. E. Clark and C. Senik (Eds.), Oxford: Oxford University Press, forthcoming.

the so-called Cantril ladder ([31]) — a self-anchoring scale proposed by Hadley Cantril in 1965. The ratio varies from 1.5 (the Netherlands) to 4 (Portugal).

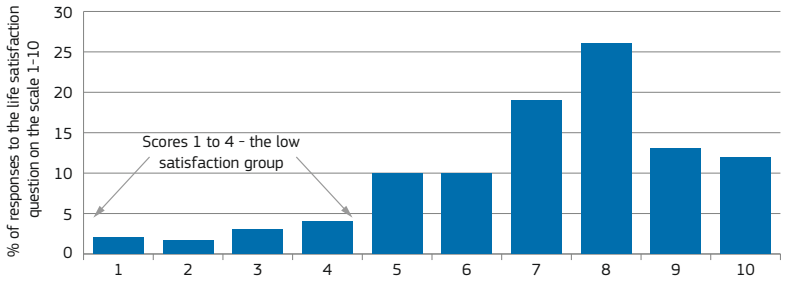
The European Quality of Life Survey also collects data on subjective well-being, using a 1-10 scale. Three surveys have been conducted so far — in 2003, 2007 and 2011/2012. The results show that lower income quartiles have consistently lower scores in life satisfaction and happiness, and suffered the largest declines during the crisis while the top income quartiles have seen their well-being rise in several countries, including in Southern Europe (Eurofound (2013)).

Chart 29 shows the distribution of life satisfaction, again not according to income but to life satisfaction itself. The difference between the top and bottom quintiles of the distribution varies considerably among countries, with the largest gaps generally appearing in the Central and Eastern European Member States but also in Cyprus, the UK, Germany and Austria (even though average life satisfaction is relatively high in the latter four). The smallest gaps are observed in the Benelux and Nordic Member States.

Chart 30 shows what percentages of responses on the EU level correspond with the scale scores from 1–10, displaying a large concentration around 7 and 8, but with a sizeable proportion of the EU population with extremely low scores.

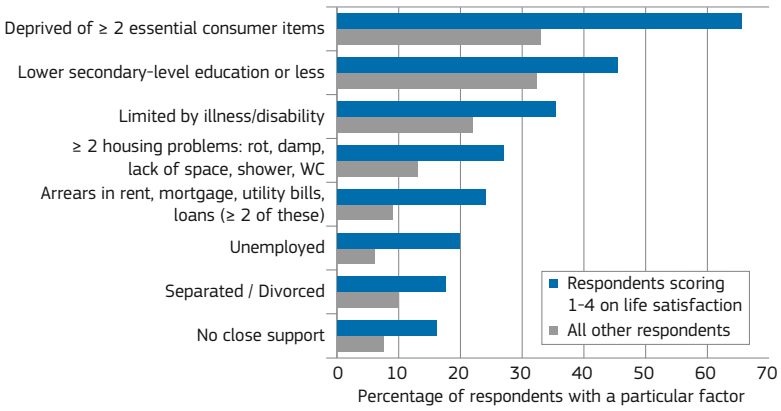
Chart 31 indicates some of the factors driving these low scores. For example, the graph shows that 16% of respondents who score very low (i.e. 1–4) on life satisfaction in the EQLS survey, declare they have no close support (from other people), while the average among all other respondents (i.e. for all other life satisfaction scores combined) is half that at 8%. Being deprived of at least two essential consumer items is by far the strongest predictor of low life satisfaction. Two thirds among those with low (1–4) life satisfaction scores experience this situation of 'material deprivation', while the share among all other respondents is only a third. (Here material

Chart 30: Distribution of EU-27 life satisfaction scores on the 1–10 scale



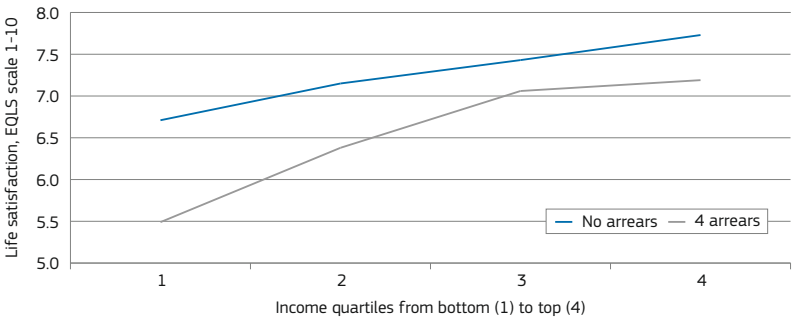
Source: European Quality of Life Survey 2011/2012, calculations by Eurofound.

Chart 31: Risk factors in the group scoring low (1–4) on life satisfaction



Source: European Quality of Life Survey 2011/2012, calculations by Eurofound.

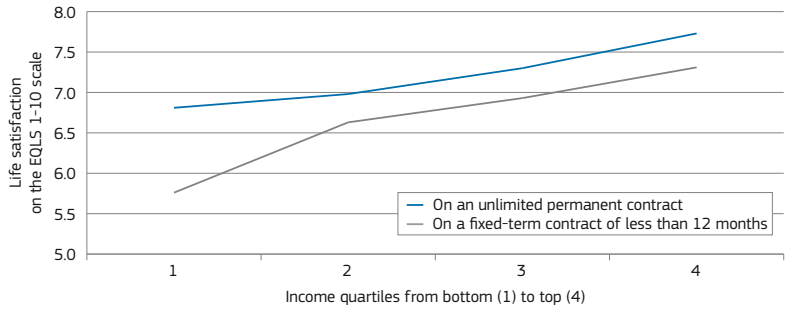
Chart 32: Comparison of life satisfaction by income quartiles, for respondents with no arrears vs. those with 4 arrears in the past 12 months (rent or mortgage, utility bills, consumer loans, private loans)



Source: European Quality of Life Survey 2011/2012, calculations by Eurofound.

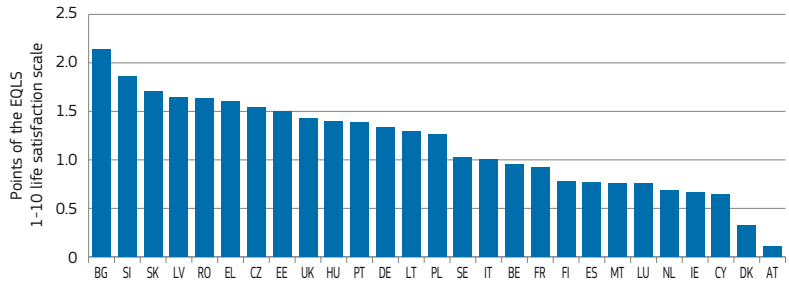
([31]) This is based on answers to the question 'Please imagine a ladder with steps numbered from zero at the bottom to 10 at the top. The top of the ladder represents the best possible life for you and the bottom of the ladder represents the worst possible life for you. On which step of the ladder would you say you personally feel you stand at this time?' (Harter & Arora, 2008).

Chart 33: Life satisfaction for different income quartiles, for respondents on a permanent contract vs. those on a temporary contract of less than a year



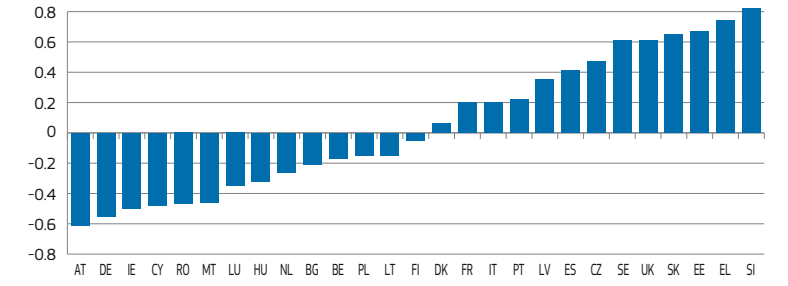
Source: European Quality of Life Survey 2012, calculations by Eurofound.

Chart 34: Gap in life satisfaction between top and bottom income quartile, by country



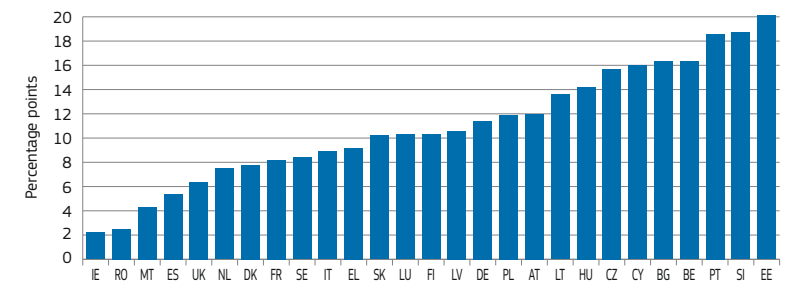
Source: European Quality of Life Survey 2011/2012, calculations by New Economics Foundation.

Chart 35: The 2007 to 2011 change in the life satisfaction gap between top and bottom income quartiles



Source: European Quality of Life Survey 2007–2011/2012, calculations by The New Economic Foundation.

Chart 36: Gap between 1st and 5th income quintile in self-perceived 'very bad' or 'bad' health



Source: Calculations by Commission services based on Eurostat data from EU-SILC 2011.

deprivation ([32]) is measured as an inability to afford consumer items or a quality of life deemed to be standard or normal in contemporary society.) Other factors helping to explain low life satisfaction are low education, illness and disability, poor quality housing, being in arrears, being unemployed and being separated or divorced.

The following two charts (Chart 32 and Chart 33) link life satisfaction scores to the existence of financial problems (payment arrears) and being on a short-term employment contract, and highlight the more pronounced impact of such factors on low income groups.

The following graphs focus on the gap in subjective well-being scores across income quartiles, by country and over time. Chart 34 highlights the fact that relative income appears to be an important element in life satisfaction in most countries, except possibly in Austria and Denmark, with the effect being more marked in the central and eastern European countries, Germany, Greece, Portugal and the UK. Chart 35 shows a mixed picture with respect to the changes in the gap following the crisis, with the gap decreasing in half of the Member States while increasing in the other half (mainly those hardest hit by the crisis) over the period 2007 to 2011.

Inequalities in health

Another area where income inequality may impact on social outcomes is with regard to health. In 2008, the WHO Committee on Social Determinants of Health concluded that social inequalities in health arise because of inequalities in the conditions of daily life and the fundamental drivers that give rise to them (WHO CSDH (2008)). The range of interacting factors that shape health includes material circumstances, the social environment, psychosocial factors, behaviours and biological factors. These factors are, in turn, influenced by social

([32]) The European Quality of Life Survey from which the present analysis draws used a 6-item material deprivation list of items:

1. keeping the home adequately warm;
2. paying for a week's annual holiday away from home (not staying with relatives);
3. having a meal with meat, chicken or fish every second day;
4. replacing worn-out furniture;
5. buying new clothes rather than second-hand ones;
6. inviting friends or family for a drink or meal at least once a month.

Note that the EQLS 6-item list used here is different from the material deprivation list used in the EU-SILC survey and consequently in the monitoring of poverty and exclusion in the Europe 2020 strategy.

Table 2: Estimated odds of reporting poor or very poor general health and long-standing illness, by socio-economic characteristics in the EU-25 in 2010

	Poor or very poor general health	
	Adjusted for one characteristic Odds ratio	Adjusted for all three characteristics Odds ratio
Education (ISCED)		
Tertiary (5&6) — *baseline*	*1.0*	*1.0*
Post-secondary, non-tertiary (4)	1.4	1.1
Upper secondary (3)	1.8	1.4
Lower secondary (2)	2.8	1.8
Primary (1)	3.8	2.1
No education or pre-primary (0)	7.7	3.5
Income		
Highest decile *(baseline)*	*1.0*	*1.0*
9th decile	1.5	
8th decile	1.9	
7th decile	2.1	1.3
6th decile	2.5	
5th decile	3.1	
4th decile	3.5	
3rd decile	4.3	1.4
2nd decile	5.2	
Lowest decile	6.1	
Material deprivation		
0 items *(baseline)*	*1.0*	*1.0*
1 item	2.1	1.8
2 items	3.4	2.8
3 items	4.8	3.9
4+ items	7.2	5.5

Source: Marmot *et al.* (2013).

position, itself shaped by education, occupation, income, gender, ethnicity and race. All these influences are affected by the socio-political and cultural and social context in which they sit. A loose summary of this is the 'causes of the causes' of poor health (Marmot *et al.* (2013)).

In recent decades much public health activity has focused on proximate causes of ill health. In relation to chronic disease this has meant aspects of lifestyle, such as smoking, diet, alcohol consumption, physical activity. One of the ways in which social determinants influence health includes the effects that lack of control, stress and reduced capabilities have on such behaviours (Marmot *et al.* (2013)). The relationship between GDP and health is not straightforward. Higher average levels of economic activity do not necessarily result in higher levels of health because many other factors such as patterns of income distribution, consumption, services and the impact of public policies on health can play an even greater role.

The European Commission regularly monitors health inequalities in the European Union (see for example European Commission (2013b)), with the research showing a clear socio-economic gradient with respect to health. For example, Chart 36 shows a cross-country comparison of the health gap between low and high income groups. Since all the data is self-reported ratings of one's health they are vulnerable to a cultural bias, but they nevertheless indicate a clear and substantial gap between top and bottom income quintiles in most Member States. Moreover, Table 2 shows a consistent socio-economic gradient in the risk of being of poor health according to three criteria: level of education, income level and degree of material deprivation experienced, with low income and education being associated with lower life expectancy and a greater risk of poor health.

4.1.2. Latest research findings on the impact of income inequality on social outcomes

Discussions around the issue of whether income inequality affects an individual's happiness date back to the debate on relative deprivation and relative utility, and whether a person's utility depends not only on their own income but also on their relative position in society (van de Stadt, Kapteyn and van de Geer (1985)). An intuitive explanation is provided by Hirschman and Rothschild (1973) using the analogy of a traffic jam on a two-lane motorway to explain the effect of income inequality on happiness. They call this the 'tunnel effect' (Hirschman and Rothschild (1973)):

'*Suppose that I drive through a two-lane tunnel, both lanes going the same direction, and run into a serious traffic jam. No car is moving in either lane as far as I can see (which is not very far). I am in the left lane and feel dejected. After a while the cars in the right lane begin to move. Naturally, my spirits lift considerably, for I know that the jam has been broken and that my lane's turn to move will surely come any moment now. But suppose that the expectation is disappointed and only the right lane keeps moving: in that case I will at some point become quite furious*'.

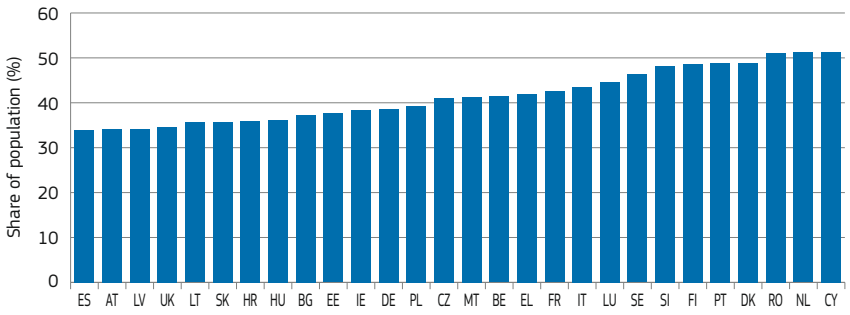
In this respect, there is evidence to suggest that the way income and social inequalities are viewed by those affected will depend on the possibilities for advancement which are open to them (see Box 7 for a summary of actual income mobility across EU countries).

Box 7: Can people move up the income distribution?

A key issue in terms of effects of inequalities is whether people feel there is a genuine chance to move up the income and social ladder, or whether such opportunities are effectively absent or limited. Empirical evidence (see d'Hombres *et al.* (2012) for a summary) suggests that the perception of income inequality as a negative force in society depends critically on the perceived possibility for upward social mobility.

Data published by Eurostat concerning the year-to-year transitions by income decile indicate different levels of mobility within the income distribution across EU Member States. Average figures for the period 2006-2010 on the share of the population experiencing no year-to-year change in their position in the income distribution (Chart 37) suggest relatively strong income mobility in countries such as Austria, Spain and the UK as well as many Eastern European Member States. In contrast mobility is more limited in the Netherlands and the Nordic Member States, Cyprus, Portugal and Romania.

Chart 37: Share of the population (%) experiencing no year-to-year change in income decile averaged over the period 2006-2010

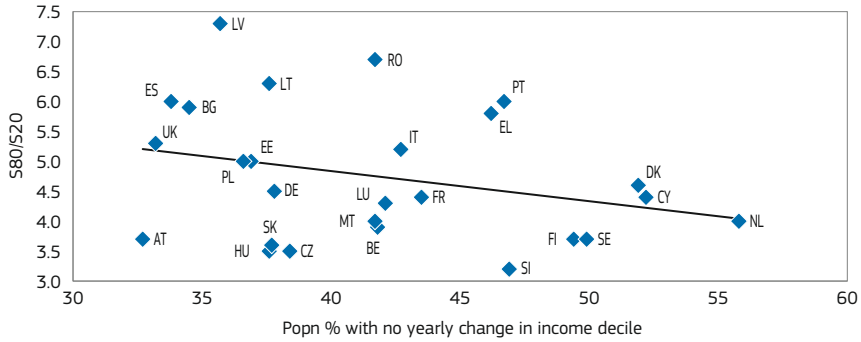


Source: Eurostat, EU-SILC.

Note: Average is based on available data for the income years 2006-2010.

Focusing on the period just before the onset of the crisis (which has subsequently had a large impact on transitions within the income distribution in some countries through job losses and wage adjustments etc.), no strong relationship is apparent between the level of inequality in countries and the amount of mobility within their income distribution, although high inequality countries (such as the Baltic States, Bulgaria and Spain) tend to have relatively high mobility, while the Nordic Countries, Cyprus and the Netherlands have low inequality but also low income mobility (Chart 38).

Chart 38: S80/S20 income inequality measure versus income mobility, 2008 income year

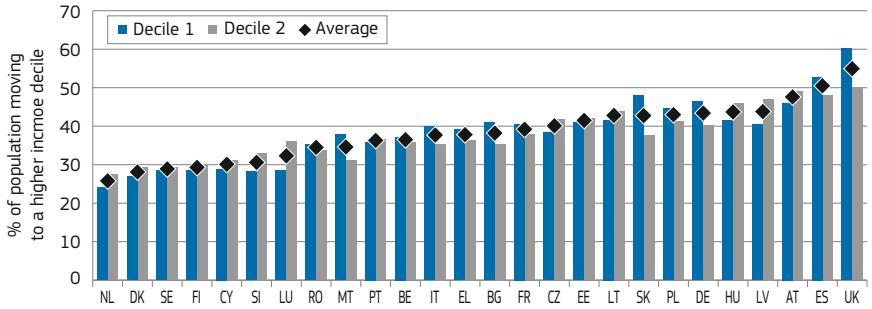


Source: Eurostat, EU-SILC.

Note: Based on 2009 SILC data (income year 2008).

Focusing specifically on upward mobility within the lower deciles (i.e. whether people at the bottom of the income distribution have good chances to move up the income ladder), a similar pattern is observed (Chart 39). In the Nordic Member States and the Netherlands there are relatively fewer chances to move out of the first or second decile to a higher income decile, while in Spain and the UK more than 50% manage to make this transition.

Chart 39: Share of population in deciles 1 and 2 moving up the income distribution in 2008

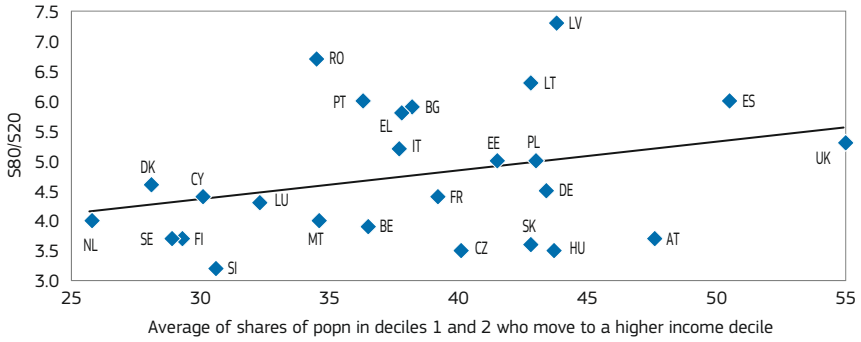


Source: Eurostat, EU-SILC.

Note: Countries ordered according to average across first and second decile in the share of population who move to a higher income decile.

Comparison of the chances of upward mobility in the lowest deciles with the overall level of income inequality again suggests that, while overall inequality is low in the Nordic States and the Netherlands, the chances for people to move up the income ladder are rather limited, in contrast to the greater upward mobility from the lower income range in Spain and the UK (Chart 40). The greatest challenges would appear to be in countries such as Bulgaria, Greece, Italy, Portugal and Romania which combine relatively high levels of income inequality with limited chances for people to progress out of the lowest income brackets. Dissatisfaction with inequality, and its impact on well-being and life satisfaction, might therefore be expected to be more evident in these Member States.

Chart 40: S80/S20 income inequality measure versus upward income mobility for the lower deciles in 2008



Source: Eurostat, EU-SILC.

Note: Average of shares of population in deciles 1 and 2 who moved to a higher income decile in 2008.

Based on an extensive review of the literature on income inequality and its social consequences, d'Hombres *et al.* (2012) find that higher criminality, reduced involvement in the political process and, to some extent, lower social capital formation and well-being, appear to be tangible negative products of rising income inequality. In particular, the authors highlight that:

- The effect of income inequality on happiness depends critically on the perceived mobility in a country. If income mobility is high, as in the USA, income inequality tends to be positively associated with reported well-being as individuals tend to consider that they will eventually reach a higher income. The opposite is observed in low mobility countries (i.e. typically European countries) because individuals feel that it is impossible to reach a higher level of income.

- The majority of the studies focusing on the relationship between the income distribution and criminality conclude that income inequality has a detrimental effect on criminal behaviour.

- Empirical analyses of the harmful effect of income inequality on health are not usually conclusive, at least not in wealthier European countries. This is in line with the fact that there is still no widely accepted explanation of how income inequality is likely to impact on health. Furthermore, some researchers tend to suggest that the causality can run in the other direction, from health status to income inequality.

- Heterogeneous societies might be expected to be characterised by fewer contacts and in consequence, by lower levels of social capital. This prediction appears to be empirically validated by cross-country studies, as well as

by those focusing on the US context. Findings specific to EU countries are limited and less conclusive.

- The relationship between voter turnout and inequality is likely to be mutually reinforcing in so far as the benefits from voting are lower for the low-income group, reducing their incentive to vote. If this is the case, policies may favour the better-off groups, thus adding to income disparities. These predictions are confirmed by the majority of cross-country and single-country studies reviewed in the above report.

Based on an analysis of simple bivariate correlations, Elia *et al.* (2013) complement the above literature review by examining the correlations at NUTS1 level between income inequality and social outcomes. Their analysis reports significant bivariate correlations between higher income inequality and lower recorded voter turnout, lower participation in voluntary organisations, higher crime rates, higher early school leaver rates, and lower levels of trust. Conversely, outcomes related to well-being and health were not found to be significantly associated with income disparities. However, since this analysis relied on bivariate correlations none of the statistical associations could be regarded as evidence of a causal relationship.

As a final step, d'Hombres *et al.* (2013) carried out a multivariate analysis on a selected number of social outcomes, while controlling for a number of individual and country level specificities ([33]). The social outcomes studied were health, social capital (i.e. trust and participation in organisations) and happiness. The study concluded that the adverse effect of income inequality on a range of social outcomes as proposed by Wilkinson and Pickett (2009) could not be confirmed by the data, except with respect to trust. In particular, the analysis could not find a strong and significant effect of income inequality on health, happiness and participation in associational activities. These results are robust to the inclusion of a large number of individual and country-specific variables and different estimation strategies. However, the analysis suggests that income inequality has a potentially damaging effect on trust, the implications of which should not be underestimated, as highlighted in the following paragraphs.

According to many researchers, trust is critical for the functioning of societies (e.g. see Putnam (2000)). Social capital and trust are factors linked to cooperative behaviours and investment decisions as well as to the quality of institutions, all of which are important determinants of economic performance (Knack and Keefer (1997), and Guiso *et al.* (2004)).

When resources are not evenly distributed, poor individuals may see themselves as living in an unfair society where the rich exploit the poor, leading low-income individuals to develop distrust against richer individuals (Rothstein and Uslaner (2005)). Most cross-country studies conclude that, when income inequality is high, social capital is under-developed (Knack and Keefer (1997), Leigh (2006), Fisher and Torgler (2006), Berggren and Jordhal (2006), Bjørnskov (2006)). Based on aggregated country-level data drawn from the World Values Surveys, cross-country estimates reported in Knack and Keefer (1997) show that income inequality is negatively and significantly related to trust and civic cooperation.

As a final point on the importance of trust for the functioning of societies, it is useful to recall that, according to the pioneer economist Adam Smith (1760), the perception of fairness is the '*main pillar that upholds the whole edifice [...] if it is removed, the great, the immense fabric of human society must in a moment crumble to atoms*'. If correct it underlines the need to be concerned that rising income inequality may be leading to lower levels of trust.

4.2. Impact of inequality on economic efficiency and the sustainability of economic growth

Apart from the link to notions of fairness, solidarity and well-being, the evidence available suggests that there is a strong case for promoting greater equality in terms of its contribution to economic efficiency, notably by improving the use of available human capital. Moreover, high and rising levels of income inequalities can undermine sustainable growth by inducing insufficient aggregate demand and/or unsustainable borrowing at the lower end of the income distribution.

When the benefits of growth are not widely shared, and too many people are unable to fulfil their potential, this threatens economic and social stability, particularly in poorer countries. Likewise, inequality can dampen economic opportunity by preventing poorer sections of society from accessing the financing needed to pursue profitable investments, and restrict them to less productive activities. It can also leave countries much more exposed to the effects of adverse shocks — with fewer people able to dip into savings during bad times, the decline in growth can be larger. This section therefore reviews the evidence on the implications of inequalities for the achievement of sustainable growth.

4.2.1. Does inequality reduce economic efficiency?

In an influential 1975 book 'Equality and Efficiency: The Big Tradeoff', Okun argued that the pursuit of equality can reduce economic efficiency. He argued that, not only can a more equal distribution of incomes reduce incentives to work and invest, but the efforts needed to redistribute — through such mechanisms as the tax code and minimum wages — can themselves be costly. He compared these mechanisms to a 'leaky bucket' from which some of the resources transferred from rich to poor 'will simply disappear in transit, so the poor will not receive all the money that is taken from the rich' as a result, for example, of administrative costs.

More recent research (Berg, Ostry, and Zettelmeyer (2011); and Berg and Ostry (2011)) contradicts this view, finding that when growth is looked at over the long term, the trade-off between efficiency and equality may not exist. In fact equality appears to be an important ingredient in promoting and sustaining growth.

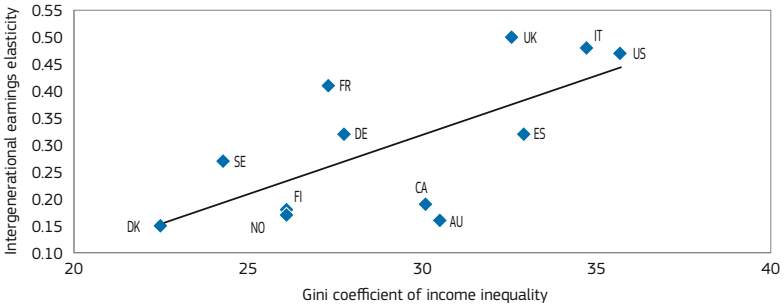
Clearly the relationship between income inequality and economic growth is complex. Some inequality is integral to the effective functioning of a market economy given the incentives needed for investment and growth, but inequality (particularly if it is high and rising) can also be destructive to growth, for

([33]) The analysis examines the relationship between income inequality and social outcomes in a cross-country context, using a long time period (1981–2008) and with the time-invariant country heterogeneity accounted for.

example by amplifying the risk of crisis or making it difficult for the poor to invest in education.

In a recent article Stiglitz claims that inequality is holding back the recovery in the US ([34]), arguing that the middle class is too weak to support the consumer spending that has historically driven economic growth, and the 'hollowing out' of this section of the population since the 1970s has resulted in them being unable to invest in their future by educating themselves and their children, and by starting or improving businesses.

Chart 41: Intergenerational mobility and static income inequality



Source: OECD (2008), 'Growing Unequal? Income Distribution and Poverty in OECD Countries'.

In the long run, inequality might provide the basic incentive to invest in assets such as education, training and continuing education, but rising poverty and greater incidence of low incomes may deny this option to many and thus lower growth potential. An extension of this argument is that more unequal societies are also polarised societies, where the poor not only lack access to credit and public services, but also no longer have the capacity to aspire (Appadurai (2004)) since social mobility becomes less and less attainable.

In this context, according to the OECD (OECD (2008)), the degree of intergenerational mobility in countries (as reflected by changes in the position in the income distribution between parents and their children) is related to the level of inequality in the country. Chart 41 shows a positive relation in a cross-section of twelve OECD countries between the extent of intergenerational earnings elasticity ([35]) (which reflects the extent to which people's income positions are influenced by those of their parents, and hence reflects the opposite of intergenerational mobility) and conventional measures of income inequality at a point in time around 2000. Most significantly, countries with the most equal distributions of income (i.e. with low inequality) exhibit the highest income mobility across generations, as indicated by low intergenerational earnings elasticities. For example, the influence of fathers' income level on that of their sons is weak in the Nordic countries, where inequality is low, but strongest in Britain, Italy and the USA, where inequality is high.

More generally, as highlighted previously inequality seems to be associated with less sustained growth. Berg and Ostry (2011) find that income inequality stands out as a key driver of the duration of growth spells, with longer growth spells being robustly associated with more equality in the income distribution (conversely, high growth spells are much more likely to end sooner in countries with less equal income distributions), and with the effect being large as well as significant. They emphasise that it is a serious error to separate analyses of growth and income distribution, and that there are major long-run benefits for growth of reducing inequality.

Referring to their analogy cited previously (at the start of Section 2), they highlight that ***'a rising tide is still critical to lifting all boats, helping to raise the lowest boats may actually help to keep the tide rising'***. From a longer-term perspective, reduced inequality and sustained growth may be two sides of the same coin, with sustainable economic progress most likely to be achieved when the benefits are widely shared.

It is perhaps worth highlighting that, in line with the above findings, the Europe 2020 Strategy stresses that growth cannot be smart or sustainable *unless* it is also inclusive, i.e. with greater equality. The targets of a 75% employment rate and of lifting at least 20 million people out of the risk of poverty or social exclusion are intended to shape the EU's socio-economic development model precisely in the direction of a more inclusive growth.

In this context, there is a clear need for pro-active public policies to improve opportunities and transitions at the lower end of the labour market and at the bottom of the income distribution, while tackling excesses at the top. This need is well-summarised in the concept of social investment, which is intended to guide the design of 21st century welfare states as part of the effort to achieve and support inclusive growth.

4.2.2. Links between the crisis and aspects related to inequality in the distribution of the benefits from growth

Income inequalities, with their many causes including labour market polarisation, financial sector de-regulation, loopholes in tax systems and weakening of the welfare state, are increasingly viewed as a factor that contributed to the economic and social crisis and that makes recovery more difficult. Indeed, many economists now agree that inequality was a fundamental driver of the crisis, as argued in a recent book by Stiglitz (2012) in relation to the US and as highlighted in a speech by the former Managing Director of the International Monetary Fund ([36]):

'*Fundamentally, the growth model that co-existed with globalization was unbalanced and unsustainable. ... Inequality may have actually stoked this unsustainable model.*

([34]) 'Inequality is holding back the recovery', New York Times opinion pages, January 19, 2013 (see http://nyti.ms/T2pAnW).

([35]) Roughly speaking, intergenerational earning elasticity represents the fraction of income that is on average transmitted across generations (here measured by the earnings elasticity between fathers and sons). For example, an elasticity value of 0.4 indicates that 40% of the father's income position is transmitted to the next generation. A value of zero represents a case of complete mobility where the incomes of father and son are completely unrelated. A value of unity represents a case of complete immobility where the father's income position is completely passed on to the next generation.

([36]) Human Development and Wealth Distribution, By Dominique Strauss-Kahn, Managing Director, International Monetary Fund, Agadir, November 1, 2010 (http://www.imf.org/external/np/speeches/2010/110110.htm).

In countries like the United States, borrowing seemed to allow ordinary people to share in the rising prosperity. Like the Great Depression before it, the Great Recession was preceded by an increase in the income share of the rich, a growing financial sector, and a major rise in debt.'

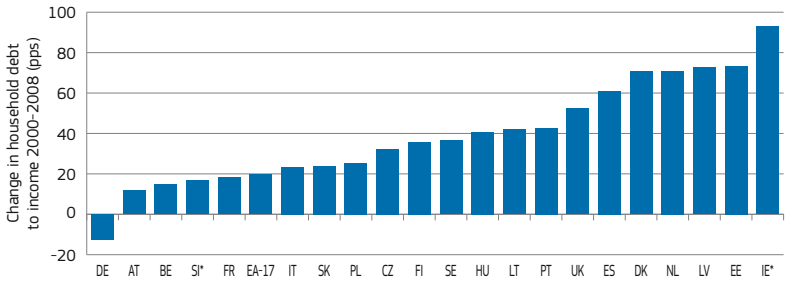
If this is the case, how and through what means did rising inequality lead to the crisis? As explained for example by O'Farrell (2011), the financial system was able to disguise the fundamental economic and social imbalances caused by rising inequality in the period leading up to the crisis, and to offset some of its effects. Specifically, the downward pressure on demand that one would normally expect from sluggish wage/income growth was compensated for by the availability of credit in countries such as the US, Ireland and the UK, and by export-led demand and output growth in Germany and some other countries.

Rising inequality in a climate of increasing consumption led to poorer households increasing their borrowing. In a number of countries, most prominently in the USA, low income groups borrowed money to increase their consumption (Frank *et al.* (2010); Kumhof and Rancière (2010)) and this appears to have allowed them to cope with the erosion of their relative income situation and to maintain higher living standards.

So, rather than investing in productive projects, high earners effectively loaned money to low earners, mediated through the financial system, which allowed aggregate demand to be maintained. At the same time, low interest rates also encouraged investment in highly risky assets, from commercial property to financial derivatives. As asset prices rose, initially feeding the boom, this facilitated access to even more credit, leading to steadily rising indebtedness. The collapse finally came when the financial crisis struck.

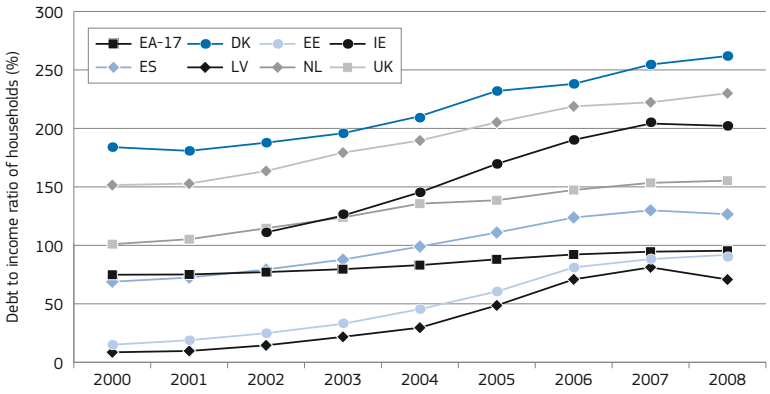
The deterioration in the debt situation of households in the period up to the crisis is clearly evident in the data on the gross debt-to-income ratio of households (Chart 42). Apart from Germany, this ratio increased in all Member States between 2000 and 2008, most notably in Denmark, Estonia, Latvia, the Netherlands, Spain, the UK, and above all Ireland (between 2002 and 2008). The time series for the latter countries indicates that the build-up of debt had been fairly gradual from the beginning of the 2000s (Chart 43), but followed a much steeper gradient than for the euro area as a whole.

Chart 42: Change in the gross debt-to-income ratio of households in EU Member States between 2000 and 2008



Source: Eurostat, National Accounts.
Note: *Figures for IE and SI are for the period 2002 to 2008.

Chart 43: Trends in the gross debt-to-income ratio of households in selected EU Member States, 2000-2008



Source: Eurostat, National Accounts.

All this suggests that monitoring developments in household private debt or borrowing may be as necessary for ensuring the sustainability of economic growth as it is for monitoring the material well-being of households.

4.3. Inequality and the broader sustainability agenda

If our economies make us richer in the short-term but poorer in the long-term, or breach environmental limits, this is clearly unsustainable. Likewise, if rising inequality threatens the longer term cohesion of society, this is equally unsustainable. This section therefore reviews what measures are being used to inform the broader sustainability agenda (Box 8), and in particular what role addressing (income) inequality can play.

For example, increasing attention is being paid to the link between social exclusion and environmental deprivation. Clean air and water, unspoiled landscapes and rich biodiversity on the one hand and pollution and noise on the other are not evenly distributed. A study 'Addressing the Social Dimensions of Environmental Policy' (Pye *et al.* (2008)) has shown that, in Europe, poorer people, while polluting less, live in areas of lower environmental quality, which contributes to poorer health, stress and vulnerability to natural disasters.

Box 8: Towards a Global Sustainability Agenda

The United Nations have been evaluating progress and renewing their commitments to meet, by 2015, the eight 'Millennium Development Goals', which range from halving extreme poverty, to halting the spread of HIV, to providing universal primary education (United Nations (2013)). Simultaneously, a discussion is underway to create a new post-2015 framework for sustainable development. The European Commission proposes that such a framework should cover basic living standards (including social protection, productive employment and decent work for all, including youth, women and people with disabilities) ([1]). It should also look to the drivers for sustainable and inclusive growth so as to ensure that the benefits of growth and employment are widely shared, noting that the sustainable management of natural resources would also require actions and training for the specific skill sets needed. Goals would help stimulate opportunities for more inclusive and sustainable growth, supported by indicators looking beyond GDP including on social cohesion.

To strengthen its political mandate ahead of the international negotiations, the Commission launched a public consultation on 'Rio+20 follow up' ([2]). Over 125 responses came in from individuals, public authorities, businesses and business associations, NGOs, trade unions and consumer protection groups. A large number of replies highlighted issues related to the inclusive green economy, in particular pointing to the need for indicators beyond GDP, while others pointed to the need for a favourable trade environment, eliminating environmentally harmful subsidies and environmental taxes (European Commission (2013a)).

The UN Open Working Group on Sustainable Development Goals (OWG) highlighted a need for disaggregated data regarding reaching vulnerable populations and addressing inequalities. In their concluding remarks on employment and decent work for all, social protection, youth and education, the Open Working Group stressed that economic growth must be inclusive and job-creating and that the problems of youth unemployment, working poor, workers' rights and access to basic social protection and skills for productive employment should be addressed. Basic social protection does not need to await prosperity. The Issues Brief ([3]) for the OWG's upcoming discussion on sustained and inclusive economic growth proposes a goal for sustained economic growth, social inclusion and environmental protection with targets covering the Gini coefficient, increases in employment, improvements in the quality of jobs and decent work. It is suggested that measurable indicators could be designed for all countries taking into consideration their individual realities.

The High Level Panel of Eminent Persons on the Post-2015 Development Agenda proposes targets related to reducing the share of people living below their country's 2015 national poverty line, increasing the number of people with skills needed for work, and decreasing the number of young people not in education, employment or training. The proposed illustrative goals also address decent jobs and social protection.

The World Bank (2013), besides its commitment to ending extreme poverty, favours tracking income growth among a nation's bottom 40% of the income distribution as part of their initiative: 'Shared Prosperity: A New Global Goal for a Changing World'. According to the World Bank's Acting Vice President for Poverty Reduction and Economic Management, Jaime Saavedra-Shanduvi, the new indicator captures two key elements, economic growth and equity, and it will seek to foster income growth among the bottom 40% of a country's population. Improvement of this shared prosperity indicator requires growth to be inclusive of the less well-off.

The International Labour Organisation, on the other hand, has proposed a conceptual framework for the measurement of decent work and suggests shifting the policy attention and public discourse from the quantity to the quality of growth, focusing on a type of growth that is inclusive, generates decent jobs and reduces income inequalities. The ILO framework puts forward indicators which cover the substantive elements corresponding to the four strategic pillars of the Decent Work Agenda (full and productive employment, rights at work, social protection and the promotion of social dialogue), among which are the elements of adequate earnings and social security. Examples of indicators under this approach include in-work poverty rates, low pay rates and some indicators demonstrating coverage and level of social protection floors ([4]).

The United Nations Sustainable Development Solutions Network (UNSDSN) has proposed to reduce by half the proportion of households with incomes less than half of the national median income. The UNSDSN also proposes universal access to primary healthcare and reduced youth unemployment. Universal healthcare coverage was also proposed by the UN Secretary General Ban Ki-moon, who has called for tackling exclusion and inequality by building inclusive economies with access to decent employment, legal identification, financial services, infrastructure and social protection ([5]).

The UN Global Sustainable Development Knowledge Platform ([6]) includes the following in the list of potential future goals/targets for eliminating poverty worldwide by 2030: universal health coverage; creating 63 million decent new jobs per year; achieving full, productive and decent employment for all; and GDP per capita above USD 10000 PPP in all countries by 2050.

Beyond 2015 ([7]) recommends ensuring that inequality be an explicit focus of economic policies and strategies (including encouraging the use of systems of progressive taxation and equitable redistribution, committing to a focus on employment, youth employment, skills and job matching, and implementing social safety nets and protection floor systems). Considering combining economic growth with the creation of decent jobs for the poor and most vulnerable is a prerequisite for sustained inclusive growth.

([1]) At the same time equality, equity, justice, peace and security would be promoted.

([2]) http://ec.europa.eu/europeaid/how/public-consultations/towards_post-2015-development-framework_en.htm

([3]) http://sustainabledevelopment.un.org/content/documents/2078Draft%20Issue%20Brief_Sustained%20and%20Inclusive%20Economic%20Growth_Final_16Oct.pdf

([4]) http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/genericdocument/wcms_213309.pdf

([5]) http://www.un.org/millenniumgoals/pdf/A%20Life%20of%20Dignity%20for%20All.pdf

([6]) http://sustainabledevelopment.un.org/content/documents/975GSDR%20Executive%20Summary.pdf

([7]) Global campaign aiming to influence the creation of a post-2015 development framework. Beyond 2015 brings together some 800 civil society organisations in over 100 countries around the world.

At present the European Union uses a set of 155 indicators to monitor progress toward the targets of the Sustainable Development Strategy. The social sustainability indicators within the strategy overlap with the indicators used to monitor progress towards the poverty reduction target in the Europe 2020 strategy. While income inequality as such does not yet enter directly into policy targets, the at-risk-of-poverty indicator included in the Europe 2020 strategy target to lift 20 million people out of poverty or social exclusion does capture a key element of income inequality.

5. Conclusions

This chapter has explored the kinds of measures that might be used to complement GDP in order to highlight the issue of inclusive growth. Taking into account the recommendations of the Stiglitz *et al.* (2009) report, the relevant literature and related developments in international organisations such as the United Nations, the OECD, the ILO and the World Bank, it has reviewed potential indicators that could be used to complement GDP growth in order to capture inclusive income growth and other distributional aspects key to societal progress such as wealth and quality of life.

Prosperity is strengthened when everyone has the capacity to participate effectively in the economy, and the benefits of growth are widely shared. The global recession, however, demonstrates that the previous period of economic growth had not necessarily produced all the results desired, including that many of the jobs created were of poor quality and often precarious. Moreover, in so far as part of that growth was based on shaky financial foundations and environmental degradation, it offered neither sustainable economic prospects nor equal opportunities for people. This underlines the need to create more inclusive growth as envisaged in the Europe 2020 strategy, and more recently in the Commission's Social Investment Package. The poverty and social exclusion target in the Europe 2020 strategy was introduced to signal what kind of growth we envisage to ensure inclusiveness.

This chapter has discussed measures that encompass in particular the need to integrate distributional aspects for assessing inclusive growth. It has considered a range of potential measures as listed in Table 3 and analysed how taking account of distributional aspects (of income) modifies growth outcomes. It has also analysed how they relate to measures of quality of life/well-being and how they inform the broader sustainability agenda.

Among these indicators, those which could be given greater emphasis (highlighted in bold in the table), broadly reflecting the recommendations of the Stiglitz *et al.* (2013) report and the current debate among the major international organisations on this subject as well as practical issues ([37]), are the following:

1. The **growth in real median income** (i.e. adjusted for inflation). The income figure would be the median equivalised disposable income derived from EU-SILC and/or nowcasting techniques. Focusing on individuals' income provides a better way of capturing what people actually receive out of national income, while the median is better than the mean since it reflects progress in the middle of the income distribution. This indicator would give an immediate impression of real income growth for a typical citizen, taking into account the impact of price changes. This proposal is very much in line with the recommendations of the Stiglitz *et al.* (2009) report and of the LSE Growth Commission (2013).

2. While the above would provide a view of average progress for society, it could be accompanied by some measure(s) of **the inequality in income distribution**. The measures worth considering are:

   a. An overall indicator of the level of income inequality across the population. Several well established measures are available (for example the Gini coefficient, S80/S20 ratio, Palma ratio) and some of these are in regular use across international fora to monitor inequality. The EU has an established tradition in using the Gini and S80/S20 measures as part of the portfolio of indicators on social protection and social inclusion agreed between the European Commission and

Table 3: Potential measures which could be used to complement GDP growth to highlight the issue of inclusive growth

Domain	Broad measures of progress of society as a whole	Distributional measures showing how progress is distributed
Economic growth	Real GDP (per capita) growth	**Inequality adjusted growth in real GDP (per capita)**
Income	**Real median income growth** Growth in adjusted gross household disposable income Change in gross debt-to-income ratio of households	• **Income inequality (as measured by Gini, S80/S20, Palma or other accepted indicators)** • **Real median income growth within specific quintiles (e.g. top & bottom)**
Wealth	Median net wealth	Wealth inequality as measured by the divergence between mean and median income or an appropriate standard inequality measure (e.g. the Palma ratio)
Quality of life/ Well-being	**Median life satisfaction**	**Gap in life satisfaction between top and bottom income groups, and between top and bottom life satisfaction groups in itself**

([37]) The list is quite extensive, and some potential indicators are more developed, and more widely used and accepted, than others. Some are still in the early stages of development, or may have limitations in terms of lack of timeliness or irregular availability.

the EU Member States within the Open Method of Coordination. The Palma ratio has some affinity with the World Bank's indicator of shared prosperity measuring the income growth of the bottom 40% of the distribution.

b. Indicators of how median incomes for different parts of the income distribution change over the reference period — for example, the annual growth rate in real median income for the lowest income quintile and for the top income quintile. This would be more readily understandable by the general public than the more specialised indicators above, since it would show in plain terms how incomes have developed for the less well-off and for the comparatively rich. The OECD, for example, gave an account of the long-term income growth of the bottom and top decile in OECD (2011a).

3. **Adjusted growth in GDP using Sen index of 'real national income'**: Inequality adjusted growth in real GDP (per capita), with mean income adjusted downwards if inequality measured by Gini is high ([mean income] × [1-Gini]). Taking into account information on disparities in outcomes requires directly adjusting GDP per capita, or other income variables, for distributional variations, making use of an index of income equality to produce an adjusted time series of growth. Such 'distributionally sensitive' measures of national income growth would highlight the real impact of economic growth on the majority of the population. The Sen index also gained attention in the research of the LSE Growth Commission as mentioned by Jenkins (2012).

4. It would also be important to include **some overall measure for life satisfaction and the associated gaps within the population**. Alongside median life satisfaction, options which could be considered include:

   a. The ratio of life satisfaction scores between top and bottom income groups. For example, surveys by the OECD show a sizable difference in life satisfaction between top and bottom income groups. Yet this difference varies markedly between countries, suggesting that policy may mitigate life satisfaction by influencing, not only the level and distribution of household income, but access to services, training, jobs, etc.

   b. Since satisfaction is not solely a function of income but related to a range of other possible influences including health, environment, family situation etc., it could also be relevant to include a measure for the distribution of life satisfaction in itself. For this reason it would seem appropriate to include a measure of the ratio or gap between the median life satisfaction of, say, the 20% of the population with the highest satisfaction versus that of the bottom 20%. For an example of such analysis see: Eurofound 2013. The OECD publishes data on inequality in life satisfaction as part of their 'Better Life' initiative in the 'How's Life?' report (OECD (2011b)). Several Member States now publish updates about the trends and the distribution of life satisfaction among their citizens, e.g. National Statistics UK (2013), Amiel *et al.* (2013) for France, and ISTAT (2013) for Italy.

This chapter has focused mainly on inequalities in income but has also explored the issue of inequalities in wealth, where appropriate indicators could also be considered for the measurement of inclusive growth once the available data has been explored and further developed. An exploratory analysis of the results of the first wave of the European Central Bank's Household Finance and Consumption Survey has highlighted that levels of wealth, household sizes and composition, and patterns of property ownership and values, all vary enormously within as well as between Member States, and this evidence is, in some respects, even more revealing about the extent of inequalities in our societies than the evidence on incomes.

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Statistical annex[1]

1. Macro economic indicators

Macro economic indicators: European Union 28 – Annual percentage growth

European Union (28 countries)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	1.3	1.5	2.6	2.2	3.4	3.2	0.4	-4.5	2.1	1.6	-0.4
Total employment	0.4	0.4	0.7	1.0	1.6	1.8	1.0	-1.8	-0.5	0.3	-0.5
Labour productivity	:	:	:	:	:	:	:	:	:	:	:
Annual average hours worked	:	:	:	:	:	:	:	:	:	:	:
Productivity per hour worked	:	:	:	:	:	:	:	:	:	:	:
Harmonized CPI	:	:	:	:	:	:	:	:	:	:	:
Price deflator GDP	2.4	0.2	2.3	2.2	2.3	2.7	0.2	-1.4	2.4	1.4	2.4
Nominal compensation per employee	2.9	0.8	3.1	2.5	2.8	3.2	0.7	-1.1	3.4	2.0	3.2
Real compensation per employee (GDP deflator)	0.5	0.6	0.7	0.3	0.5	0.5	0.5	0.3	1.0	0.6	0.8
Real compensation per employee (private consumption deflator)	1.4	1.1	0.7	0.1	0.3	0.7	0.2	1.6	0.1	-0.6	-0.1
Nominal unit labour costs	:	:	:	:	:	:	:	:	:	:	:
Real unit labour costs	:	:	:	:	:	:	:	:	:	:	:

European Union (27 countries)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	1.3	1.5	2.6	2.2	3.4	3.2	0.4	-4.5	2.1	1.6	-0.4
Total employment	0.4	0.4	0.6	1.0	1.6	1.8	1.0	-1.8	-0.4	0.3	-0.5
Labour productivity	0.8	1.1	1.9	1.1	1.7	1.4	-0.6	-2.7	2.5	1.3	0.1
Annual average hours worked	-0.8	-0.5	0.1	0.0	-0.4	0.0	-0.3	-1.1	0.3	0.2	-1.0
Productivity per hour worked	2.2	1.5	1.8	1.1	2.1	1.4	-0.3	-1.4	2.3	1.1	0.8
Harmonized CPI	2.5	2.1	2.3	2.3	2.3	2.4	3.7	1.0	2.1	3.1	2.6
Price deflator GDP	2.4	0.2	2.3	2.2	2.3	2.7	0.2	-1.4	2.4	1.4	2.4
Nominal compensation per employee	2.9	0.8	3.1	2.5	2.8	3.2	0.7	-1.1	3.4	2.0	3.2
Real compensation per employee (GDP deflator)	0.5	0.6	0.7	0.3	0.5	0.5	0.5	0.4	1.0	0.6	0.8
Real compensation per employee (private consumption deflator)	1.4	1.1	0.7	0.1	0.4	0.7	0.2	1.6	0.1	-0.6	-0.1
Nominal unit labour costs	2.0	-0.3	1.1	1.3	1.0	1.8	1.3	1.7	0.8	0.7	3.0
Real unit labour costs	-0.4	-0.5	-1.2	-0.9	-1.2	-0.9	1.1	3.2	-1.5	-0.7	0.6

European Union (15 countries)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	1.2	1.3	2.4	2.0	3.2	3.0	0.1	-4.5	2.1	1.5	-0.4
Total employment	0.7	0.5	0.8	1.0	1.5	1.6	0.8	-1.8	-0.3	0.3	-0.3
Labour productivity	0.5	0.8	1.6	1.0	1.6	1.3	-0.7	-2.8	2.4	1.1	-0.1
Annual average hours worked	-0.9	-0.4	0.1	-0.1	-0.5	-0.1	-0.4	-1.2	0.3	0.2	-0.7
Productivity per hour worked	1.4	1.2	1.5	1.0	2.2	1.4	-0.3	-1.4	2.1	0.9	0.6
Harmonized CPI	2.1	2.0	2.0	2.1	2.2	2.2	3.3	0.7	1.9	3.0	:
Price deflator GDP	2.3	0.4	2.3	1.7	2.1	2.2	-0.5	-0.8	2.1	1.3	2.5
Nominal compensation per employee	2.6	0.9	2.9	2.1	2.8	2.9	0.0	-0.5	3.0	2.0	3.1
Real compensation per employee (GDP deflator)	0.2	0.4	0.6	0.4	0.7	0.6	0.5	0.3	0.9	0.7	0.6
Real compensation per employee (private consumption deflator)	1.1	0.8	0.5	0.2	0.5	0.7	0.3	1.6	0.1	-0.6	-0.3
Nominal unit labour costs	2.0	0.0	1.2	1.1	1.1	1.5	0.7	2.3	0.6	0.9	3.3
Real unit labour costs	-0.3	-0.4	-1.0	-0.6	-0.9	-0.7	1.2	3.2	-1.5	-0.5	0.7

(1) By David Arranz and Frank Bauer (Eurostat).

Euro area (17 countries)	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.9	0.7	2.2	1.7	3.2	3.0	0.4	-4.4	2.0	1.5	-0.6
Total employment	0.7	0.5	0.8	1.0	1.6	1.8	0.8	-1.8	-0.5	0.3	-0.7
Labour productivity	0.2	0.2	1.4	0.7	1.6	1.2	-0.4	-2.6	2.5	1.2	0.1
Annual average hours worked	-0.8	-0.3	0.2	-0.3	-0.6	-0.1	-0.3	-1.4	0.5	0.0	-0.5
Productivity per hour worked	1.1	0.6	1.2	1.0	2.2	1.3	-0.1	-1.2	2.1	1.1	0.6
Harmonized CPI	2.3	2.1	2.2	2.2	2.2	2.1	3.3	0.3	1.6	2.7	2.5
Price deflator GDP	2.5	2.2	1.9	1.9	1.8	2.4	2.0	1.0	0.8	1.2	1.3
Nominal compensation per employee	2.6	2.3	2.2	1.9	2.3	2.5	3.3	1.5	1.9	2.1	1.7
Real compensation per employee (GDP deflator)	0.1	0.1	0.3	0.0	0.4	0.1	1.4	0.5	1.0	0.9	0.4
Real compensation per employee (private consumption deflator)	0.7	0.1	0.1	-0.2	0.1	0.3	0.6	1.9	0.2	-0.4	-0.4
Nominal unit labour costs	2.4	2.0	0.7	1.2	0.7	1.3	3.8	4.2	-0.7	0.9	1.6
Real unit labour costs	-0.1	-0.2	-1.1	-0.7	-1.1	-1.0	1.8	3.2	-1.4	-0.3	0.4

United States	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	1.8	2.5	3.5	3.1	2.7	1.9	-0.3	-3.1	2.4	1.8	2.2
Total employment	-0.3	0.9	1.1	1.7	1.9	1.1	-0.4	-3.7	-0.6	0.6	1.9
Labour productivity	2.1	1.6	2.4	1.3	0.8	0.8	0.1	0.7	3.0	1.2	0.3
Annual average hours worked	-1.0	-1.4	0.1	-0.2	0.0	-0.4	-0.6	-1.9	0.6	0.9	0.6
Productivity per hour worked	3.2	3.1	2.3	1.5	0.8	1.2	0.7	2.6	2.4	0.3	-0.3
Harmonized CPI	1.6	2.3	2.7	3.4	3.2	2.8	3.8	-0.4	1.6	3.2	2.1
Price deflator GDP	1.6	2.1	2.8	3.3	3.2	2.9	2.2	0.9	1.3	2.1	1.8
Nominal compensation per employee	3.2	4.9	3.9	3.6	3.9	3.9	3.3	1.9	3.0	3.3	1.3
Real compensation per employee (GDP deflator)	1.5	2.7	1.0	0.3	0.7	1.0	1.1	1.0	1.6	1.1	-0.5
Real compensation per employee (private consumption deflator)	1.8	2.8	1.3	0.7	1.2	1.2	0.0	1.8	1.0	0.8	-0.5
Nominal unit labour costs	0.3	2.1	1.4	2.3	3.0	2.9	2.9	0.0	-0.3	2.0	0.9
Real unit labour costs	-1.3	0.0	-1.4	-1.0	-0.2	0.0	0.7	-0.9	-1.6	-0.1	-0.8

Japan	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.3	1.7	2.4	1.3	1.7	2.2	-1.0	-5.5	4.7	-0.6	1.9
Total employment	-1.2	0.0	0.6	0.7	0.4	0.4	-0.5	-1.6	-0.5	-0.2	0.4
Labour productivity	1.9	2.0	2.1	0.9	1.2	1.8	-0.7	-4.0	5.7	-0.4	1.5
Annual average hours worked	-0.6	0.1	-0.7	-0.7	0.5	0.1	-0.8	-3.2	1.1	-4.6	:
Productivity per hour worked	2.1	1.6	2.5	1.3	0.7	1.7	0.2	-0.8	4.0	4.4	:
Harmonized CPI	-0.9	-0.3	0.0	-0.3	0.3	0.0	1.4	-1.4	-0.7	-0.3	0.0
Price deflator GDP	-1.6	-1.7	-1.4	-1.3	-1.1	-0.9	-1.3	-0.5	-2.2	-1.9	-0.9
Nominal compensation per employee	-2.0	-2.1	-1.5	-0.5	-0.9	-1.3	0.3	-3.7	0.1	0.4	0.0
Real compensation per employee (GDP deflator)	-0.5	-0.4	-0.2	0.7	0.2	-0.4	1.6	-3.2	2.3	2.3	0.9
Real compensation per employee (private consumption deflator)	-0.6	-1.1	-0.8	0.1	-0.6	-0.6	0.1	-1.3	1.8	1.2	0.6
Nominal unit labour costs	-3.5	-3.7	-3.3	-1.1	-2.2	-3.0	0.9	0.3	-4.8	0.8	-1.5
Real unit labour costs	-1.9	-2.1	-1.9	0.2	-1.1	-2.1	2.2	0.8	-2.7	2.7	-0.7

Belgium	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	1.4	0.8	3.3	1.8	2.7	2.9	1.0	-2.8	2.4	1.8	-0.3
Total employment	-0.1	-0.1	1.0	1.4	1.1	1.7	1.8	-0.2	0.7	1.4	0.2
Labour productivity	1.5	0.9	2.2	0.3	1.5	1.2	-0.8	-2.6	1.7	0.5	-0.5
Annual average hours worked	0.2	-0.3	-1.7	1.0	0.1	-0.4	0.5	-1.2	0.1	1.7	-0.1
Productivity per hour worked	1.3	1.2	3.9	-0.7	1.5	1.6	-1.3	-1.5	1.7	-1.3	-0.3
Harmonized CPI	1.6	1.5	1.9	2.5	2.3	1.8	4.5	0.0	2.3	3.4	2.6
Price deflator GDP	2.0	2.0	2.1	2.4	2.3	2.4	2.1	1.2	2.0	2.0	2.0
Nominal compensation per employee	3.8	1.9	1.6	1.7	3.6	3.4	3.6	1.2	1.4	3.1	3.3
Real compensation per employee (GDP deflator)	1.8	-0.1	-0.6	-0.6	1.2	1.0	1.4	0.0	-0.6	1.0	1.3
Real compensation per employee (private consumption deflator)	2.6	0.5	-0.8	-0.9	0.5	0.5	0.3	1.9	-0.7	0.0	0.7
Nominal unit labour costs	2.3	1.0	-0.6	1.4	2.0	2.2	4.4	3.9	-0.3	2.6	3.8
Real unit labour costs	0.3	-0.9	-2.7	-0.9	-0.4	-0.2	2.2	2.7	-2.3	0.6	1.8

Bulgaria	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	4.7	5.5	6.7	6.4	6.5	6.4	6.2	-5.5	0.4	1.8	0.8
Total employment	0.2	3.0	2.6	2.7	3.3	3.2	2.6	-2.6	-4.7	-3.4	-4.3
Labour productivity	4.4	2.5	4.1	3.6	3.1	3.2	3.5	-2.9	5.3	5.4	5.4
Annual average hours worked	0.0	-0.7	1.4	-0.3	-0.3	0.0	0.1	-0.1	-0.1	-0.1	0.0
Productivity per hour worked	4.4	3.1	2.6	3.9	3.4	3.1	3.4	-2.9	5.4	5.5	5.3
Harmonized CPI	5.8	2.3	6.1	6.0	7.4	7.6	12.0	2.5	3.0	3.4	2.4
Price deflator GDP	4.7	2.3	4.2	7.4	6.9	9.2	8.4	4.3	2.8	4.9	2.2
Nominal compensation per employee	6.0	4.2	6.2	9.3	6.3	12.7	16.3	9.4	11.2	8.6	5.6
Real compensation per employee (GDP deflator)	1.2	1.8	1.9	1.8	-0.6	3.2	7.3	4.9	8.2	3.5	3.3
Real compensation per employee (private consumption deflator)	1.4	3.4	2.7	2.3	4.0	3.4	8.6	7.8	8.5	3.8	2.0
Nominal unit labour costs	1.5	1.6	2.0	5.6	3.1	9.3	12.5	12.7	5.6	3.0	0.2
Real unit labour costs	-3.0	-0.6	-2.1	-1.7	-3.5	0.1	3.7	8.1	2.7	-1.8	-2.0

Czech Republic	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	2.1	3.8	4.7	6.8	7.0	5.7	3.1	-4.5	2.5	1.9	-1.3
Total employment	0.6	-0.8	-0.3	2.1	1.3	2.1	2.3	-1.8	-1.0	0.0	0.4
Labour productivity	1.5	4.6	5.1	4.6	5.6	3.5	0.8	-2.8	3.5	1.9	-1.7
Annual average hours worked	-0.1	-0.6	0.7	0.0	-1.0	-0.8	0.4	-1.2	1.9	1.0	-1.6
Productivity per hour worked	1.6	5.2	4.4	4.6	6.7	4.4	0.4	-1.5	1.6	0.6	0.0
Harmonized CPI	1.4	-0.1	2.6	1.6	2.1	3.0	6.3	0.6	1.2	2.1	3.5
Price deflator GDP	2.7	0.9	4.0	-0.3	0.5	3.3	1.9	2.3	-1.6	-1.0	1.5
Nominal compensation per employee	7.8	7.9	8.2	3.8	6.0	6.3	4.2	-0.6	3.1	2.3	1.5
Real compensation per employee (GDP deflator)	5.0	6.9	4.0	4.1	5.5	2.8	2.2	-2.9	4.8	3.4	0.0
Real compensation per employee (private consumption deflator)	6.4	8.1	4.4	2.9	4.5	3.2	-0.6	-1.4	3.3	1.9	-0.8
Nominal unit labour costs	6.2	3.1	2.9	-0.7	0.4	2.6	3.4	2.2	-0.4	0.4	3.3
Real unit labour costs	3.5	2.2	-1.0	-0.4	-0.1	-0.7	1.5	-0.1	1.2	1.4	1.7

Denmark	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.5	0.4	2.3	2.4	3.4	1.6	-0.8	-5.7	1.6	1.1	-0.4
Total employment	0.0	-1.1	-0.6	1.0	2.1	2.8	1.7	-3.4	-2.4	-0.3	-0.3
Labour productivity	0.4	1.5	2.9	1.4	1.3	-1.1	-2.4	-2.4	4.1	1.4	-0.1
Annual average hours worked	-0.5	-0.2	0.2	0.0	0.4	-1.0	0.0	-1.6	0.1	0.2	-0.2
Productivity per hour worked	0.9	1.7	2.7	1.4	0.9	-0.2	-2.5	-1.8	3.9	1.3	0.1
Harmonized CPI	2.4	2.0	0.9	1.7	1.9	1.7	3.6	1.1	2.2	2.7	2.4
Price deflator GDP	2.3	1.6	2.3	2.9	2.1	2.3	4.2	0.7	4.1	0.6	2.2
Nominal compensation per employee	3.8	3.7	3.3	3.6	3.5	3.6	3.5	3.3	3.5	1.3	1.5
Real compensation per employee (GDP deflator)	1.4	2.0	1.0	0.7	1.4	1.3	-0.7	2.6	-0.7	0.7	-0.7
Real compensation per employee (private consumption deflator)	2.0	2.4	2.1	2.1	1.5	2.3	0.8	1.7	0.9	-1.1	-0.9
Nominal unit labour costs	3.3	2.2	0.4	2.2	2.2	4.8	6.1	5.8	-0.6	0.0	1.6
Real unit labour costs	1.0	0.6	-1.9	-0.7	0.1	2.4	1.8	5.1	-4.6	-0.7	-0.6

Germany	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.0	-0.4	1.2	0.7	3.7	3.3	1.1	-5.1	4.2	3.0	0.7
Total employment	-0.6	-0.9	0.3	-0.1	0.6	1.7	1.2	0.1	0.6	1.4	1.1
Labour productivity	0.6	0.5	0.9	0.8	3.1	1.5	-0.1	-5.2	3.6	1.6	-0.4
Annual average hours worked	-0.8	-0.4	0.0	-0.4	-0.5	-0.1	0.0	-2.7	1.7	0.0	-0.7
Productivity per hour worked	1.4	0.9	0.8	1.2	3.6	1.7	-0.1	-2.5	1.8	1.6	0.3
Harmonized CPI	1.4	1.0	1.8	1.9	1.8	2.3	2.8	0.2	1.2	2.5	2.1
Price deflator GDP	1.4	1.1	1.1	0.6	0.3	1.6	0.8	1.2	0.9	0.8	1.3
Nominal compensation per employee	1.3	1.4	0.3	-0.1	1.0	0.8	2.1	0.2	2.4	3.0	2.5
Real compensation per employee (GDP deflator)	-0.1	0.3	-0.7	-0.7	0.7	-0.8	1.3	-1.0	1.4	2.2	1.2
Real compensation per employee (private consumption deflator)	0.1	-0.2	-0.8	-1.7	0.0	-0.7	0.5	0.2	0.3	0.9	0.8
Nominal unit labour costs	0.7	0.9	-0.5	-0.9	-2.0	-0.8	2.3	5.6	-1.1	1.4	2.9
Real unit labour costs	-0.7	-0.2	-1.6	-1.5	-2.3	-2.3	1.5	4.4	-2.0	0.6	1.6

Estonia	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	6.6	7.8	6.3	8.9	10.1	7.5	-4.2	-14.1	3.3	8.3	3.2
Total employment	1.4	1.4	0.0	2.0	5.4	0.8	0.2	-10.0	-4.8	7.0	2.2
Labour productivity	5.1	6.3	6.4	6.7	4.5	6.6	-4.3	-4.5	8.5	1.2	1.0
Annual average hours worked	0.2	0.2	0.6	0.7	-0.5	-0.2	-1.5	-6.9	2.6	2.3	-1.8
Productivity per hour worked	5.0	6.1	5.8	6.0	5.0	6.8	-2.8	2.5	5.8	-1.1	2.8
Harmonized CPI	3.6	1.4	3.0	4.1	4.4	6.7	10.6	0.2	2.7	5.1	4.2
Price deflator GDP	4.7	4.0	4.5	6.1	8.8	11.6	5.4	-1.4	0.7	2.9	3.2
Nominal compensation per employee	9.1	11.6	12.3	10.8	14.0	25.0	9.7	-3.2	1.8	-0.2	6.7
Real compensation per employee (GDP deflator)	4.2	7.3	7.5	4.5	4.8	12.0	4.0	-1.8	1.1	-3.0	3.3
Real compensation per employee (private consumption deflator)	5.5	9.9	8.7	6.6	8.4	15.8	1.7	-1.9	-0.8	-5.0	3.1
Nominal unit labour costs	3.8	5.0	5.5	3.8	9.1	17.2	14.6	1.4	-6.2	-1.4	5.6
Real unit labour costs	-0.8	0.9	1.0	-2.1	0.3	5.0	8.7	2.8	-6.8	-4.2	2.3

Ireland	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	5.6	3.9	4.4	5.9	5.4	5.4	-2.1	-5.5	-0.8	1.4	0.9
Total employment	1.6	1.9	3.4	4.9	4.6	4.4	-0.6	-7.8	-4.1	-1.8	-0.6
Labour productivity	4.0	2.0	0.9	0.9	0.7	1.0	-1.5	2.6	3.4	3.3	1.5
Annual average hours worked	-1.0	-0.9	-0.6	0.4	-0.2	-0.7	-1.1	-1.7	-0.6	0.0	0.2
Productivity per hour worked	5.1	2.9	1.6	0.5	1.0	1.8	-0.4	4.4	4.0	3.3	1.3
Harmonized CPI	4.7	4.0	2.3	2.2	2.7	2.9	3.1	-1.7	-1.6	1.2	1.9
Price deflator GDP	5.3	3.6	2.2	2.5	3.4	0.7	-3.2	-4.6	-2.2	0.2	1.9
Nominal compensation per employee	5.4	6.4	5.2	5.6	4.3	5.1	4.8	-1.3	-3.2	-0.2	1.8
Real compensation per employee (GDP deflator)	0.1	2.8	2.9	3.0	0.9	4.4	8.2	3.5	-1.0	-0.4	-0.2
Real compensation per employee (private consumption deflator)	0.0	2.5	3.5	3.8	2.0	2.0	3.2	5.8	-1.2	-1.6	0.3
Nominal unit labour costs	1.3	4.4	4.2	4.6	3.6	4.0	6.4	-3.8	-6.4	-3.3	0.2
Real unit labour costs	-3.8	0.8	2.0	2.0	0.1	3.3	9.8	0.9	-4.3	-3.5	-1.7

Greece	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	3.4	5.9	4.4	2.3	5.5	3.5	-0.2	-3.1	-4.9	-7.1	-6.4
Total employment	2.3	1.2	2.4	3.0	1.9	1.4	1.2	-0.6	-2.6	-5.6	-8.3
Labour productivity	1.2	4.7	1.9	-0.7	3.5	2.1	-1.4	-2.5	-2.4	-1.6	2.1
Annual average hours worked	-0.6	-0.3	-1.0	0.6	-1.4	-1.4	-4.3	2.4	0.9	1.1	-0.2
Productivity per hour worked	1.7	5.0	2.9	-1.3	5.0	3.5	3.0	-4.9	-3.3	-2.7	2.4
Harmonized CPI	3.9	3.4	3.0	3.5	3.3	3.0	4.2	1.3	4.7	3.1	1.0
Price deflator GDP	3.4	3.9	2.9	1.9	2.4	3.3	4.7	2.3	1.1	1.0	-0.8
Nominal compensation per employee	11.4	6.3	4.2	3.7	2.4	4.7	3.6	3.5	-2.6	-3.4	-4.2
Real compensation per employee (GDP deflator)	7.8	2.3	1.2	1.7	0.0	1.3	-1.1	1.2	-3.7	-4.4	-3.5
Real compensation per employee (private consumption deflator)	8.6	2.8	1.2	4.7	-1.0	1.6	-0.6	2.8	-6.3	-6.5	-5.1
Nominal unit labour costs	10.2	1.5	2.2	4.4	-1.1	2.6	5.1	6.2	-0.1	-1.8	-6.2
Real unit labour costs	6.5	-2.3	-0.7	2.5	-3.4	-0.7	0.3	3.8	-1.3	-2.9	-5.5

Spain	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	2.7	3.1	3.3	3.6	4.1	3.5	0.9	-3.7	-0.3	0.4	-1.4
Total employment	2.5	3.2	3.6	4.1	4.0	3.0	-0.1	-6.5	-2.5	-1.5	-4.2
Labour productivity	0.2	-0.1	-0.4	-0.5	0.1	0.4	1.0	3.0	2.2	2.0	2.9
Annual average hours worked	-0.1	-0.8	-0.9	-1.1	-0.8	-0.9	0.3	0.4	0.2	0.6	0.1
Productivity per hour worked	0.4	0.7	0.5	0.6	0.9	1.3	0.7	2.5	2.0	1.4	2.9
Harmonized CPI	3.6	3.1	3.1	3.4	3.6	2.8	4.1	-0.2	2.0	3.1	2.4
Price deflator GDP	4.4	4.2	4.0	4.3	4.1	3.3	2.4	0.1	0.4	1.0	0.1
Nominal compensation per employee	3.4	2.6	2.1	2.8	3.2	4.6	6.7	4.3	0.2	0.5	-0.5
Real compensation per employee (GDP deflator)	-1.0	-1.5	-1.9	-1.5	-0.9	1.3	4.2	4.2	-0.2	-0.5	-0.6
Real compensation per employee (private consumption deflator)	0.5	-0.5	-1.5	-0.7	-0.4	1.4	3.0	5.5	-1.8	-2.4	-2.8
Nominal unit labour costs	3.1	2.7	2.5	3.3	3.1	4.1	5.6	1.3	-2.0	-1.5	-3.4
Real unit labour costs	-1.2	-1.4	-1.5	-1.0	-1.0	0.8	3.2	1.2	-2.4	-2.4	-3.5

France	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.9	0.9	2.5	1.8	2.5	2.3	-0.1	-3.1	1.7	2.0	0.0
Total employment	0.5	0.1	0.1	0.7	1.1	1.4	0.5	-1.3	0.1	0.6	0.0
Labour productivity	0.4	0.8	2.4	1.2	1.4	0.9	-0.6	-1.9	1.7	1.4	0.1
Annual average hours worked	-2.5	-0.2	1.9	-0.4	-1.5	0.8	0.5	-1.3	0.4	-0.1	0.0
Productivity per hour worked	3.0	1.0	0.5	1.5	2.9	0.1	-1.0	-0.6	1.4	1.4	0.1
Harmonized CPI	1.9	2.2	2.3	1.9	1.9	1.6	3.2	0.1	1.7	2.3	2.2
Price deflator GDP	2.2	2.0	1.7	1.9	2.1	2.6	2.5	0.7	1.0	1.3	1.5
Nominal compensation per employee	3.5	2.8	3.4	3.1	3.2	2.5	2.6	1.8	2.4	2.7	2.2
Real compensation per employee (GDP deflator)	1.3	0.8	1.7	1.1	1.0	0.0	0.1	1.0	1.4	1.4	0.6
Real compensation per employee (private consumption deflator)	2.5	0.8	1.2	1.2	1.1	0.5	-0.3	2.4	1.3	0.6	0.3
Nominal unit labour costs	3.1	2.0	1.0	1.9	1.8	1.7	3.2	3.7	0.7	1.3	2.1
Real unit labour costs	0.8	0.0	-0.7	0.0	-0.3	-0.9	0.7	3.0	-0.2	0.0	0.6

Italy	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.5	0.0	1.7	0.9	2.2	1.7	-1.2	-5.5	1.7	0.4	-2.4
Total employment	1.7	1.5	0.4	0.6	2.0	1.3	0.3	-1.6	-0.7	0.3	-0.3
Labour productivity	-1.2	-1.5	1.3	0.4	0.2	0.4	-1.4	-3.9	2.5	0.1	-2.1
Annual average hours worked	-0.7	-0.3	0.0	-0.4	-0.2	0.1	-0.7	-1.7	0.1	0.0	-1.1
Productivity per hour worked	-0.6	-1.2	1.3	0.8	0.4	0.3	-0.7	-2.2	2.4	0.1	-1.0
Harmonized CPI	2.6	2.8	2.3	2.2	2.2	2.0	3.5	0.8	1.6	2.9	3.3
Price deflator GDP	3.2	3.1	2.4	1.8	1.7	2.4	2.5	2.1	0.4	1.3	1.6
Nominal compensation per employee	2.2	2.5	3.3	2.7	2.2	2.0	3.0	-0.1	2.2	1.1	0.0
Real compensation per employee (GDP deflator)	-1.0	-0.6	0.9	0.9	0.5	-0.3	0.5	-2.1	1.8	-0.2	-1.5
Real compensation per employee (private consumption deflator)	-0.7	-0.3	0.7	0.5	-0.4	-0.2	-0.1	0.0	0.8	-1.7	-2.7
Nominal unit labour costs	3.4	4.1	2.0	2.4	2.0	1.6	4.5	4.0	-0.2	1.1	2.1
Real unit labour costs	0.2	0.9	-0.4	0.6	0.2	-0.7	2.0	1.9	-0.6	-0.2	0.5

Cyprus	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	2.1	1.9	4.2	3.9	4.1	5.1	3.6	-1.9	1.3	0.5	-2.4
Total employment	2.1	3.8	3.8	3.6	1.8	3.2	2.1	-0.4	-0.2	0.5	-4.1
Labour productivity	0.0	-1.9	0.4	0.3	2.3	1.8	1.4	-1.5	1.5	0.1	1.7
Annual average hours worked	-1.4	-0.4	-1.9	-1.6	0.9	-0.5	-0.5	-0.5	0.4	0.1	0.7
Productivity per hour worked	1.5	-1.5	2.4	1.9	1.4	2.3	1.9	-1.0	1.1	0.0	1.1
Harmonized CPI	2.8	4.0	1.9	2.0	2.2	2.2	4.4	0.2	2.6	3.5	3.1
Price deflator GDP	1.1	4.8	3.3	3.0	3.4	4.4	4.6	0.1	1.9	2.7	2.0
Nominal compensation per employee	4.8	7.6	2.4	1.9	3.3	3.0	3.2	2.5	2.6	3.3	1.6
Real compensation per employee (GDP deflator)	3.7	2.7	-0.9	-1.1	-0.1	-1.3	-1.3	2.4	0.6	0.5	-0.3
Real compensation per employee (private consumption deflator)	2.5	3.9	0.6	-1.5	0.4	-0.3	-1.1	1.8	0.4	-0.1	-0.9
Nominal unit labour costs	4.8	9.7	2.0	1.6	0.9	1.2	1.8	4.1	1.0	3.2	-0.1
Real unit labour costs	3.6	4.6	-1.3	-1.4	-2.4	-3.0	-2.7	4.0	-0.9	0.5	-2.0

Latvia	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	7.2	7.6	8.9	10.1	11.2	9.6	-3.3	-17.7	-0.9	5.5	5.6
Total employment	2.9	1.9	1.2	1.6	4.9	3.6	0.9	-13.2	-4.8	-8.1	2.6
Labour productivity	4.2	5.5	7.6	8.4	5.9	5.8	-4.2	-5.3	4.0	14.8	2.9
Annual average hours worked	-2.0	-0.6	-1.6	1.7	-0.9	-1.3	-4.3	-2.9	-0.8	0.9	-0.8
Productivity per hour worked	6.3	6.2	9.3	6.6	6.9	7.2	0.1	-2.4	4.8	13.8	3.8
Harmonized CPI	2.0	2.9	6.2	6.9	6.6	10.1	15.3	3.3	-1.2	4.2	2.3
Price deflator GDP	3.0	3.8	7.0	10.1	11.2	20.7	13.0	-1.2	-1.3	5.9	3.0
Nominal compensation per employee	2.8	11.0	14.5	25.1	23.2	35.1	15.7	-12.7	-6.7	17.2	5.8
Real compensation per employee (GDP deflator)	-0.2	7.0	7.0	13.5	10.8	11.9	2.4	-11.6	-5.5	10.7	2.8
Real compensation per employee (private consumption deflator)	1.2	6.6	6.4	14.9	16.4	22.9	-0.4	-15.5	-5.0	11.6	2.7
Nominal unit labour costs	-1.3	5.2	6.4	15.3	16.4	27.7	20.7	-7.9	-10.4	2.1	2.8
Real unit labour costs	-4.2	1.3	-0.5	4.7	4.6	5.8	6.9	-6.7	-9.2	-3.6	-0.2

Lithuania	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	6.8	10.3	7.4	7.8	7.8	9.8	2.9	-14.8	1.5	5.9	3.7
Total employment	3.6	2.2	0.0	2.5	1.8	2.8	-0.7	-6.8	-5.1	2.0	-6.7
Labour productivity	3.1	7.9	7.4	5.2	5.9	6.8	3.6	-8.6	7.0	3.8	11.2
Annual average hours worked	-1.6	-0.9	1.3	3.4	-0.8	1.1	1.6	-2.3	1.0	-1.3	-8.3
Productivity per hour worked	4.8	8.9	6.0	1.7	6.7	5.7	1.9	-6.5	5.9	5.2	11.1
Harmonized CPI	0.3	-1.1	1.2	2.7	3.8	5.8	11.1	4.2	1.2	4.1	3.2
Price deflator GDP	0.2	-0.9	2.5	6.6	6.6	8.6	9.6	-3.4	2.0	5.4	2.8
Nominal compensation per employee	5.0	8.9	10.9	11.5	16.7	13.9	14.3	-9.9	-0.4	3.6	13.4
Real compensation per employee (GDP deflator)	4.7	9.9	8.2	4.6	9.4	4.8	4.3	-6.7	-2.4	-1.7	10.3
Real compensation per employee (private consumption deflator)	5.4	10.6	11.1	9.0	11.4	7.5	3.1	-13.8	-1.7	-0.5	9.8
Nominal unit labour costs	1.8	1.0	3.3	6.0	10.2	6.6	10.4	-1.5	-6.9	-0.1	2.0
Real unit labour costs	1.5	1.8	0.8	-0.6	3.3	-1.9	0.7	2.0	-8.8	-5.3	-0.8

Luxembourg	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	4.1	1.7	4.4	5.3	4.9	6.6	-0.7	-4.1	2.9	1.7	0.3
Total employment	3.2	1.8	2.2	2.9	3.6	4.5	5.0	1.1	1.8	2.9	2.3
Labour productivity	0.8	-0.1	2.1	2.3	1.3	2.0	-5.5	-5.1	1.1	-1.2	-1.9
Annual average hours worked	-0.6	-1.6	-0.1	-1.2	-0.1	0.5	0.9	-3.8	0.1	-0.2	-0.6
Productivity per hour worked	1.5	1.4	2.2	3.6	1.4	1.5	-6.3	-1.3	1.0	-1.0	-1.3
Harmonized CPI	2.1	2.5	3.2	3.8	3.0	2.7	4.1	0.0	2.8	3.7	2.9
Price deflator GDP	2.1	5.9	1.8	4.8	6.8	3.7	0.4	0.5	7.6	5.1	3.9
Nominal compensation per employee	3.1	1.1	3.3	4.6	2.6	3.7	3.4	1.9	2.7	2.0	1.2
Real compensation per employee (GDP deflator)	1.0	-4.5	1.5	-0.2	-3.9	0.0	2.9	1.3	-4.6	-2.9	-2.6
Real compensation per employee (private consumption deflator)	2.5	-1.0	0.9	1.5	0.2	1.5	0.0	1.0	1.0	-0.6	-1.0
Nominal unit labour costs	2.2	1.3	1.2	2.3	1.3	1.6	9.4	7.3	1.6	3.3	3.2
Real unit labour costs	0.1	-4.4	-0.6	-2.4	-5.2	-2.0	8.9	6.8	-5.6	-1.7	-0.6

Hungary	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	4.5	3.9	4.8	4.0	3.9	0.1	0.9	-6.8	1.3	1.6	-1.7
Total employment	-0.1	0.0	-1.0	-0.3	0.4	0.7	-1.8	-2.5	0.7	0.4	0.1
Labour productivity	4.6	3.9	5.8	4.3	3.4	-0.6	2.7	-4.4	0.6	1.2	-1.8
Annual average hours worked	0.6	-1.4	0.4	0.0	-0.2	-0.3	0.2	-0.8	-0.3	0.9	-4.4
Productivity per hour worked	4.0	5.3	5.4	4.2	3.6	-0.3	2.6	-3.6	1.0	0.4	2.8
Harmonized CPI	5.2	4.7	6.8	3.5	4.0	7.9	6.0	4.0	4.7	3.9	5.7
Price deflator GDP	8.5	5.4	5.2	2.5	3.5	5.4	5.3	3.6	2.5	3.1	3.1
Nominal compensation per employee	13.6	9.9	10.3	7.1	5.6	5.5	7.2	-1.7	-0.3	3.0	3.0
Real compensation per employee (GDP deflator)	4.7	4.3	4.8	4.5	2.0	0.1	1.9	-5.0	-2.7	-0.1	-0.1
Real compensation per employee (private consumption deflator)	7.4	5.4	4.4	3.4	2.0	-1.3	1.9	-5.4	-4.0	-1.5	-2.1
Nominal unit labour costs	8.6	5.8	4.2	2.7	2.0	6.2	4.4	2.8	-0.9	1.8	4.8
Real unit labour costs	0.1	0.4	-0.9	0.2	-1.4	0.7	-0.9	-0.7	-3.3	-1.3	1.7

Malta	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	2.4	0.7	-0.3	3.6	2.6	4.1	3.9	-2.8	3.2	1.8	1.0
Total employment	0.3	-0.4	0.4	1.6	1.2	2.4	2.5	-0.2	1.7	2.8	2.2
Labour productivity	2.1	1.1	-0.7	2.0	1.4	1.7	1.4	-2.6	1.4	-0.9	-1.1
Annual average hours worked	2.5	-1.7	-9.7	7.3	-0.3	1.9	-0.5	1.1	-0.9	6.1	-1.8
Productivity per hour worked	-0.3	2.8	10.1	-5.0	1.7	-0.2	1.9	-3.5	2.1	-6.7	0.6
Harmonized CPI	2.6	1.9	2.7	2.5	2.6	0.7	4.7	1.8	2.0	2.5	3.2
Price deflator GDP	2.6	3.2	1.4	2.4	2.8	2.9	3.0	2.8	2.9	2.3	2.3
Nominal compensation per employee	4.4	6.0	1.9	1.5	5.0	3.1	4.2	3.2	1.1	0.8	2.3
Real compensation per employee (GDP deflator)	1.8	2.7	0.5	-0.9	2.1	0.2	1.2	0.4	-1.7	-1.4	0.0
Real compensation per employee (private consumption deflator)	2.8	5.3	-0.3	-1.4	3.3	1.0	0.9	0.5	-1.9	-0.1	0.5
Nominal unit labour costs	2.2	4.9	2.5	-0.5	3.5	1.4	2.8	6.0	-0.3	1.7	3.5
Real unit labour costs	-0.4	1.7	1.1	-2.8	0.7	-1.5	-0.2	3.1	-3.1	-0.6	1.2

Netherlands	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.1	0.3	2.2	2.0	3.4	3.9	1.8	-3.7	1.6	1.0	-1.0
Total employment	0.5	-0.5	-0.9	0.5	1.7	2.6	1.5	-0.7	-0.4	0.7	-0.1
Labour productivity	-0.4	0.8	3.1	1.5	1.7	1.3	0.3	-3.0	2.0	0.3	-0.8
Annual average hours worked	-1.1	-0.5	-0.1	-0.4	-0.1	-0.2	0.2	-0.6	-0.2	0.0	0.3
Productivity per hour worked	0.7	1.4	3.3	2.0	1.8	1.6	0.1	-2.4	2.2	0.2	-1.1
Harmonized CPI	3.9	2.2	1.4	1.5	1.7	1.6	2.2	1.0	0.9	2.5	2.8
Price deflator GDP	3.8	2.2	0.7	2.4	1.8	1.8	2.1	0.1	1.1	1.2	0.7
Nominal compensation per employee	4.3	3.4	3.4	1.1	2.3	3.0	3.4	2.1	1.2	1.5	1.1
Real compensation per employee (GDP deflator)	0.5	1.2	2.6	-1.3	0.5	1.1	1.2	2.1	0.2	0.3	0.4
Real compensation per employee (private consumption deflator)	1.3	1.0	2.4	-1.0	0.1	1.1	2.3	2.7	0.0	-0.7	-1.1
Nominal unit labour costs	4.8	2.5	0.2	-0.4	0.6	1.6	3.0	5.3	-0.8	1.2	2.0
Real unit labour costs	0.9	0.3	-0.5	-2.8	-1.1	-0.2	0.9	5.2	-1.8	0.0	1.2

Austria	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	1.7	0.9	2.6	2.4	3.7	3.7	1.4	-3.8	2.1	2.7	0.8
Total employment	-0.1	0.6	0.6	1.2	1.7	1.8	2.0	-0.7	0.8	1.7	1.1
Labour productivity	1.8	0.2	2.0	1.2	1.9	1.9	-0.5	-3.1	1.2	1.0	-0.2
Annual average hours worked	-0.1	-0.5	0.3	-1.0	-1.3	-0.3	-1.0	-2.9	-0.9	0.5	-0.1
Productivity per hour worked	1.9	0.7	1.6	2.2	3.3	2.2	0.5	-0.2	2.2	0.4	-0.2
Harmonized CPI	1.7	1.3	2.0	2.1	1.7	2.2	3.2	0.4	1.7	3.6	2.6
Price deflator GDP	1.2	1.1	1.7	2.0	1.9	2.0	1.7	1.5	1.6	2.2	2.5
Nominal compensation per employee	1.9	1.6	1.5	2.4	3.0	3.1	3.2	1.7	1.2	1.9	3.0
Real compensation per employee (GDP deflator)	0.6	0.5	-0.2	0.4	1.1	1.0	1.4	0.2	-0.4	-0.4	0.5
Real compensation per employee (private consumption deflator)	1.2	0.0	-0.4	-0.2	0.9	0.6	0.9	1.4	-0.7	-1.7	0.1
Nominal unit labour costs	0.1	1.4	-0.4	1.2	1.1	1.2	3.7	5.0	0.0	0.9	3.2
Real unit labour costs	-1.1	0.3	-2.1	-0.8	-0.8	-0.8	2.0	3.4	-1.6	-1.3	0.7

Poland	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	1.4	3.9	5.3	3.6	6.2	6.8	5.1	1.6	3.9	4.5	1.9
Total employment	-3.0	-1.2	1.1	2.2	3.2	4.5	3.9	0.4	0.5	1.0	0.2
Labour productivity	4.6	5.1	4.2	1.4	3.0	2.2	1.2	1.2	3.4	3.5	5.5
Annual average hours worked	-0.3	0.3	0.0	-0.3	0.1	-0.1	-0.2	-0.9	-0.2	-0.5	-1.8
Productivity per hour worked	4.9	4.8	4.1	1.7	2.9	2.3	1.4	2.2	3.6	4.0	3.5
Harmonized CPI	1.9	0.7	3.6	2.2	1.3	2.6	4.2	4.0	2.7	3.9	3.7
Price deflator GDP	2.2	0.4	4.1	2.6	1.5	4.0	3.1	3.7	1.4	3.2	2.5
Nominal compensation per employee	:	:	:	1.7	1.9	4.9	8.9	3.5	4.7	4.0	7.0
Real compensation per employee (GDP deflator)	:	:	:	-0.9	0.4	0.9	5.6	-0.2	3.3	0.8	4.4
Real compensation per employee (private consumption deflator)	:	:	:	-0.4	0.7	2.4	4.4	0.9	2.2	-0.8	3.2
Nominal unit labour costs	:	:	:	0.3	-1.0	2.6	7.5	2.2	1.3	0.5	1.4
Real unit labour costs	:	:	:	-2.3	-2.5	-1.3	4.3	-1.4	-0.1	-2.6	-1.1

Portugal	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.8	-0.9	1.6	0.8	1.4	2.4	0.0	-2.9	1.9	-1.6	-3.2
Total employment	0.6	-0.6	-0.1	-0.3	0.5	0.0	0.5	-2.6	-1.5	-1.5	-4.2
Labour productivity	0.2	-0.3	1.6	1.1	0.9	2.4	-0.5	-0.3	3.5	0.0	1.0
Annual average hours worked	-0.5	-0.3	0.3	0.0	-0.5	0.7	-0.7	-0.2	-0.1	-0.8	0.7
Productivity per hour worked	0.7	0.0	1.3	1.1	1.4	1.7	0.2	-0.2	3.7	0.8	0.4
Harmonized CPI	3.7	3.3	2.5	2.1	3.0	2.4	2.7	-0.9	1.4	3.6	2.8
Price deflator GDP	3.7	3.0	2.5	2.5	2.8	2.8	1.6	0.9	0.6	0.5	-0.2
Nominal compensation per employee	3.4	3.5	2.6	4.7	1.8	3.6	3.0	2.8	2.0	-0.7	-2.7
Real compensation per employee (GDP deflator)	-0.4	0.5	0.2	2.1	-0.9	0.7	1.4	1.8	1.4	-1.2	-2.6
Real compensation per employee (private consumption deflator)	0.6	0.5	0.1	1.9	-1.2	0.5	0.4	5.1	0.7	-4.3	-4.7
Nominal unit labour costs	3.2	3.8	1.0	3.6	0.9	1.1	3.5	3.1	-1.4	-0.7	-3.7
Real unit labour costs	-0.5	0.8	-1.5	1.0	-1.8	-1.6	1.9	2.2	-2.1	-1.2	-3.6

Romania	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	5.1	5.2	8.5	4.2	7.9	6.3	7.3	-6.6	-1.1	2.2	0.7
Total employment	-10.2	0.0	-1.7	-1.5	0.7	0.4	0.0	-2.0	-0.3	-1.1	1.9
Labour productivity	17.0	5.3	10.3	5.8	7.1	5.9	7.3	-4.7	-0.9	3.3	-0.8
Annual average hours worked	0.8	-1.6	0.5	0.4	0.9	0.5	0.0	-0.6	-0.4	0.7	-2.1
Productivity per hour worked	16.0	7.0	9.8	5.4	6.2	5.4	7.3	-4.2	-0.5	2.6	0.9
Harmonized CPI	22.5	15.3	11.9	9.1	6.6	4.9	7.9	5.6	6.1	5.8	3.4
Price deflator GDP	22.7	23.4	15.5	12.2	10.6	13.5	15.3	4.2	5.7	4.1	4.8
Nominal compensation per employee	:	:	:	:	12.4	22.0	31.9	-1.9	-3.3	4.2	5.6
Real compensation per employee (GDP deflator)	:	:	:	:	1.7	7.5	14.5	-5.9	-8.5	0.1	0.7
Real compensation per employee (private consumption deflator)	:	:	:	:	7.2	16.5	19.9	-5.4	-10.2	-0.1	2.6
Nominal unit labour costs	:	:	:	:	4.9	15.2	22.9	2.9	-2.4	0.9	6.5
Real unit labour costs	:	:	:	:	-5.1	1.5	6.6	-1.2	-7.7	-3.1	1.6

Slovenia	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	3.8	2.9	4.4	4.0	5.8	7.0	3.4	-7.8	1.2	0.6	-2.3
Total employment	1.6	-0.3	0.4	-0.5	1.6	3.3	2.6	-1.8	-2.2	-1.6	-1.3
Labour productivity	2.2	3.2	4.0	4.5	4.2	3.5	0.8	-6.1	3.5	2.2	-1.1
Annual average hours worked	1.4	0.2	0.8	-2.3	-1.7	-0.8	0.9	0.0	0.3	-1.6	-0.6
Productivity per hour worked	0.8	3.0	3.2	6.9	6.1	4.3	-0.1	-6.1	3.1	3.9	-0.5
Harmonized CPI	7.5	5.7	3.7	2.5	2.5	3.8	5.5	0.9	2.1	2.1	2.8
Price deflator GDP	7.6	5.5	3.3	1.7	2.1	4.2	4.1	3.6	-1.1	1.0	0.4
Nominal compensation per employee	8.3	7.8	7.7	6.0	5.4	6.2	7.2	1.8	3.9	1.6	-0.4
Real compensation per employee (GDP deflator)	0.7	2.2	4.3	4.3	3.2	1.9	3.0	-1.7	5.0	0.6	-0.8
Real compensation per employee (private consumption deflator)	0.7	2.5	4.6	3.7	2.9	2.0	1.7	0.8	2.4	-0.1	-2.3
Nominal unit labour costs	6.0	4.4	3.6	1.5	1.1	2.6	6.4	8.5	0.4	-0.6	0.7
Real unit labour costs	-1.5	-1.0	0.3	-0.2	-1.0	-1.6	2.1	4.7	1.5	-1.6	0.3

Slovakia	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	4.6	4.8	5.1	6.7	8.3	10.5	5.8	-4.9	4.4	3.2	2.0
Total employment	0.1	1.1	-0.2	1.6	2.1	2.1	3.2	-2.0	-1.5	1.8	0.1
Labour productivity	4.5	3.7	5.3	5.0	6.1	8.2	2.4	-3.0	6.0	1.4	2.0
Annual average hours worked	-2.6	-3.2	2.6	1.6	0.3	0.9	0.1	-0.7	1.5	-0.8	-0.4
Productivity per hour worked	7.3	7.1	2.6	3.3	5.8	7.2	2.3	-2.3	4.4	2.2	2.4
Harmonized CPI	3.5	8.4	7.5	2.8	4.3	1.9	3.9	0.9	0.7	4.1	3.7
Price deflator GDP	3.9	5.3	5.8	2.4	2.9	1.1	2.9	-1.2	0.5	1.6	1.4
Nominal compensation per employee	8.9	7.8	8.1	9.1	7.9	8.7	7.0	2.5	5.1	1.1	2.0
Real compensation per employee (GDP deflator)	4.8	2.4	2.1	6.6	4.8	7.5	4.0	3.7	4.5	-0.6	0.7
Real compensation per employee (private consumption deflator)	5.8	1.2	0.7	6.3	2.9	5.9	2.4	2.4	4.0	-2.7	-1.6
Nominal unit labour costs	4.2	4.0	2.6	3.9	1.7	0.5	4.4	5.7	-0.9	-0.4	0.1
Real unit labour costs	0.3	-1.2	-3.0	1.5	-1.2	-0.6	1.5	7.0	-1.4	-2.0	-1.3

Finland	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	1.8	2.0	4.1	2.9	4.4	5.3	0.3	-8.5	3.3	2.8	-0.2
Total employment	0.9	0.1	0.4	1.4	1.8	2.2	2.6	-2.6	-0.1	1.1	0.3
Labour productivity	0.9	2.0	3.7	1.5	2.5	3.1	-2.2	-6.1	3.4	1.7	-0.5
Annual average hours worked	-0.4	-0.4	0.3	-0.4	-0.4	-0.1	-1.0	-0.9	0.3	0.2	-0.5
Productivity per hour worked	1.3	2.4	3.4	2.0	2.9	3.2	-1.2	-5.2	3.1	1.5	0.0
Harmonized CPI	2.0	1.3	0.1	0.8	1.3	1.6	3.9	1.6	1.7	3.3	3.2
Price deflator GDP	1.3	-0.7	0.5	0.5	0.8	3.0	2.9	1.5	0.4	3.1	2.8
Nominal compensation per employee	1.7	2.7	3.7	3.7	2.9	3.7	4.4	2.3	1.8	3.4	3.0
Real compensation per employee (GDP deflator)	0.4	3.4	3.2	3.3	2.0	0.6	1.4	0.8	1.3	0.3	0.2
Real compensation per employee (private consumption deflator)	-0.4	3.3	3.3	2.9	1.4	1.4	0.9	0.9	-0.3	0.0	0.4
Nominal unit labour costs	0.8	0.8	-0.1	2.2	0.3	0.5	6.7	9.0	-1.6	1.8	3.6
Real unit labour costs	-0.4	1.5	-0.5	1.7	-0.5	-2.4	3.7	7.4	-2.0	-1.3	0.7

Sweden	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	2.5	2.3	4.2	3.2	4.3	3.3	-0.6	-5.0	6.6	3.7	0.7
Total employment	0.0	-0.6	-0.7	0.3	1.7	2.3	0.9	-2.4	1.0	2.3	0.7
Labour productivity	2.4	2.9	5.0	2.9	2.6	1.0	-1.5	-2.7	5.5	1.4	0.0
Annual average hours worked	-1.4	-0.8	1.5	0.0	-0.4	0.8	0.3	-0.5	1.6	0.0	-0.9
Productivity per hour worked	3.9	3.8	3.4	2.9	2.9	0.2	-1.8	-2.2	3.9	1.3	1.0
Harmonized CPI	1.9	2.3	1.0	0.8	1.5	1.7	3.3	1.9	1.9	1.4	0.9
Price deflator GDP	1.5	1.8	0.3	0.9	1.9	2.8	3.1	2.1	0.8	1.1	1.0
Nominal compensation per employee	2.9	3.2	4.0	3.1	2.1	5.2	1.5	1.6	3.1	0.8	3.2
Real compensation per employee (GDP deflator)	1.3	1.4	3.7	2.2	0.1	2.4	-1.6	-0.4	2.3	-0.3	2.1
Real compensation per employee (private consumption deflator)	1.3	1.5	3.2	2.0	0.8	3.8	-1.5	-0.5	1.6	-0.5	2.0
Nominal unit labour costs	0.4	0.2	-0.9	0.2	-0.5	4.2	3.1	4.4	-2.3	-0.6	3.2
Real unit labour costs	-1.1	-1.5	-1.2	-0.7	-2.4	1.4	-0.1	2.3	-3.1	-1.7	2.1

United Kingdom	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	2.3	3.9	3.2	3.2	2.8	3.4	-0.8	-5.2	1.7	1.1	0.2
Total employment	0.8	0.9	1.1	1.0	0.9	0.7	0.7	-1.7	0.2	0.5	1.2
Labour productivity	1.5	3.0	2.1	2.2	1.8	2.7	-1.5	-3.6	1.4	0.6	-1.0
Annual average hours worked	-1.0	-0.7	-0.9	1.1	-0.4	0.1	-1.3	-0.4	-0.6	0.8	-1.3
Productivity per hour worked	2.7	3.6	2.7	0.7	2.1	2.8	-0.4	-2.0	2.2	-0.4	0.4
Harmonized CPI	1.3	1.4	1.3	2.1	2.3	2.3	3.6	2.2	3.3	4.5	2.8
Price deflator GDP	2.5	2.2	2.4	2.0	2.9	2.3	3.2	2.2	3.1	2.3	1.5
Nominal compensation per employee	2.8	4.8	4.1	3.6	5.3	4.8	1.7	2.4	3.1	2.0	1.4
Real compensation per employee (GDP deflator)	0.3	2.6	1.7	1.6	2.3	2.4	-1.5	0.2	0.0	-0.3	0.0
Real compensation per employee (private consumption deflator)	1.9	3.3	2.2	1.1	2.6	2.1	-1.5	0.5	-0.9	-1.9	-1.1
Nominal unit labour costs	1.2	1.8	2.0	1.3	3.4	2.0	3.2	6.2	1.7	1.4	2.5
Real unit labour costs	-1.2	-0.4	-0.4	-0.6	0.5	-0.3	0.0	3.9	-1.4	-0.9	1.0

Croatia	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	4.9	5.4	4.1	4.3	4.9	5.1	2.1	-6.9	-2.3	0.0	-2.0
Total employment	0.8	3.9	1.5	0.7	3.9	3.5	1.1	-1.8	-5.1	-2.3	-3.9
Labour productivity	4.0	1.4	2.6	3.5	1.0	1.5	1.0	-5.2	3.0	2.4	2.0
Annual average hours worked	:	:	:	:	:	:	:	:	:	:	:
Productivity per hour worked	:	:	:	:	:	:	:	:	:	:	:
Harmonized CPI	2.5	2.4	2.1	3.0	3.3	2.7	5.8	2.2	1.1	2.2	3.4
Price deflator GDP	3.5	4.1	3.8	3.3	4.0	4.1	5.7	2.9	0.8	2.0	2.0
Nominal compensation per employee	9.7	6.8	4.2	5.5	3.3	5.7	6.9	1.0	1.9	3.0	3.2
Real compensation per employee (GDP deflator)	5.9	2.6	0.4	2.1	-0.7	1.5	1.1	-1.8	1.0	1.0	1.2
Real compensation per employee (private consumption deflator)	7.3	4.4	2.1	2.1	-0.1	2.7	1.2	-2.2	0.3	0.5	-0.2
Nominal unit labour costs	5.4	5.3	1.6	1.9	2.2	4.1	5.8	6.6	-1.1	0.7	1.2
Real unit labour costs	1.8	1.2	-2.1	-1.4	-1.7	0.0	0.1	3.6	-1.9	-1.3	-0.8

Macedonia FYR	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.9	2.8	4.6	4.4	5.0	6.1	5.0	-0.9	2.9	2.8	-0.2
Total employment	-0.6	-1.9	-2.2	2.1	3.2	4.3	6.2	2.5	1.5	1.1	0.5
Labour productivity	1.4	4.8	6.9	2.2	1.8	1.8	-1.2	-3.4	1.4	-0.3	-0.4
Annual average hours worked	:	:	:	:	:	:	:	:	:	:	:
Productivity per hour worked	:	:	:	:	:	:	:	:	:	:	:
Harmonized CPI	1.8	1.2	-0.4	0.5	3.2	2.3	8.3	-0.8	1.6	3.9	3.3
Price deflator GDP	3.4	3.0	0.8	3.8	3.3	7.4	7.5	0.7	2.7	3.1	0.5
Nominal compensation per employee	:	:	:	:	:	:	:	:	6.0	-3.9	-0.6
Real compensation per employee (GDP deflator)	:	:	:	:	:	:	:	:	3.2	-6.8	-1.1
Real compensation per employee (private consumption deflator)	:	:	:	:	:	:	:	:	4.1	-6.3	-2.7
Nominal unit labour costs	:	:	:	:	:	:	:	:	4.6	-3.6	-0.2
Real unit labour costs	:	:	:	:	:	:	:	:	1.8	-6.5	-0.7

Turkey	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	6.2	5.3	9.4	8.4	6.9	4.7	0.7	-4.8	9.0	8.8	2.2
Total employment	-0.8	-1.0	-7.2	2.2	1.8	1.5	2.2	0.4	6.2	6.7	3.0
Labour productivity	7.0	6.3	17.8	6.1	5.0	3.1	-1.5	-5.2	2.7	1.9	-0.8
Annual average hours worked	:	:	:	:	:	:	:	:	:	:	:
Productivity per hour worked	:	:	:	:	:	:	:	:	:	:	:
Harmonized CPI	47.0	25.3	10.1	8.1	9.3	8.8	10.4	6.3	8.6	6.5	9.0
Price deflator GDP	37.4	23.3	12.4	7.1	9.3	6.2	12.0	5.3	5.8	8.6	6.8
Nominal compensation per employee	37.9	27.9	16.5	7.1	10.8	9.4	7.5	4.7	7.0	-2.1	12.1
Real compensation per employee (GDP deflator)	0.3	3.7	3.6	0.0	1.4	3.0	-4.0	-0.6	1.3	-9.8	5.0
Real compensation per employee (private consumption deflator)	-0.5	3.7	5.1	-1.1	0.9	2.7	-2.9	-0.3	-1.3	-10.1	3.5
Nominal unit labour costs	28.8	20.3	-1.1	1.0	5.5	6.1	9.2	10.4	4.1	-3.9	13.0
Real unit labour costs	-6.3	-2.4	-12.0	-5.7	-3.5	-0.1	-2.5	4.8	-1.5	-11.5	5.8

Iceland	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Real GDP	0.1	2.4	7.8	7.2	4.7	6.0	1.2	-6.6	-4.1	2.9	1.6
Total employment	-1.4	0.1	-0.5	3.3	5.1	4.5	0.8	-6.2	-0.4	0.0	1.1
Labour productivity	1.6	2.3	8.3	3.8	-0.4	1.4	0.4	-0.4	-3.8	2.9	0.5
Annual average hours worked	-2.0	-0.1	0.9	-0.5	-0.7	-1.2	0.2	-4.4	-0.7	2.8	:
Productivity per hour worked	3.7	2.4	7.5	4.3	0.3	2.6	0.2	4.2	-3.1	0.1	:
Harmonized CPI	5.3	1.4	2.3	1.4	4.6	3.6	12.8	16.3	7.5	4.2	6.0
Price deflator GDP	5.6	0.6	2.5	2.8	8.8	5.7	11.8	8.3	6.9	3.3	3.0
Nominal compensation per employee	8.8	2.0	10.3	8.9	12.4	9.8	1.8	-3.9	6.2	9.0	7.4
Real compensation per employee (GDP deflator)	3.0	1.4	7.6	5.9	3.3	4.0	-9.0	-11.3	-0.7	5.6	4.3
Real compensation per employee (private consumption deflator)	3.8	0.7	7.1	6.9	4.4	5.0	-10.8	-15.5	2.7	4.7	1.7
Nominal unit labour costs	7.1	-0.3	1.8	4.9	12.9	8.3	1.4	-3.5	10.3	6.0	6.8
Real unit labour costs	1.4	-0.9	-0.7	2.0	3.7	2.5	-9.3	-10.9	3.2	2.6	3.7

Indicator 1: EL: break in series 2005; MK: estimate 2011, 2012; TR: forecast 2011, 2012.

Indicator 2: EL: break in series 2005; LV: break in series 2011, 2012; PL: break in series 2012; MK: forecast 2012.

Indicator 3: EL: break in series 2005; LV: break in series 2011, 2012; PL: break in series 2012; IS: forecast 2006-2012; MK: estimate 2011; MK: forecast 2012; TR: forecast 2002-2012; US: forecast 2011, 2012; JP: forecast 2009-2012.

Indicator 7: EL: break in series 2005; MK: estimate 2011; MK: forecast 2012; TR: forecast 2011, 2012.

Indicator 8, 9, 10: EL: break in series 2005; LV: break in series 2011, 2012; PL: break in series 2012; ES, PL: forecast 2012; MK, TR: forecast 2011, 2012.

Indicator 11: EL: break in series 2005; LV: break in series 2011, 2012; PL, MK: forecast 2012; MK: estimate 2011.

Indicator 12: EL: break in series 2005; LV: break in series 2011, 2012; PL, MK: forecast 2012.

2. LABOUR MARKET INDICATORS

Labour market indicators: Euro area 17

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	312 409	314 525	315 967	318 066	319 849	321 711	323 412	324 577	325 518	326 526	327 472
2. Population aged 15-64	209 847	211 139	211 530	213 223	214 221	215 244	216 135	216 438	216 543	216 746	216 509
3. Total employment (000)	140 714	141 400	142 495	143 973	146 334	148 970	150 176	147 458	146 716	147 157	146 197
4. Population in employment aged 15-64	130 754	132 207	133 375	135 511	138 292	140 992	142 332	139 672	138 898	139 256	138 132
5. Employment rate (% population aged 20-64)	66.4	66.8	67.3	67.9	68.9	69.8	70.2	68.8	68.4	68.5	68.0
6. Employment rate (% population aged 15-64)	62.3	62.6	63.1	63.6	64.6	65.5	65.9	64.5	64.1	64.2	63.8
7. Employment rate (% population aged 15-24)	36.9	36.4	36.3	36.3	36.9	37.7	37.5	35.0	33.8	33.5	32.1
8. Employment rate (% population aged 25-54)	76.1	76.4	76.9	77.1	78.2	79.0	79.3	77.7	77.3	77.2	76.5
9. Employment rate (% population aged 55-64)	36.3	37.7	38.6	40.4	41.6	43.2	44.3	45.1	45.8	47.1	48.7
10. FTE employment rate (% population aged 15-64)	57.8	57.8	57.6	57.9	58.7	59.6	59.9	58.5	58.1	58.0	57.4
11. Self-employed (% total employment)	14.9	15.0	15.1	15.0	14.9	14.7	14.5	14.5	14.5	14.4	14.5
12. Part-time employment (% total employment)	16.0	16.5	17.5	18.6	19.1	19.3	19.4	20.0	20.4	20.9	21.6
13. Fixed term contracts (% total employees)	14.4	14.5	15.2	16.0	16.7	16.6	16.2	15.4	15.6	15.8	15.2
14. Employment in Services (% total employment)	69.7	70.1	70.6	71.0	71.4	71.7	72.1	73.0	73.6	74.0	74.4
15. Employment in Industry (% total employment)	26.1	25.7	25.3	25.1	24.8	24.7	24.4	23.5	22.8	22.5	22.2
16. Employment in Agriculture (% total employment)	4.3	4.2	4.0	3.9	3.8	3.7	3.6	3.5	3.5	3.4	3.4
17. Activity rate (% population aged 15-64)	68.3	68.8	69.4	69.9	70.5	70.9	71.3	71.4	71.4	71.5	72.0
18. Activity rate (% population aged 15-24)	44.2	44.0	44.0	44.2	44.3	44.4	44.4	43.6	42.5	42.2	41.7
19. Activity rate (% population aged 25-54)	82.5	83.1	83.8	83.9	84.5	84.7	85.0	85.1	85.2	85.2	85.5
20. Activity rate (% population aged 55-64)	39.2	40.7	41.8	43.7	44.9	46.1	47.1	48.4	49.4	50.8	52.9
21. Total unemployment (000)	12 446	13 322	13 872	13 933	13 013	11 768	11 947	15 050	15 936	16 017	18 074
22. Unemployment rate (% labour force)	8.5	9.0	9.3	9.2	8.5	7.6	7.6	9.6	10.1	10.2	11.4
23. Youth unemployment rate (% labour force 15-24)	15.9	17.3	18.2	18.3	17.0	15.5	16.0	20.3	20.9	20.8	23.1
24. Long term unemployment rate (% labour force)	3.8	4.1	4.3	4.2	3.9	3.4	3.0	3.4	4.3	4.6	5.3
25. Youth unemployment ratio (% population aged 15-24)	7.4	7.6	7.7	7.9	7.4	6.7	6.9	8.7	8.7	8.7	9.6

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	152 431	153 471	154 152	155 272	156 268	157 253	158 103	158 691	159 118	159 629	160 150
2. Population aged 15-64	104 907	105 527	105 714	106 559	107 158	107 676	108 106	108 209	108 201	108 261	108 157
3. Total employment (000)	80 885	80 794	80 926	81 444	82 463	83 607	83 784	81 404	80 674	80 663	79 790
4. Population in employment aged 15-64	75 056	75 412	75 562	76 470	77 742	78 939	79 202	76 898	76 177	76 103	75 125
5. Employment rate (% population aged 20-64)	76.4	76.3	76.4	76.7	77.5	78.3	78.2	75.9	75.2	75.0	74.2
6. Employment rate (% population aged 15-64)	71.5	71.5	71.5	71.8	72.5	73.3	73.3	71.1	70.4	70.3	69.5
7. Employment rate (% population aged 15-24)	40.3	39.6	39.6	39.6	40.3	41.0	40.5	37.1	35.9	35.6	34.1
8. Employment rate (% population aged 25-54)	86.6	86.3	86.2	86.3	87.1	87.7	87.4	84.9	84.1	83.9	82.7
9. Employment rate (% population aged 55-64)	46.7	48.0	48.7	49.9	50.8	52.3	53.3	53.5	53.8	54.6	55.8
10. FTE employment rate (% population aged 15-64)	70.5	69.9	69.6	69.8	70.4	71.1	71.1	68.8	68.0	67.7	66.7
11. Self-employed (% total employment)	17.6	17.7	17.9	17.8	17.7	17.6	17.5	17.7	17.8	17.8	17.9
12. Part-time employment (% total employment)	5.6	5.8	6.2	6.9	7.3	7.4	7.5	8.0	8.4	8.9	9.4
13. Fixed term contracts (% total employees)	13.4	13.5	14.3	15.3	15.8	15.8	15.2	14.3	14.8	15.1	14.6
14. Employment in Services (% total employment)	59.4	59.7	60.1	60.3	60.5	60.6	60.8	61.7	62.5	63.0	63.5
15. Employment in Industry (% total employment)	35.6	35.4	35.1	35.0	35.0	35.0	34.9	33.9	33.1	32.7	32.2
16. Employment in Agriculture (% total employment)	5.0	4.9	4.8	4.7	4.6	4.4	4.3	4.3	4.4	4.3	4.3
17. Activity rate (% population aged 15-64)	77.5	77.7	77.8	78.2	78.4	78.6	78.7	78.4	78.2	78.1	78.3
18. Activity rate (% population aged 15-24)	47.8	47.7	47.5	47.8	47.9	47.8	47.8	46.7	45.5	44.9	44.4
19. Activity rate (% population aged 25-54)	92.7	92.8	92.8	92.9	93.1	93.0	93.0	92.6	92.4	92.2	92.2
20. Activity rate (% population aged 55-64)	50.2	51.7	52.6	53.8	54.6	55.6	56.5	57.5	58.3	59.1	60.9
21. Total unemployment (000)	6 161	6 668	6 951	7 045	6 462	5 799	6 039	8 129	8 601	8 533	9 694
22. Unemployment rate (% labour force)	7.4	8.0	8.3	8.3	7.6	6.7	7.0	9.4	10.0	9.9	11.2
23. Youth unemployment rate (% labour force 15-24)	15.1	16.7	17.3	17.6	16.1	14.7	15.6	21.0	21.4	20.9	23.4
24. Long term unemployment rate (% labour force)	3.2	3.5	3.8	3.7	3.5	3.0	2.7	3.2	4.2	4.5	5.2
25. Youth unemployment ratio (% population aged 15-24)	7.6	8.0	7.9	8.2	7.5	6.8	7.3	9.6	9.6	9.3	10.3

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	159 978	161 054	161 815	162 794	163 582	164 458	165 308	165 886	166 401	166 897	167 322
2. Population aged 15-64	104 940	105 612	105 816	106 663	107 062	107 568	108 029	108 229	108 342	108 485	108 351
3. Total employment (000)	59 828	60 605	61 569	62 529	63 871	65 363	66 393	66 054	66 041	66 494	66 407
4. Population in employment aged 15-64	55 699	56 795	57 813	59 041	60 551	62 053	63 130	62 773	62 721	63 153	63 007
5. Employment rate (% population aged 20-64)	56.5	57.3	58.3	59.1	60.3	61.4	62.2	61.8	61.7	61.9	61.9
6. Employment rate (% population aged 15-64)	53.1	53.8	54.6	55.4	56.6	57.7	58.4	58.0	57.9	58.2	58.2
7. Employment rate (% population aged 15-24)	33.4	33.0	32.9	33.0	33.4	34.3	34.4	32.8	31.6	31.3	30.1
8. Employment rate (% population aged 25-54)	65.6	66.5	67.6	67.9	69.3	70.3	71.2	70.6	70.5	70.5	70.2
9. Employment rate (% population aged 55-64)	26.4	27.8	28.9	31.4	32.9	34.5	35.7	37.1	38.1	40.0	41.9
10. FTE employment rate (% population aged 15-64)	45.5	46.0	45.9	46.4	47.4	48.3	49.1	48.6	48.5	48.6	48.4
11. Self-employed (% total employment)	11.3	11.2	11.3	11.3	11.2	10.9	10.8	10.6	10.5	10.4	10.4
12. Part-time employment (% total employment)	30.0	30.7	32.3	33.8	34.3	34.6	34.4	34.8	35.2	35.5	36.2
13. Fixed term contracts (% total employees)	15.7	15.7	16.2	16.9	17.6	17.6	17.4	16.6	16.5	16.5	16.0
14. Employment in Services (% total employment)	82.9	83.5	84.0	84.4	85.0	85.2	85.7	86.4	86.8	86.9	87.1
15. Employment in Industry (% total employment)	13.7	13.3	13.0	12.6	12.2	12.1	11.6	11.0	10.7	10.6	10.5
16. Employment in Agriculture (% total employment)	3.4	3.2	3.1	2.9	2.8	2.7	2.7	2.6	2.5	2.4	2.3
17. Activity rate (% population aged 15-64)	59.1	60.0	61.0	61.7	62.6	63.1	63.8	64.3	64.6	65.0	65.8
18. Activity rate (% population aged 15-24)	40.5	40.2	40.3	40.6	40.5	40.9	40.9	40.5	39.4	39.4	38.9
19. Activity rate (% population aged 25-54)	72.3	73.4	74.7	74.9	75.8	76.3	77.0	77.5	77.9	78.2	78.9
20. Activity rate (% population aged 55-64)	28.6	30.2	31.4	34.0	35.6	37.0	38.1	39.8	41.0	43.0	45.2
21. Total unemployment (000)	6 285	6 654	6 921	6 889	6 551	5 969	5 908	6 921	7 335	7 484	8 379
22. Unemployment rate (% labour force)	9.9	10.3	10.6	10.3	9.7	8.7	8.5	9.8	10.3	10.5	11.6
23. Youth unemployment rate (% labour force 15-24)	16.9	18.1	19.2	19.2	18.2	16.5	16.4	19.4	20.3	20.7	22.8
24. Long term unemployment rate (% labour force)	4.5	4.8	5.0	4.7	4.4	3.8	3.4	3.7	4.4	4.7	5.4
25. Youth unemployment ratio (% population aged 15-24)	7.1	7.2	7.4	7.6	7.2	6.6	6.5	7.7	7.9	8.1	8.8

Source: Eurostat.

Labour market indicators: European Union 28

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	483 421	484 710	486 299	488 647	490 694	492 772	494 897	496 614	498 059	498 932	499 218
2. Population aged 15-64	324 957	326 001	326 882	329 088	330 646	331 998	333 187	333 746	334 035	333 948	332 486
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	202 382	203 795	205 559	208 567	212 685	216 630	218 982	215 105	213 903	214 275	213 036
5. Employment rate (% population aged 20-64)	66.6	67.0	67.4	67.9	68.9	69.8	70.3	68.9	68.5	68.5	68.4
6. Employment rate (% population aged 15-64)	62.3	62.5	62.9	63.4	64.3	65.3	65.7	64.5	64.0	64.2	64.1
7. Employment rate (% population aged 15-24)	36.6	36.0	36.0	35.9	36.5	37.2	37.3	34.9	33.9	33.5	32.8
8. Employment rate (% population aged 25-54)	75.9	76.2	76.6	77.0	78.0	79.0	79.4	78.0	77.5	77.6	77.2
9. Employment rate (% population aged 55-64)	38.3	39.9	40.6	42.2	43.4	44.5	45.5	45.9	46.2	47.3	48.8
10. FTE employment rate (% population aged 15-64)	58.0	58.0	57.8	:	:	59.9	60.4	59.0	58.5	58.5	58.3
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	16.1	16.5	17.2	17.8	18.0	18.1	18.2	18.7	19.2	19.5	19.9
13. Fixed term contracts (% total employees)	12.3	12.7	13.3	14.0	14.5	14.6	14.1	13.6	14.0	14.1	13.7
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	68.6	68.9	69.3	69.7	70.1	70.3	70.7	70.9	70.9	71.1	71.7
18. Activity rate (% population aged 15-24)	45.0	44.2	44.3	44.1	44.1	44.1	44.2	43.6	42.9	42.7	42.5
19. Activity rate (% population aged 25-54)	82.6	82.9	83.4	83.6	84.1	84.3	84.6	84.7	84.9	84.9	85.3
20. Activity rate (% population aged 55-64)	41.0	42.6	43.5	45.1	46.2	47.1	48.0	49.0	49.7	50.8	52.6
21. Total unemployment (000)	20 403	20 896	21 405	21 099	19 497	17 145	16 920	21 611	23 287	23 371	25 532
22. Unemployment rate (% labour force)	9.0	9.1	9.3	9.1	8.3	7.2	7.1	9.0	9.7	9.7	10.5
23. Youth unemployment rate (% labour force 15-24)	18.0	18.7	19.1	18.9	17.6	15.8	15.8	20.1	21.1	21.5	23.0
24. Long term unemployment rate (% labour force)	4.1	4.2	4.3	4.2	3.8	3.1	2.6	3.0	3.9	4.2	4.7
25. Youth unemployment ratio (% population aged 15-24)	8.3	8.3	8.3	8.3	7.7	6.8	6.9	8.7	9.0	9.1	9.7

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	235 411	236 060	236 863	238 146	239 299	240 368	241 427	242 337	243 082	243 603	243 938
2. Population aged 15-64	161 880	162 432	162 927	164 078	164 959	165 632	166 205	166 470	166 613	166 599	166 026
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	113 753	114 133	114 602	116 084	118 039	119 972	120 784	117 551	116 587	116 594	115 616
5. Employment rate (% population aged 20-64)	75.4	75.4	75.5	76.0	76.8	77.7	77.9	75.7	75.0	74.9	74.5
6. Employment rate (% population aged 15-64)	70.3	70.3	70.3	70.7	71.6	72.4	72.7	70.6	70.0	70.0	69.6
7. Employment rate (% population aged 15-24)	39.6	38.9	39.0	38.8	39.5	40.3	40.3	37.0	36.1	35.7	34.7
8. Employment rate (% population aged 25-54)	84.8	84.7	84.7	85.1	86.0	86.8	86.8	84.6	83.8	83.8	83.1
9. Employment rate (% population aged 55-64)	48.3	49.7	50.3	51.5	52.5	53.8	54.9	54.7	54.5	55.1	56.3
10. FTE employment rate (% population aged 15-64)	69.1	68.8	68.5	:	:	70.4	70.6	68.4	67.7	67.5	67.0
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	6.6	6.7	7.1	7.4	7.7	7.7	7.8	8.3	8.7	9.0	9.4
13. Fixed term contracts (% total employees)	11.6	12.0	12.7	13.5	14.0	13.9	13.4	12.8	13.4	13.6	13.3
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	76.8	76.9	77.0	77.3	77.5	77.6	77.9	77.7	77.5	77.5	77.9
18. Activity rate (% population aged 15-24)	48.5	47.9	47.8	47.7	47.6	47.5	47.7	46.8	46.1	45.7	45.4
19. Activity rate (% population aged 25-54)	91.4	91.4	91.5	91.7	91.9	91.9	92.0	91.7	91.6	91.5	91.7
20. Activity rate (% population aged 55-64)	51.6	53.2	53.9	55.2	56.0	57.0	57.9	58.6	58.9	59.5	61.1
21. Total unemployment (000)	10 462	10 769	11 028	10 870	9 950	8 700	8 762	11 898	12 769	12 617	13 801
22. Unemployment rate (% labour force)	8.3	8.5	8.6	8.4	7.7	6.7	6.7	9.0	9.7	9.6	10.4
23. Youth unemployment rate (% labour force 15-24)	17.7	18.5	18.8	18.8	17.2	15.4	15.8	21.2	21.9	22.0	23.6
24. Long term unemployment rate (% labour force)	3.6	3.8	3.9	3.8	3.5	2.9	2.5	2.9	3.9	4.2	4.7
25. Youth unemployment ratio (% population aged 15-24)	8.9	8.9	8.8	8.8	8.1	7.2	7.5	9.8	10.0	10.0	10.7

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	248 008	248 649	249 435	250 500	251 396	252 404	253 470	254 278	254 976	255 330	255 280
2. Population aged 15-64	163 077	163 570	163 955	165 010	165 686	166 366	166 981	167 276	167 422	167 349	166 460
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	88 629	89 662	90 957	92 483	94 646	96 658	98 199	97 554	97 316	97 681	97 420
5. Employment rate (% population aged 20-64)	58.0	58.6	59.3	59.9	61.1	62.0	62.7	62.2	62.0	62.2	62.3
6. Employment rate (% population aged 15-64)	54.3	54.8	55.5	56.0	57.1	58.1	58.8	58.3	58.1	58.4	58.5
7. Employment rate (% population aged 15-24)	33.7	33.0	33.0	32.9	33.4	34.1	34.3	32.8	31.7	31.3	30.7
8. Employment rate (% population aged 25-54)	67.0	67.7	68.5	68.9	70.1	71.2	72.0	71.4	71.2	71.3	71.2
9. Employment rate (% population aged 55-64)	29.0	30.6	31.5	33.5	34.8	35.8	36.7	37.7	38.5	40.0	41.7
10. FTE employment rate (% population aged 15-64)	47.3	47.6	47.6	:	:	49.8	50.5	49.9	49.7	49.8	49.8
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	28.3	28.9	29.9	30.8	31.0	31.1	30.9	31.3	31.8	32.0	32.5
13. Fixed term contracts (% total employees)	13.2	13.4	13.9	14.5	15.1	15.3	15.0	14.5	14.6	14.6	14.2
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	60.4	60.9	61.7	62.2	62.8	63.1	63.6	64.1	64.4	64.7	65.5
18. Activity rate (% population aged 15-24)	41.4	40.6	40.7	40.5	40.6	40.5	40.7	40.3	39.6	39.5	39.5
19. Activity rate (% population aged 25-54)	73.7	74.4	75.4	75.6	76.3	76.7	77.3	77.7	78.1	78.3	78.9
20. Activity rate (% population aged 55-64)	31.0	32.7	33.7	35.7	37.0	37.9	38.7	40.1	41.0	42.7	44.7
21. Total unemployment (000)	9 940	10 127	10 377	10 229	9 547	8 446	8 158	9 713	10 518	10 754	11 731
22. Unemployment rate (% labour force)	9.9	10.0	10.1	9.8	9.1	8.0	7.6	9.0	9.6	9.8	10.6
23. Youth unemployment rate (% labour force 15-24)	18.2	18.8	19.4	19.1	18.0	16.2	15.8	18.9	20.3	20.9	22.2
24. Long term unemployment rate (% labour force)	4.6	4.7	4.7	4.6	4.1	3.4	2.8	3.1	3.8	4.1	4.7
25. Youth unemployment ratio (% population aged 15-24)	7.7	7.5	7.7	7.6	7.2	6.5	6.3	7.5	8.0	8.2	8.7

Source: Eurostat.

Indicator 1: 2002-2005 Estimate;

Indicator 21: 2005 Estimate.

Labour market indicators: European Union 27

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	479 214	480 492	482 084	484 429	486 477	488 553	490 672	492 389	493 833	494 707	494 993
2. Population aged 15-64	322 184	323 224	324 131	326 341	327 902	329 255	330 445	331 010	331 278	331 202	329 732
3. Total employment (000)	213 848	214 682	216 067	218 259	221 795	225 829	228 063	223 978	223 004	223 704	222 607
4. Population in employment aged 15-64	200 901	202 313	204 054	207 056	211 159	215 063	217 398	213 556	212 415	212 837	211 641
5. Employment rate (% population aged 20-64)	66.7	67.0	67.4	68.0	69.0	69.9	70.3	69.0	68.5	68.6	68.5
6. Employment rate (% population aged 15-64)	62.4	62.6	63.0	63.4	64.4	65.3	65.8	64.5	64.1	64.3	64.2
7. Employment rate (% population aged 15-24)	36.7	36.1	36.1	36.0	36.6	37.3	37.4	35.0	34.0	33.7	32.9
8. Employment rate (% population aged 25-54)	76.0	76.2	76.7	77.0	78.1	79.0	79.5	78.0	77.6	77.6	77.2
9. Employment rate (% population aged 55-64)	38.5	40.0	40.7	42.3	43.5	44.6	45.6	46.0	46.3	47.4	48.9
10. FTE employment rate (% population aged 15-64)	58.1	58.1	57.9	58.2	59.0	59.9	60.4	59.0	58.6	58.6	58.4
11. Self-employed (% total employment)	16.1	16.2	16.2	16.0	15.7	15.5	15.3	15.5	15.6	15.5	15.5
12. Part-time employment (% total employment)	16.2	16.6	17.2	17.8	18.1	18.2	18.2	18.8	19.2	19.5	20.0
13. Fixed term contracts (% total employees)	12.3	12.7	13.3	14.0	14.5	14.6	14.2	13.6	14.0	14.1	13.7
14. Employment in Services (% total employment)	67.3	67.9	68.4	68.8	69.2	69.5	69.8	70.8	71.5	71.8	72.2
15. Employment in Industry (% total employment)	26.1	25.7	25.4	25.2	25.0	25.0	24.8	23.8	23.2	22.9	22.6
16. Employment in Agriculture (% total employment)	6.6	6.4	6.2	6.1	5.7	5.5	5.4	5.4	5.4	5.2	5.2
17. Activity rate (% population aged 15-64)	68.6	68.9	69.3	69.7	70.2	70.4	70.8	70.9	71.0	71.2	71.8
18. Activity rate (% population aged 15-24)	45.0	44.3	44.3	44.2	44.2	44.2	44.3	43.7	43.0	42.8	42.6
19. Activity rate (% population aged 25-54)	82.6	82.9	83.4	83.7	84.2	84.3	84.6	84.7	84.9	85.0	85.3
20. Activity rate (% population aged 55-64)	41.1	42.7	43.6	45.2	46.3	47.2	48.1	49.1	49.8	50.9	52.8
21. Total unemployment (000)	20 135	20 644	21 155	20 869	19 295	16 975	16 770	21 451	23 081	23 140	25 260
22. Unemployment rate (% labour force)	8.9	9.1	9.3	9.0	8.3	7.2	7.1	9.0	9.7	9.7	10.5
23. Youth unemployment rate (% labour force 15-24)	17.8	18.5	19.0	18.8	17.5	15.7	15.8	20.1	21.1	21.4	22.8
24. Long term unemployment rate (% labour force)	4.0	4.2	4.3	4.1	3.7	3.1	2.6	3.0	3.9	4.1	4.6
25. Youth unemployment ratio (% population aged 15-24)	8.3	8.2	8.2	8.2	7.6	6.8	6.9	8.7	9.0	9.1	9.7

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	233 412	234 059	234 851	236 139	237 290	238 374	239 427	240 341	241 091	241 593	241 915
2. Population aged 15-64	160 528	161 071	161 570	162 724	163 606	164 273	164 849	165 124	165 261	165 244	164 649
3. Total employment (000)	120 341	120 422	120 694	121 735	123 363	125 332	126 078	122 686	121 834	122 027	121 162
4. Population in employment aged 15-64	112 936	113 312	113 764	115 249	117 200	119 096	119 902	116 711	115 785	115 809	114 857
5. Employment rate (% population aged 20-64)	75.5	75.5	75.6	76.0	76.9	77.8	77.9	75.8	75.1	75.0	74.6
6. Employment rate (% population aged 15-64)	70.4	70.3	70.4	70.8	71.6	72.5	72.7	70.7	70.1	70.1	69.8
7. Employment rate (% population aged 15-24)	39.7	39.0	39.0	38.9	39.6	40.4	40.3	37.0	36.2	35.8	34.9
8. Employment rate (% population aged 25-54)	84.9	84.8	84.8	85.2	86.0	86.8	86.9	84.6	83.9	83.9	83.2
9. Employment rate (% population aged 55-64)	48.4	49.9	50.4	51.6	52.6	53.9	55.0	54.8	54.6	55.2	56.4
10. FTE employment rate (% population aged 15-64)	69.2	68.8	68.5	68.9	69.5	70.4	70.6	68.5	67.7	67.6	67.2
11. Self-employed (% total employment)	18.8	19.0	19.2	18.9	18.7	18.5	18.3	18.7	18.9	18.8	18.9
12. Part-time employment (% total employment)	6.6	6.7	7.1	7.4	7.7	7.7	7.8	8.3	8.7	9.0	9.5
13. Fixed term contracts (% total employees)	11.6	12.0	12.8	13.5	14.0	13.9	13.4	12.8	13.4	13.6	13.3
14. Employment in Services (% total employment)	57.2	57.7	58.0	58.3	58.6	58.7	58.9	59.8	60.5	61.0	61.4
15. Employment in Industry (% total employment)	35.5	35.2	35.0	34.9	34.9	35.0	35.0	34.1	33.3	32.9	32.5
16. Employment in Agriculture (% total employment)	7.2	7.2	7.0	6.9	6.5	6.3	6.0	6.1	6.2	6.1	6.1
17. Activity rate (% population aged 15-64)	76.8	76.9	77.0	77.3	77.6	77.7	77.9	77.8	77.6	77.6	78.0
18. Activity rate (% population aged 15-24)	48.6	47.9	47.8	47.7	47.6	47.6	47.8	46.9	46.1	45.8	45.5
19. Activity rate (% population aged 25-54)	91.4	91.5	91.5	91.7	92.0	91.9	92.0	91.8	91.7	91.6	91.7
20. Activity rate (% population aged 55-64)	51.7	53.3	54.0	55.2	56.1	57.0	57.9	58.6	58.9	59.5	61.2
21. Total unemployment (000)	10 333	10 645	10 908	10 756	9 855	8 618	8 694	11 822	12 663	12 488	13 650
22. Unemployment rate (% labour force)	8.2	8.5	8.6	8.4	7.6	6.6	6.6	9.1	9.7	9.6	10.4
23. Youth unemployment rate (% labour force 15-24)	17.6	18.4	18.7	18.7	17.2	15.4	15.8	21.2	21.8	21.9	23.5
24. Long term unemployment rate (% labour force)	3.6	3.8	3.9	3.8	3.5	2.9	2.4	2.9	3.9	4.2	4.6
25. Youth unemployment ratio (% population aged 15-24)	8.9	8.9	8.8	8.8	8.1	7.2	7.4	9.8	10.0	10.0	10.6

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	245 801	246 431	247 232	248 289	249 186	250 179	251 245	252 048	252 742	253 114	253 079
2. Population aged 15-64	161 656	162 153	162 561	163 617	164 296	164 982	165 596	165 887	166 017	165 958	165 083
3. Total employment (000)	93 506	94 260	95 373	96 524	98 432	100 498	101 985	101 292	101 170	101 676	101 445
4. Population in employment aged 15-64	87 965	89 001	90 290	91 807	93 959	95 966	97 496	96 846	96 630	97 028	96 784
5. Employment rate (% population aged 20-64)	58.1	58.7	59.4	60.0	61.1	62.1	62.8	62.3	62.1	62.3	62.4
6. Employment rate (% population aged 15-64)	54.4	54.9	55.5	56.1	57.2	58.2	58.9	58.4	58.2	58.5	58.6
7. Employment rate (% population aged 15-24)	33.8	33.1	33.1	33.0	33.5	34.2	34.4	32.9	31.8	31.4	30.9
8. Employment rate (% population aged 25-54)	67.1	67.7	68.5	68.9	70.1	71.2	72.0	71.4	71.3	71.3	71.2
9. Employment rate (% population aged 55-64)	29.1	30.7	31.6	33.6	34.8	35.9	36.8	37.8	38.6	40.2	41.8
10. FTE employment rate (% population aged 15-64)	47.3	47.7	47.6	48.0	48.9	49.8	50.5	50.0	49.7	49.9	49.9
11. Self-employed (% total employment)	12.7	12.5	12.4	12.3	12.0	11.8	11.6	11.6	11.7	11.5	11.6
12. Part-time employment (% total employment)	28.5	29.1	30.1	30.9	31.2	31.2	31.1	31.5	31.9	32.1	32.6
13. Fixed term contracts (% total employees)	13.2	13.4	13.9	14.5	15.1	15.3	15.0	14.5	14.6	14.6	14.2
14. Employment in Services (% total employment)	79.8	80.5	81.1	81.6	82.2	82.4	82.9	83.8	84.3	84.4	84.6
15. Employment in Industry (% total employment)	14.4	14.0	13.7	13.3	13.1	12.9	12.5	11.8	11.3	11.3	11.2
16. Employment in Agriculture (% total employment)	5.8	5.4	5.3	5.1	4.8	4.6	4.6	4.5	4.4	4.2	4.1
17. Activity rate (% population aged 15-64)	60.5	61.0	61.7	62.2	62.9	63.2	63.7	64.1	64.4	64.8	65.6
18. Activity rate (% population aged 15-24)	41.4	40.6	40.8	40.6	40.7	40.6	40.8	40.4	39.7	39.7	39.6
19. Activity rate (% population aged 25-54)	73.7	74.4	75.4	75.6	76.3	76.7	77.3	77.7	78.1	78.3	78.9
20. Activity rate (% population aged 55-64)	31.1	32.8	33.8	35.8	37.1	38.0	38.8	40.2	41.2	42.8	44.8
21. Total unemployment (000)	9 802	9 999	10 247	10 113	9 440	8 356	8 077	9 629	10 419	10 651	11 609
22. Unemployment rate (% labour force)	9.8	9.9	10.1	9.8	9.0	7.9	7.6	8.9	9.6	9.8	10.5
23. Youth unemployment rate (% labour force 15-24)	18.1	18.7	19.3	19.0	17.9	16.1	15.8	18.8	20.2	20.8	22.1
24. Long term unemployment rate (% labour force)	4.6	4.6	4.7	4.5	4.1	3.4	2.8	3.1	3.8	4.1	4.6
25. Youth unemployment ratio (% population aged 15-24)	7.7	7.5	7.6	7.6	7.2	6.4	6.3	7.5	8.0	8.2	8.7

Source: Eurostat.

Indicator 1: 2002-2005 Estimate;

Indicator 21: 2005 Estimate.

Labour market indicators: European Union 15

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	375 166	377 572	379 339	381 805	383 989	386 253	388 472	390 155	391 506	393 008	394 371
2. Population aged 15-64	250 689	252 262	252 908	254 934	256 318	257 676	258 846	259 387	259 608	260 007	259 799
3. Total employment (000)	171 779	172 633	173 968	175 719	178 369	181 290	182 690	179 403	178 778	179 397	178 830
4. Population in employment aged 15-64	160 995	162 596	163 996	166 375	169 361	172 220	173 741	170 553	169 720	170 246	169 384
5. Employment rate (% population aged 20-64)	68.1	68.4	68.9	69.4	70.2	71.0	71.3	69.9	69.6	69.7	69.4
6. Employment rate (% population aged 15-64)	64.2	64.5	64.8	65.3	66.1	66.8	67.1	65.8	65.4	65.5	65.2
7. Employment rate (% population aged 15-24)	40.6	40.0	40.0	39.9	40.4	41.0	40.8	38.0	36.9	36.6	35.5
8. Employment rate (% population aged 25-54)	77.1	77.3	77.7	78.0	78.8	79.6	79.8	78.3	77.9	77.9	77.3
9. Employment rate (% population aged 55-64)	40.2	41.7	42.6	44.2	45.3	46.5	47.4	47.9	48.4	49.5	50.9
10. FTE employment rate (% population aged 15-64)	58.8	58.8	58.6	58.9	59.5	60.2	60.5	59.1	58.6	58.6	58.1
11. Self-employed (% total employment)	14.0	14.2	14.2	14.2	14.1	14.0	13.8	13.8	13.9	13.9	14.0
12. Part-time employment (% total employment)	18.1	18.6	19.4	20.3	20.7	20.9	21.0	21.6	22.1	22.5	23.1
13. Fixed term contracts (% total employees)	13.1	13.2	13.6	14.3	14.9	14.9	14.5	13.8	14.1	14.2	13.8
14. Employment in Services (% total employment)	71.5	72.1	72.6	73.0	73.3	73.5	73.9	74.8	75.4	75.8	76.1
15. Employment in Industry (% total employment)	24.8	24.4	24.0	23.7	23.4	23.3	23.0	22.1	21.5	21.2	20.9
16. Employment in Agriculture (% total employment)	3.7	3.6	3.5	3.4	3.3	3.2	3.1	3.1	3.1	3.0	3.0
17. Activity rate (% population aged 15-64)	69.7	70.2	70.6	71.1	71.7	71.9	72.3	72.4	72.4	72.5	73.0
18. Activity rate (% population aged 15-24)	47.8	47.5	47.6	47.9	48.0	48.1	48.2	47.3	46.2	46.0	45.6
19. Activity rate (% population aged 25-54)	82.8	83.3	83.8	84.0	84.6	84.8	85.1	85.2	85.2	85.3	85.6
20. Activity rate (% population aged 55-64)	42.9	44.6	45.5	47.2	48.3	49.2	50.0	51.2	51.9	53.1	55.0
21. Total unemployment (000)	13 717	14 631	15 141	15 299	14 621	13 396	13 741	17 487	18 402	18 582	20 604
22. Unemployment rate (% labour force)	7.7	8.1	8.3	8.3	7.8	7.1	7.2	9.2	9.6	9.7	10.6
23. Youth unemployment rate (% labour force 15-24)	14.6	15.8	16.5	16.9	16.2	15.2	15.7	19.9	20.4	20.7	22.3
24. Long term unemployment rate (% labour force)	3.1	3.4	3.5	3.4	3.3	2.9	2.6	3.0	3.8	4.1	4.7
25. Youth unemployment ratio (% population aged 15-24)	7.2	7.5	7.6	7.9	7.6	7.2	7.4	9.3	9.3	9.5	10.1

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	183 258	184 468	185 336	186 660	187 876	189 073	190 195	191 086	191 757	192 537	193 288
2. Population aged 15-64	125 286	126 055	126 372	127 378	128 164	128 839	129 405	129 647	129 709	129 871	129 797
3. Total employment (000)	97 532	97 562	97 781	98 423	99 583	100 918	101 164	98 317	97 721	97 805	97 159
4. Population in employment aged 15-64	91 241	91 697	91 936	92 939	94 299	95 603	95 919	93 197	92 500	92 510	91 679
5. Employment rate (% population aged 20-64)	77.4	77.4	77.5	77.7	78.4	79.0	78.9	76.7	76.1	76.0	75.3
6. Employment rate (% population aged 15-64)	72.8	72.7	72.7	73.0	73.6	74.2	74.1	71.9	71.3	71.2	70.6
7. Employment rate (% population aged 15-24)	43.6	42.9	43.0	42.8	43.3	43.8	43.4	39.7	38.7	38.2	37.0
8. Employment rate (% population aged 25-54)	86.8	86.6	86.5	86.7	87.3	87.8	87.6	85.1	84.5	84.3	83.4
9. Employment rate (% population aged 55-64)	50.1	51.6	52.2	53.3	54.1	55.2	56.2	56.2	56.2	56.8	58.0
10. FTE employment rate (% population aged 15-64)	71.2	70.8	70.4	70.6	71.0	71.7	71.5	69.2	68.5	68.3	67.5
11. Self-employed (% total employment)	16.9	17.2	17.3	17.2	17.1	17.0	16.9	17.1	17.3	17.3	17.4
12. Part-time employment (% total employment)	6.6	6.8	7.2	7.7	8.1	8.2	8.5	8.9	9.4	9.8	10.4
13. Fixed term contracts (% total employees)	12.2	12.2	12.9	13.7	14.1	14.1	13.6	12.8	13.4	13.6	13.2
14. Employment in Services (% total employment)	61.0	61.4	61.9	62.2	62.4	62.6	62.8	63.7	64.4	65.0	65.4
15. Employment in Industry (% total employment)	34.6	34.2	33.9	33.7	33.6	33.5	33.4	32.5	31.7	31.2	30.7
16. Employment in Agriculture (% total employment)	4.4	4.3	4.2	4.1	4.0	3.9	3.8	3.9	3.9	3.8	3.8
17. Activity rate (% population aged 15-64)	78.4	78.6	78.6	79.0	79.2	79.3	79.5	79.2	78.9	78.9	79.1
18. Activity rate (% population aged 15-24)	51.2	51.0	50.9	51.2	51.3	51.3	51.4	50.0	49.0	48.5	48.1
19. Activity rate (% population aged 25-54)	92.4	92.5	92.4	92.6	92.8	92.8	92.8	92.4	92.3	92.1	92.2
20. Activity rate (% population aged 55-64)	53.4	55.1	55.9	56.9	57.6	58.4	59.2	60.1	60.6	61.2	62.9
21. Total unemployment (000)	6 935	7 468	7 706	7 847	7 393	6 728	7 092	9 618	10 069	10 012	11 133
22. Unemployment rate (% labour force)	6.9	7.4	7.6	7.7	7.2	6.5	6.8	9.2	9.6	9.6	10.6
23. Youth unemployment rate (% labour force 15-24)	14.3	15.7	16.2	16.7	15.9	14.8	15.9	21.0	21.3	21.3	23.2
24. Long term unemployment rate (% labour force)	2.7	3.0	3.2	3.1	3.0	2.6	2.4	2.9	3.9	4.1	4.7
25. Youth unemployment ratio (% population aged 15-24)	7.6	8.0	7.9	8.4	8.0	7.5	8.0	10.4	10.3	10.3	11.1

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	191 909	193 104	194 003	195 145	196 113	197 180	198 277	199 069	199 749	200 471	201 083
2. Population aged 15-64	125 404	126 207	126 536	127 556	128 154	128 837	129 441	129 740	129 899	130 135	130 003
3. Total employment (000)	74 247	75 071	76 187	77 296	78 786	80 371	81 526	81 086	81 057	81 592	81 671
4. Population in employment aged 15-64	69 754	70 899	72 060	73 436	75 062	76 617	77 821	77 356	77 220	77 736	77 705
5. Employment rate (% population aged 20-64)	58.8	59.5	60.3	61.1	62.1	63.0	63.7	63.3	63.1	63.4	63.4
6. Employment rate (% population aged 15-64)	55.6	56.2	56.9	57.6	58.6	59.5	60.1	59.6	59.4	59.7	59.8
7. Employment rate (% population aged 15-24)	37.5	37.1	37.1	36.9	37.4	38.0	38.1	36.3	35.1	34.8	33.9
8. Employment rate (% population aged 25-54)	67.3	68.0	68.9	69.3	70.4	71.3	72.1	71.5	71.3	71.5	71.2
9. Employment rate (% population aged 55-64)	30.7	32.2	33.2	35.5	36.8	38.0	39.0	40.1	41.0	42.5	44.3
10. FTE employment rate (% population aged 15-64)	46.8	47.2	47.1	47.7	48.4	49.2	49.9	49.4	49.2	49.3	49.2
11. Self-employed (% total employment)	10.2	10.3	10.3	10.3	10.2	10.1	10.0	9.8	9.9	9.8	9.9
12. Part-time employment (% total employment)	33.3	33.9	35.1	36.2	36.6	36.7	36.6	37.0	37.4	37.6	38.2
13. Fixed term contracts (% total employees)	14.3	14.2	14.5	15.1	15.8	15.8	15.5	14.9	14.8	14.9	14.5
14. Employment in Services (% total employment)	84.8	85.3	85.8	86.2	86.6	86.7	87.1	87.8	88.2	88.3	88.4
15. Employment in Industry (% total employment)	12.5	12.1	11.7	11.4	11.1	11.0	10.6	10.0	9.7	9.7	9.6
16. Employment in Agriculture (% total employment)	2.7	2.6	2.5	2.4	2.3	2.3	2.3	2.2	2.1	2.0	2.0
17. Activity rate (% population aged 15-64)	61.0	61.7	62.7	63.3	64.1	64.6	65.2	65.6	65.8	66.2	67.0
18. Activity rate (% population aged 15-24)	44.3	44.0	44.2	44.4	44.6	44.8	45.0	44.4	43.4	43.4	43.1
19. Activity rate (% population aged 25-54)	73.1	74.0	75.2	75.5	76.3	76.7	77.4	77.9	78.2	78.5	79.1
20. Activity rate (% population aged 55-64)	32.8	34.4	35.6	37.9	39.3	40.4	41.2	42.6	43.6	45.3	47.4
21. Total unemployment (000)	6 782	7 163	7 435	7 453	7 228	6 668	6 649	7 868	8 333	8 571	9 470
22. Unemployment rate (% labour force)	8.7	9.0	9.2	9.1	8.7	7.9	7.8	9.1	9.6	9.8	10.7
23. Youth unemployment rate (% labour force 15-24)	14.9	16.0	16.9	17.2	16.6	15.6	15.5	18.5	19.4	19.9	21.4
24. Long term unemployment rate (% labour force)	3.6	3.8	4.0	3.8	3.6	3.2	2.8	3.2	3.8	4.1	4.7
25. Youth unemployment ratio (% population aged 15-24)	6.8	6.9	7.2	7.5	7.3	6.8	6.8	8.1	8.3	8.6	9.2

Source: Eurostat.

Indicator 21: 2005 Estimate.

Labour market indicators: Belgium

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	10310	10356	10396	10477	10546	10614	10708	10796	10892	10989	11063
2. Population aged 15-64	6758	6791	6818	6876	6941	7008	7073	7126	7177	7220	7242
3. Total employment (000)	4164	4161	4204	4264	4311	4383	4461	4453	4483	4545	4553
4. Population in employment aged 15-64	4047	4047	4114	4199	4233	4348	4414	4389	4451	4471	4479
5. Employment rate (% population aged 20-64)	65.0	64.7	65.6	66.5	66.5	67.7	68.0	67.1	67.6	67.3	67.2
6. Employment rate (% population aged 15-64)	59.9	59.6	60.3	61.1	61.0	62.0	62.4	61.6	62.0	61.9	61.8
7. Employment rate (% population aged 15-24)	29.4	27.4	27.8	27.5	27.6	27.5	27.4	25.3	25.2	26.0	25.3
8. Employment rate (% population aged 25-54)	76.5	76.5	77.3	78.3	78.4	79.7	80.5	79.8	80.0	79.3	79.3
9. Employment rate (% population aged 55-64)	26.6	28.1	30.0	31.8	32.0	34.4	34.5	35.3	37.3	38.7	39.5
10. FTE employment rate (% population aged 15-64)	55.4	54.7	55.8	56.2	56.5	57.6	57.8	56.9	57.3	56.7	56.6
11. Self-employed (% total employment)	16.5	16.6	16.5	16.3	16.2	16.1	16.0	16.2	16.2	16.2	16.3
12. Part-time employment (% total employment)	19.1	20.5	21.4	22.0	22.2	22.1	22.6	23.4	24.0	25.1	25.1
13. Fixed term contracts (% total employees)	8.1	8.4	8.7	8.9	8.7	8.6	8.3	8.2	8.1	9.0	8.1
14. Employment in Services (% total employment)	76.0	76.5	77.1	77.5	77.6	77.9	78.1	78.7	79.3	79.6	79.8
15. Employment in Industry (% total employment)	22.2	21.6	21.1	20.7	20.7	20.5	20.3	19.8	19.3	19.1	18.9
16. Employment in Agriculture (% total employment)	1.8	1.8	1.8	1.8	1.7	1.6	1.6	1.5	1.4	1.3	1.3
17. Activity rate (% population aged 15-64)	64.8	64.9	65.9	66.7	66.5	67.1	67.1	66.9	67.7	66.7	66.9
18. Activity rate (% population aged 15-24)	35.7	35.0	35.3	35.0	34.7	33.9	33.4	32.4	32.5	32.0	31.5
19. Activity rate (% population aged 25-54)	81.9	82.3	83.4	84.6	84.5	85.3	85.7	85.6	86.3	84.7	85.0
20. Activity rate (% population aged 55-64)	27.7	28.9	31.2	33.3	33.6	35.9	36.1	37.2	39.2	40.3	41.4
21. Total unemployment (000)	331	362	379	390	383	353	333	380	406	347	369
22. Unemployment rate (% labour force)	7.5	8.2	8.4	8.5	8.3	7.5	7.0	7.9	8.3	7.2	7.6
23. Youth unemployment rate (% labour force 15-24)	17.7	21.8	21.2	21.5	20.5	18.8	18.0	21.9	22.4	18.7	19.8
24. Long term unemployment rate (% labour force)	3.7	3.7	4.1	4.4	4.2	3.8	3.3	3.5	4.1	3.5	3.4
25. Youth unemployment ratio (% population aged 15-24)	6.3	7.6	7.5	7.5	7.1	6.4	6.0	7.1	7.3	6.0	6.2

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5042	5067	5086	5127	5162	5197	5246	5291	5340	5390	5429
2. Population aged 15-64	3403	3420	3443	3459	3491	3524	3557	3582	3607	3628	3639
3. Total employment (000)	2393	2369	2391	2403	2418	2445	2469	2447	2455	2481	2482
4. Population in employment aged 15-64	2323	2300	2337	2361	2371	2421	2439	2406	2433	2435	2433
5. Employment rate (% population aged 20-64)	74.0	73.1	73.8	74.3	74.0	75.0	74.7	73.2	73.5	73.0	72.7
6. Employment rate (% population aged 15-64)	68.3	67.3	67.9	68.3	67.9	68.7	68.6	67.2	67.4	67.1	66.9
7. Employment rate (% population aged 15-24)	32.2	29.9	30.1	29.7	30.4	29.9	29.7	27.4	27.3	27.7	27.8
8. Employment rate (% population aged 25-54)	86.1	85.0	85.8	86.1	85.9	87.0	87.0	85.7	85.5	84.9	84.5
9. Employment rate (% population aged 55-64)	36.0	37.8	39.1	41.7	40.9	42.9	42.8	42.9	45.6	46.0	46.0
10. FTE employment rate (% population aged 15-64)	67.6	66.7	67.6	67.4	67.7	68.5	68.2	66.7	67.0	66.2	65.9
11. Self-employed (% total employment)	18.5	18.5	18.9	18.7	19.0	18.9	19.2	19.3	19.5	19.8	19.9
12. Part-time employment (% total employment)	5.6	6.4	6.8	7.6	7.4	7.5	7.9	8.6	9.0	9.8	9.7
13. Fixed term contracts (% total employees)	5.8	6.2	6.4	6.8	6.9	6.8	6.6	6.5	6.8	7.7	7.1
14. Employment in Services (% total employment)	66.1	66.8	67.1	67.7	67.2	67.8	67.3	68.1	69.1	69.2	69.3
15. Employment in Industry (% total employment)	31.6	30.9	30.6	30.1	30.6	30.1	30.7	30.0	29.0	29.1	28.9
16. Employment in Agriculture (% total employment)	2.3	2.3	2.3	2.2	2.2	2.0	2.0	2.0	1.9	1.7	1.8
17. Activity rate (% population aged 15-64)	73.2	72.9	73.4	73.9	73.4	73.6	73.3	72.8	73.4	72.3	72.5
18. Activity rate (% population aged 15-24)	38.9	38.4	37.7	37.6	37.4	36.1	36.0	34.9	35.2	34.1	35.0
19. Activity rate (% population aged 25-54)	91.3	90.9	91.8	92.2	91.9	92.5	92.3	91.8	92.2	90.7	90.7
20. Activity rate (% population aged 55-64)	37.5	38.9	40.4	43.4	42.7	44.4	44.4	45.2	47.6	47.8	47.9
21. Total unemployment (000)	167	192	191	196	191	174	170	204	217	188	204
22. Unemployment rate (% labour force)	6.7	7.7	7.5	7.6	7.4	6.7	6.5	7.8	8.1	7.1	7.7
23. Youth unemployment rate (% labour force 15-24)	17.2	22.2	20.2	21.0	18.8	17.1	17.3	21.5	22.4	18.7	20.4
24. Long term unemployment rate (% labour force)	3.2	3.4	3.7	3.9	3.7	3.3	3.0	3.4	4.0	3.4	3.5
25. Youth unemployment ratio (% population aged 15-24)	6.7	8.5	7.6	7.9	7.0	6.2	6.2	7.5	7.9	6.4	7.1

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5267	5289	5310	5350	5384	5417	5462	5505	5553	5600	5635
2. Population aged 15-64	3355	3371	3375	3417	3450	3484	3517	3543	3570	3592	3603
3. Total employment (000)	1771	1793	1813	1861	1893	1938	1992	2006	2029	2064	2071
4. Population in employment aged 15-64	1724	1746	1777	1838	1862	1927	1975	1984	2018	2036	2046
5. Employment rate (% population aged 20-64)	55.8	56.2	57.2	58.6	58.8	60.3	61.3	61.0	61.6	61.5	61.7
6. Employment rate (% population aged 15-64)	51.4	51.8	52.6	53.8	54.0	55.3	56.2	56.0	56.5	56.7	56.8
7. Employment rate (% population aged 15-24)	26.5	24.7	25.4	25.2	24.7	25.0	25.0	23.2	23.1	24.2	22.6
8. Employment rate (% population aged 25-54)	66.8	67.8	68.5	70.4	70.7	72.3	73.8	73.8	74.4	73.8	73.9
9. Employment rate (% population aged 55-64)	17.5	18.7	21.1	22.1	23.2	26.0	26.3	27.7	29.2	31.6	33.1
10. FTE employment rate (% population aged 15-64)	43.2	42.9	44.4	45.2	45.6	47.1	47.6	47.4	47.9	47.7	47.7
11. Self-employed (% total employment)	13.9	14.0	13.2	13.1	12.7	12.5	12.1	12.3	12.2	11.9	11.9
12. Part-time employment (% total employment)	37.4	39.1	40.5	40.5	41.1	40.6	40.9	41.5	42.3	43.4	43.6
13. Fixed term contracts (% total employees)	11.2	11.1	11.7	11.4	10.9	10.8	10.2	10.2	9.6	10.3	9.3
14. Employment in Services (% total employment)	88.8	88.9	89.6	89.5	90.2	89.9	90.8	91.0	91.0	91.4	91.9
15. Employment in Industry (% total employment)	10.0	9.8	9.2	9.3	8.7	9.0	8.2	8.0	8.1	7.7	7.4
16. Employment in Agriculture (% total employment)	1.3	1.2	1.2	1.2	1.1	1.1	1.0	1.0	0.9	0.9	0.8
17. Activity rate (% population aged 15-64)	56.3	56.9	58.2	59.5	59.5	60.4	60.8	60.9	61.8	61.1	61.3
18. Activity rate (% population aged 15-24)	32.4	31.4	32.8	32.3	31.9	31.6	30.8	29.9	29.8	29.8	27.9
19. Activity rate (% population aged 25-54)	72.4	73.6	74.8	76.8	77.0	78.0	79.0	79.2	80.4	78.7	79.1
20. Activity rate (% population aged 55-64)	18.2	19.2	22.1	23.4	24.6	27.5	27.9	29.3	30.9	33.0	34.9
21. Total unemployment (000)	164	170	188	194	192	179	163	176	189	158	165
22. Unemployment rate (% labour force)	8.6	8.9	9.5	9.5	9.3	8.5	7.6	8.1	8.5	7.2	7.4
23. Youth unemployment rate (% labour force 15-24)	18.3	21.3	22.4	22.1	22.6	20.9	18.7	22.5	22.4	18.7	18.9
24. Long term unemployment rate (% labour force)	4.3	4.2	4.7	5.0	4.9	4.3	3.7	3.6	4.1	3.6	3.2
25. Youth unemployment ratio (% population aged 15-24)	5.9	6.7	7.3	7.1	7.2	6.6	5.8	6.7	6.7	5.6	5.3

Source: Eurostat.

Labour market indicators: Bulgaria

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	7877	7821	7786	7747	7706	7673	7640	7607	7564	7333	7278
2. Population aged 15-64	5357	5308	5306	5283	5238	5198	5169	5122	5046	5010	4924
3. Total employment (000)	3222	3317	3403	3495	3612	3727	3825	3725	3551	3431	3282
4. Population in employment aged 15-64	2709	2785	2877	2947	3072	3209	3306	3205	3010	2928	2895
5. Employment rate (% population aged 20-64)	55.8	58.0	60.1	61.9	65.1	68.4	70.7	68.8	65.4	62.9	63.0
6. Employment rate (% population aged 15-64)	50.6	52.5	54.2	55.8	58.6	61.7	64.0	62.6	59.7	58.4	58.8
7. Employment rate (% population aged 15-24)	19.4	20.7	21.5	21.6	23.2	24.5	26.3	24.8	22.2	22.1	21.9
8. Employment rate (% population aged 25-54)	67.6	69.2	71.2	73.0	75.7	79.4	81.3	79.2	75.7	73.3	73.1
9. Employment rate (% population aged 55-64)	27.0	30.0	32.5	34.7	39.6	42.6	46.0	46.1	43.5	44.6	45.7
10. FTE employment rate (% population aged 15-64)	50.6	52.5	54.5	55.3	58.2	61.4	63.5	61.9	59.0	57.8	58.1
11. Self-employed (% total employment)	29.2	28.7	28.5	27.8	27.2	26.5	26.4	26.9	27.5	27.3	27.3
12. Part-time employment (% total employment)	2.5	2.3	2.4	2.1	2.0	1.7	2.3	2.3	2.4	2.4	2.4
13. Fixed term contracts (% total employees)	5.3	6.5	7.4	6.4	6.2	5.2	5.0	4.7	4.5	4.1	4.5
14. Employment in Services (% total employment)	48.7	50.1	50.9	51.4	51.4	51.4	51.2	52.3	53.8	54.2	54.8
15. Employment in Industry (% total employment)	27.5	27.0	27.0	27.4	28.3	29.2	29.5	28.0	26.4	25.9	25.7
16. Employment in Agriculture (% total employment)	23.7	22.9	22.1	21.2	20.3	19.4	19.3	19.6	19.8	19.9	19.4
17. Activity rate (% population aged 15-64)	61.9	60.9	61.8	62.1	64.5	66.3	67.8	67.2	66.5	65.9	67.1
18. Activity rate (% population aged 15-24)	30.9	28.8	28.9	27.9	28.9	28.9	30.1	29.5	28.9	29.5	30.4
19. Activity rate (% population aged 25-54)	80.7	79.1	79.9	80.2	82.3	84.5	85.5	84.3	83.4	81.9	82.3
20. Activity rate (% population aged 55-64)	31.8	33.9	36.2	38.0	43.0	45.7	48.7	49.2	47.9	48.9	51.1
21. Total unemployment (000)	614	453	404	338	309	242	202	240	352	376	410
22. Unemployment rate (% labour force)	18.2	13.7	12.1	10.1	9.0	6.9	5.6	6.8	10.3	11.3	12.3
23. Youth unemployment rate (% labour force 15-24)	35.2	26.6	24.3	21.0	18.3	14.1	11.9	15.1	21.8	25.0	28.1
24. Long term unemployment rate (% labour force)	12.0	9.0	7.2	6.1	5.0	4.1	2.9	3.0	4.8	6.3	6.8
25. Youth unemployment ratio (% population aged 15-24)	11.5	8.1	7.5	6.2	5.6	4.4	3.8	4.8	6.7	7.4	8.5

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	3820	3792	3775	3754	3731	3714	3700	3681	3659	3567	3538
2. Population aged 15-64	2643	2616	2623	2614	2590	2578	2562	2540	2508	2517	2476
3. Total employment (000)	1693	1756	1805	1866	1920	1984	2041	1983	1871	1813	1725
4. Population in employment aged 15-64	1418	1466	1520	1569	1626	1701	1756	1699	1579	1541	1517
5. Employment rate (% population aged 20-64)	59.4	62.2	64.4	66.8	69.9	73.4	76.1	73.8	69.1	66.0	65.8
6. Employment rate (% population aged 15-64)	53.7	56.0	57.9	60.0	62.8	66.0	68.5	66.9	63.0	61.2	61.3
7. Employment rate (% population aged 15-24)	20.5	21.7	23.2	23.9	25.4	27.1	29.3	28.0	25.4	25.1	24.9
8. Employment rate (% population aged 25-54)	69.0	71.4	73.5	75.7	78.6	82.5	84.7	82.7	77.9	74.7	74.3
9. Employment rate (% population aged 55-64)	37.0	40.5	42.2	45.5	49.5	51.8	55.8	54.1	50.3	50.5	50.8
10. FTE employment rate (% population aged 15-64)	53.9	56.3	58.3	59.6	62.5	65.7	68.2	66.3	62.3	60.6	60.7
11. Self-employed (% total employment)	34.9	34.7	34.4	32.9	32.8	32.1	31.2	31.9	32.2	32.8	33.2
12. Part-time employment (% total employment)	2.1	1.9	2.1	1.7	1.5	1.3	2.0	2.0	2.2	2.1	2.2
13. Fixed term contracts (% total employees)	5.9	7.0	7.7	6.7	6.3	5.0	5.6	5.2	5.0	4.5	4.9
14. Employment in Services (% total employment)	42.2	43.6	44.3	44.5	43.7	43.4	43.0	43.5	44.8	45.3	46.4
15. Employment in Industry (% total employment)	29.3	29.3	29.6	30.5	32.2	33.4	34.4	33.2	31.8	30.5	29.3
16. Employment in Agriculture (% total employment)	28.5	27.1	26.1	25.0	24.1	23.1	22.6	23.3	23.5	24.3	24.4
17. Activity rate (% population aged 15-64)	66.4	65.4	66.4	67.0	68.8	70.6	72.5	72.0	70.8	69.9	71.0
18. Activity rate (% population aged 15-24)	34.2	31.5	31.8	31.1	31.3	31.7	34.0	34.0	33.5	33.9	35.3
19. Activity rate (% population aged 25-54)	83.0	81.8	82.9	83.3	85.1	87.5	88.8	88.0	86.3	84.5	84.8
20. Activity rate (% population aged 55-64)	43.7	45.6	47.2	49.9	53.6	55.3	58.7	57.4	55.7	55.8	57.3
21. Total unemployment (000)	341	249	225	185	159	123	105	132	199	219	241
22. Unemployment rate (% labour force)	18.8	14.0	12.5	10.3	8.6	6.5	5.5	6.9	10.8	12.3	13.5
23. Youth unemployment rate (% labour force 15-24)	38.3	29.4	25.5	22.0	17.7	13.5	12.8	16.7	22.8	26.0	29.5
24. Long term unemployment rate (% labour force)	12.4	9.2	7.2	6.0	4.7	3.7	2.7	2.8	5.0	7.0	7.7
25. Youth unemployment ratio (% population aged 15-24)	13.8	9.8	8.6	7.3	5.9	4.6	4.7	6.0	8.1	8.8	10.4

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	4057	4030	4010	3993	3975	3958	3941	3925	3904	3767	3740
2. Population aged 15-64	2714	2692	2683	2669	2647	2621	2607	2582	2538	2493	2448
3. Total employment (000)	1529	1561	1598	1629	1692	1743	1785	1742	1680	1618	1557
4. Population in employment aged 15-64	1290	1319	1357	1378	1446	1508	1551	1506	1431	1386	1378
5. Employment rate (% population aged 20-64)	52.3	54.0	56.0	57.1	60.4	63.5	65.4	64.0	61.7	59.8	60.2
6. Employment rate (% population aged 15-64)	47.5	49.0	50.6	51.7	54.6	57.6	59.5	58.3	56.4	55.6	56.3
7. Employment rate (% population aged 15-24)	18.4	19.6	19.6	19.4	21.0	21.8	23.1	21.4	18.9	19.0	18.7
8. Employment rate (% population aged 25-54)	66.1	67.1	68.8	70.3	72.8	76.2	77.9	75.8	73.6	71.9	71.8
9. Employment rate (% population aged 55-64)	18.2	21.0	24.2	25.5	31.1	34.5	37.7	39.2	37.7	39.4	41.3
10. FTE employment rate (% population aged 15-64)	47.5	48.8	50.8	51.1	54.0	57.1	58.9	57.7	55.8	54.9	55.6
11. Self-employed (% total employment)	22.9	22.0	21.9	21.9	20.8	20.0	20.9	21.2	22.3	21.2	20.8
12. Part-time employment (% total employment)	3.0	2.6	2.7	2.5	2.5	2.1	2.7	2.7	2.6	2.6	2.7
13. Fixed term contracts (% total employees)	4.7	6.0	7.0	6.2	6.1	5.5	4.4	4.2	4.0	3.7	4.0
14. Employment in Services (% total employment)	56.5	57.9	58.7	59.6	60.5	61.0	61.0	62.9	64.3	64.9	65.0
15. Employment in Industry (% total employment)	25.4	24.3	23.9	23.7	23.7	24.0	23.7	21.9	20.1	20.5	21.5
16. Employment in Agriculture (% total employment)	18.1	17.8	17.4	16.7	15.8	15.0	15.3	15.2	15.6	14.7	13.5
17. Activity rate (% population aged 15-64)	57.5	56.5	57.2	57.3	60.2	62.1	63.1	62.5	62.3	61.9	63.2
18. Activity rate (% population aged 15-24)	27.6	26.1	25.9	24.5	26.4	26.0	26.1	24.8	24.2	24.8	25.3
19. Activity rate (% population aged 25-54)	78.4	76.4	76.8	77.2	79.4	81.4	82.1	80.6	80.5	79.3	79.8
20. Activity rate (% population aged 55-64)	21.5	23.8	26.8	27.8	33.9	37.2	40.2	42.1	41.3	42.8	45.5
21. Total unemployment (000)	273	204	178	152	150	120	96	108	152	157	169
22. Unemployment rate (% labour force)	17.4	13.4	11.6	10.0	9.4	7.4	5.8	6.7	9.6	10.1	10.8
23. Youth unemployment rate (% labour force 15-24)	31.4	23.3	22.8	19.7	18.9	14.8	10.5	12.8	20.3	23.6	26.0
24. Long term unemployment rate (% labour force)	11.5	8.7	7.1	6.1	5.3	4.5	3.1	3.1	4.5	5.5	5.7
25. Youth unemployment ratio (% population aged 15-24)	9.3	6.5	6.3	5.2	5.3	4.1	3.0	3.4	5.3	5.9	6.6

Source: Eurostat.

LFS indicators: Break in series 2011

Labour market indicators: Czech Republic

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	10171	10179	10196	10229	10265	10320	10422	10499	10522	10546	10515
2. Population aged 15-64	7149	7182	7231	7270	7307	7347	7410	7431	7400	7345	7229
3. Total employment (000)	4869	4830	4815	4915	4981	5086	5204	5111	5059	5057	5078
4. Population in employment aged 15-64	4677	4647	4639	4710	4769	4856	4934	4857	4810	4828	4810
5. Employment rate (% population aged 20-64)	71.6	70.7	70.1	70.7	71.2	72.0	72.4	70.9	70.4	70.9	71.5
6. Employment rate (% population aged 15-64)	65.4	64.7	64.2	64.8	65.3	66.1	66.6	65.4	65.0	65.7	66.5
7. Employment rate (% population aged 15-24)	32.2	30.0	27.8	27.5	27.7	28.5	28.1	26.5	25.2	24.7	25.2
8. Employment rate (% population aged 25-54)	82.5	81.7	81.4	82.0	82.5	83.5	83.8	82.5	82.2	82.8	82.9
9. Employment rate (% population aged 55-64)	40.8	42.3	42.7	44.5	45.2	46.0	47.6	46.8	46.5	47.6	49.3
10. FTE employment rate (% population aged 15-64)	64.7	64.1	63.3	64.0	64.4	65.1	65.6	64.2	63.8	64.6	65.3
11. Self-employed (% total employment)	16.7	17.9	17.5	16.6	16.7	16.6	16.4	17.0	17.5	17.5	17.9
12. Part-time employment (% total employment)	4.9	5.0	4.9	4.9	5.0	5.0	4.9	5.5	5.9	5.5	5.8
13. Fixed term contracts (% total employees)	8.1	9.2	9.1	8.6	8.7	8.6	8.0	8.5	8.9	8.5	8.8
14. Employment in Services (% total employment)	57.2	57.8	57.2	57.5	58.0	58.4	58.6	60.1	60.8	60.2	60.6
15. Employment in Industry (% total employment)	38.7	38.2	38.7	38.8	38.3	38.2	38.0	36.6	36.0	36.4	36.1
16. Employment in Agriculture (% total employment)	4.1	4.0	4.1	3.8	3.7	3.4	3.4	3.3	3.2	3.3	3.3
17. Activity rate (% population aged 15-64)	70.6	70.2	70.0	70.4	70.3	69.9	69.7	70.1	70.2	70.5	71.6
18. Activity rate (% population aged 15-24)	38.7	36.8	35.2	34.0	33.5	31.9	31.1	31.8	30.9	30.1	31.3
19. Activity rate (% population aged 25-54)	88.2	87.8	87.8	88.3	88.2	87.8	87.3	87.7	87.8	88.0	88.4
20. Activity rate (% population aged 55-64)	42.4	44.2	45.1	46.9	47.7	48.2	49.5	49.6	49.7	50.6	52.4
21. Total unemployment (000)	374	399	426	410	371	276	230	352	384	351	367
22. Unemployment rate (% labour force)	7.3	7.8	8.3	7.9	7.1	5.3	4.4	6.7	7.3	6.7	7.0
23. Youth unemployment rate (% labour force 15-24)	16.0	17.6	20.4	19.3	17.5	10.7	9.9	16.6	18.3	18.1	19.5
24. Long term unemployment rate (% labour force)	3.7	3.8	4.2	4.2	3.9	2.8	2.2	2.0	3.0	2.7	3.0
25. Youth unemployment ratio (% population aged 15-24)	6.5	6.8	7.4	6.5	5.9	3.4	3.1	5.3	5.7	5.4	6.1

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	4934	4941	4959	4987	5012	5045	5107	5156	5166	5174	5163
2. Population aged 15-64	3563	3582	3616	3646	3671	3696	3739	3760	3744	3714	3660
3. Total employment (000)	2744	2727	2717	2792	2829	2900	2978	2925	2898	2882	2885
4. Population in employment aged 15-64	2632	2619	2615	2671	2704	2764	2820	2777	2753	2750	2732
5. Employment rate (% population aged 20-64)	80.9	80.1	79.2	80.1	80.4	81.5	82.0	80.2	79.6	79.9	80.2
6. Employment rate (% population aged 15-64)	73.9	73.1	72.3	73.3	73.7	74.8	75.4	73.8	73.5	74.0	74.6
7. Employment rate (% population aged 15-24)	35.3	32.3	30.1	31.3	31.5	32.8	32.4	31.1	29.6	29.2	29.2
8. Employment rate (% population aged 25-54)	90.2	89.7	89.2	89.8	90.4	91.7	92.1	90.5	90.5	90.9	90.9
9. Employment rate (% population aged 55-64)	57.2	57.5	57.2	59.3	59.5	59.6	61.9	59.6	58.4	58.9	60.3
10. FTE employment rate (% population aged 15-64)	73.9	73.2	72.1	73.2	73.5	74.5	75.2	73.5	73.2	73.8	74.3
11. Self-employed (% total employment)	21.1	22.5	22.3	21.0	20.8	21.0	20.6	21.0	21.6	21.3	21.6
12. Part-time employment (% total employment)	2.2	2.3	2.3	2.1	2.2	2.3	2.2	2.8	2.9	2.5	2.9
13. Fixed term contracts (% total employees)	7.0	7.9	7.8	7.6	7.5	7.3	6.5	7.0	7.5	7.2	7.4
14. Employment in Services (% total employment)	46.5	47.1	46.4	46.7	47.5	47.5	47.6	48.6	48.9	48.5	48.6
15. Employment in Industry (% total employment)	48.4	48.0	48.6	48.7	48.1	48.3	48.2	47.3	46.9	47.2	47.2
16. Employment in Agriculture (% total employment)	5.0	4.9	5.0	4.6	4.4	4.2	4.1	4.1	4.1	4.3	4.2
17. Activity rate (% population aged 15-64)	78.6	78.0	77.9	78.4	78.3	78.1	78.1	78.5	78.6	78.7	79.5
18. Activity rate (% population aged 15-24)	42.3	39.6	38.7	38.9	37.7	36.7	35.9	37.3	36.2	35.6	36.4
19. Activity rate (% population aged 25-54)	94.8	94.4	94.6	94.8	94.8	95.0	94.8	95.1	95.5	95.3	95.5
20. Activity rate (% population aged 55-64)	59.3	59.9	60.2	62.1	62.7	62.5	64.2	63.2	62.5	62.6	64.0
21. Total unemployment (000)	169	174	201	187	169	124	103	175	191	171	178
22. Unemployment rate (% labour force)	5.9	6.1	7.0	6.5	5.8	4.2	3.5	5.9	6.4	5.8	6.0
23. Youth unemployment rate (% labour force 15-24)	15.1	16.6	21.1	19.4	16.6	10.6	9.8	16.6	18.2	18.2	19.9
24. Long term unemployment rate (% labour force)	2.9	2.8	3.4	3.4	3.1	2.1	1.7	1.6	2.6	2.4	2.6
25. Youth unemployment ratio (% population aged 15-24)	7.0	7.3	8.6	7.5	6.3	3.9	3.5	6.2	6.6	6.4	7.2

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5238	5238	5237	5242	5252	5275	5315	5343	5356	5372	5351
2. Population aged 15-64	3586	3601	3615	3624	3636	3651	3671	3671	3656	3631	3569
3. Total employment (000)	2125	2103	2098	2124	2152	2187	2225	2186	2161	2176	2192
4. Population in employment aged 15-64	2045	2028	2024	2039	2065	2092	2114	2081	2057	2078	2079
5. Employment rate (% population aged 20-64)	62.3	61.4	61.1	61.3	61.8	62.4	62.5	61.4	60.9	61.7	62.5
6. Employment rate (% population aged 15-64)	57.0	56.3	56.0	56.3	56.8	57.3	57.6	56.7	56.3	57.2	58.2
7. Employment rate (% population aged 15-24)	29.2	27.6	25.4	23.4	23.7	23.9	23.5	21.7	20.6	19.9	21.0
8. Employment rate (% population aged 25-54)	74.7	73.5	73.4	74.0	74.5	74.9	75.2	74.1	73.4	74.3	74.6
9. Employment rate (% population aged 55-64)	25.9	28.4	29.4	30.9	32.1	33.5	34.4	35.0	35.5	37.2	39.0
10. FTE employment rate (% population aged 15-64)	55.6	55.1	54.6	54.8	55.2	55.5	55.8	54.8	54.2	55.3	56.2
11. Self-employed (% total employment)	11.1	11.9	11.3	10.8	11.2	10.8	10.8	11.5	12.0	12.5	13.1
12. Part-time employment (% total employment)	8.3	8.5	8.3	8.6	8.7	8.5	8.5	9.2	9.9	9.4	9.5
13. Fixed term contracts (% total employees)	9.3	10.7	10.7	9.8	10.1	10.2	9.8	10.2	10.6	10.1	10.5
14. Employment in Services (% total employment)	70.7	71.5	71.1	71.5	71.7	72.5	72.8	75.1	76.3	75.5	76.1
15. Employment in Industry (% total employment)	26.4	25.7	26.0	25.9	25.6	25.2	24.7	22.5	21.8	22.4	21.8
16. Employment in Agriculture (% total employment)	2.9	2.8	2.9	2.7	2.7	2.4	2.4	2.3	2.0	2.1	2.1
17. Activity rate (% population aged 15-64)	62.7	62.5	62.2	62.4	62.3	61.5	61.0	61.5	61.5	62.2	63.5
18. Activity rate (% population aged 15-24)	35.2	34.0	31.5	28.9	29.2	26.9	26.1	26.1	25.3	24.2	25.9
19. Activity rate (% population aged 25-54)	81.5	81.0	80.9	81.6	81.3	80.3	79.6	79.9	79.8	80.4	80.9
20. Activity rate (% population aged 55-64)	27.2	30.0	31.3	32.9	34.0	35.2	36.1	37.2	38.0	39.4	41.5
21. Total unemployment (000)	205	224	225	223	202	153	127	177	193	180	189
22. Unemployment rate (% labour force)	9.0	9.9	9.9	9.8	8.8	6.7	5.6	7.7	8.5	7.9	8.2
23. Youth unemployment rate (% labour force 15-24)	17.2	18.8	19.5	19.1	18.7	11.0	9.9	16.7	18.5	18.0	19.0
24. Long term unemployment rate (% labour force)	4.6	5.0	5.3	5.3	4.9	3.6	2.8	2.5	3.5	3.2	3.6
25. Youth unemployment ratio (% population aged 15-24)	6.1	6.4	6.1	5.5	5.4	2.9	2.6	4.4	4.7	4.3	4.9

Source: Eurostat.

LFS indicators: Break in series 2012.

Labour market indicators: Denmark

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	10171	10179	10196	10229	10265	10320	10422	10499	10522	10546	10515
2. Population aged 15-64	7149	7182	7231	7270	7307	7347	7410	7431	7400	7345	7229
3. Total employment (000)	4869	4830	4815	4915	4981	5086	5204	5111	5059	5057	5078
4. Population in employment aged 15-64	4677	4647	4639	4710	4769	4856	4934	4857	4810	4828	4810
5. Employment rate (% population aged 20-64)	71.6	70.7	70.1	70.7	71.2	72.0	72.4	70.9	70.4	70.9	71.5
6. Employment rate (% population aged 15-64)	65.4	64.7	64.2	64.8	65.3	66.1	66.6	65.4	65.0	65.7	66.5
7. Employment rate (% population aged 15-24)	32.2	30.0	27.8	27.5	27.7	28.5	28.1	26.5	25.2	24.7	25.2
8. Employment rate (% population aged 25-54)	82.5	81.7	81.4	82.0	82.5	83.5	83.8	82.5	82.2	82.8	82.9
9. Employment rate (% population aged 55-64)	40.8	42.3	42.7	44.5	45.2	46.0	47.6	46.8	46.5	47.6	49.3
10. FTE employment rate (% population aged 15-64)	64.7	64.1	63.3	64.0	64.4	65.1	65.6	64.2	63.8	64.6	65.3
11. Self-employed (% total employment)	16.7	17.9	17.5	16.6	16.7	16.6	16.4	17.0	17.5	17.5	17.9
12. Part-time employment (% total employment)	4.9	5.0	4.9	4.9	5.0	5.0	4.9	5.5	5.9	5.5	5.8
13. Fixed term contracts (% total employees)	8.1	9.2	9.1	8.6	8.7	8.6	8.0	8.5	8.9	8.5	8.8
14. Employment in Services (% total employment)	57.2	57.8	57.2	57.5	58.0	58.4	58.6	60.1	60.8	60.2	60.6
15. Employment in Industry (% total employment)	38.7	38.2	38.7	38.8	38.3	38.2	38.0	36.6	36.0	36.4	36.1
16. Employment in Agriculture (% total employment)	4.1	4.0	4.1	3.8	3.7	3.4	3.4	3.3	3.2	3.3	3.3
17. Activity rate (% population aged 15-64)	70.6	70.2	70.0	70.4	70.3	69.9	69.7	70.1	70.2	70.5	71.6
18. Activity rate (% population aged 15-24)	38.7	36.8	35.2	34.0	33.5	31.9	31.1	31.8	30.9	30.1	31.3
19. Activity rate (% population aged 25-54)	88.2	87.8	87.8	88.3	88.2	87.8	87.3	87.7	87.8	88.0	88.4
20. Activity rate (% population aged 55-64)	42.4	44.2	45.1	46.9	47.7	48.2	49.5	49.6	49.7	50.6	52.4
21. Total unemployment (000)	374	399	426	410	371	276	230	352	384	351	367
22. Unemployment rate (% labour force)	7.3	7.8	8.3	7.9	7.1	5.3	4.4	6.7	7.3	6.7	7.0
23. Youth unemployment rate (% labour force 15-24)	16.0	17.6	20.4	19.3	17.5	10.7	9.9	16.6	18.3	18.1	19.5
24. Long term unemployment rate (% labour force)	3.7	3.8	4.2	4.2	3.9	2.8	2.2	2.0	3.0	2.7	3.0
25. Youth unemployment ratio (% population aged 15-24)	6.5	6.8	7.4	6.5	5.9	3.4	3.1	5.3	5.7	5.4	6.1

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	4934	4941	4959	4987	5012	5045	5107	5156	5166	5174	5163
2. Population aged 15-64	3563	3582	3616	3646	3671	3696	3739	3760	3744	3714	3660
3. Total employment (000)	2744	2727	2717	2792	2829	2900	2978	2925	2898	2882	2885
4. Population in employment aged 15-64	2632	2619	2615	2671	2704	2764	2820	2777	2753	2750	2732
5. Employment rate (% population aged 20-64)	80.9	80.1	79.2	80.1	80.4	81.5	82.0	80.2	79.6	79.9	80.2
6. Employment rate (% population aged 15-64)	73.9	73.1	72.3	73.3	73.7	74.8	75.4	73.8	73.5	74.0	74.6
7. Employment rate (% population aged 15-24)	35.3	32.3	30.1	31.3	31.5	32.8	32.4	31.1	29.6	29.2	29.2
8. Employment rate (% population aged 25-54)	90.2	89.7	89.2	89.8	90.4	91.7	92.1	90.5	90.5	90.9	90.9
9. Employment rate (% population aged 55-64)	57.2	57.5	57.2	59.3	59.5	59.6	61.9	59.6	58.4	58.9	60.3
10. FTE employment rate (% population aged 15-64)	73.9	73.2	72.1	73.2	73.5	74.5	75.2	73.5	73.2	73.8	74.3
11. Self-employed (% total employment)	21.1	22.5	22.3	21.0	20.8	21.0	20.6	21.0	21.6	21.3	21.6
12. Part-time employment (% total employment)	2.2	2.3	2.3	2.1	2.2	2.3	2.2	2.8	2.9	2.5	2.9
13. Fixed term contracts (% total employees)	7.0	7.9	7.8	7.6	7.5	7.3	6.5	7.0	7.5	7.2	7.4
14. Employment in Services (% total employment)	46.5	47.1	46.4	46.7	47.5	47.5	47.6	48.6	48.9	48.5	48.6
15. Employment in Industry (% total employment)	48.4	48.0	48.6	48.7	48.1	48.3	48.2	47.3	46.9	47.2	47.2
16. Employment in Agriculture (% total employment)	5.0	4.9	5.0	4.6	4.4	4.2	4.1	4.1	4.1	4.3	4.2
17. Activity rate (% population aged 15-64)	78.6	78.0	77.9	78.4	78.3	78.1	78.1	78.5	78.6	78.7	79.5
18. Activity rate (% population aged 15-24)	42.3	39.6	38.7	38.9	37.7	36.7	35.9	37.3	36.2	35.6	36.4
19. Activity rate (% population aged 25-54)	94.8	94.4	94.6	94.8	94.8	95.0	94.8	95.1	95.5	95.3	95.5
20. Activity rate (% population aged 55-64)	59.3	59.9	60.2	62.1	62.7	62.5	64.2	63.2	62.5	62.6	64.0
21. Total unemployment (000)	169	174	201	187	169	124	103	175	191	171	178
22. Unemployment rate (% labour force)	5.9	6.1	7.0	6.5	5.8	4.2	3.5	5.9	6.4	5.8	6.0
23. Youth unemployment rate (% labour force 15-24)	15.1	16.6	21.1	19.4	16.6	10.6	9.8	16.6	18.2	18.2	19.9
24. Long term unemployment rate (% labour force)	2.9	2.8	3.4	3.4	3.1	2.1	1.7	1.6	2.6	2.4	2.6
25. Youth unemployment ratio (% population aged 15-24)	7.0	7.3	8.6	7.5	6.3	3.9	3.5	6.2	6.6	6.4	7.2

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5238	5238	5237	5242	5252	5275	5315	5343	5356	5372	5351
2. Population aged 15-64	3586	3601	3615	3624	3636	3651	3671	3671	3656	3631	3569
3. Total employment (000)	2125	2103	2098	2124	2152	2187	2225	2186	2161	2176	2192
4. Population in employment aged 15-64	2045	2028	2024	2039	2065	2092	2114	2081	2057	2078	2079
5. Employment rate (% population aged 20-64)	62.3	61.4	61.1	61.3	61.8	62.4	62.5	61.4	60.9	61.7	62.5
6. Employment rate (% population aged 15-64)	57.0	56.3	56.0	56.3	56.8	57.3	57.6	56.7	56.3	57.2	58.2
7. Employment rate (% population aged 15-24)	29.2	27.6	25.4	23.4	23.7	23.9	23.5	21.7	20.6	19.9	21.0
8. Employment rate (% population aged 25-54)	74.7	73.5	73.4	74.0	74.5	74.9	75.2	74.1	73.4	74.3	74.6
9. Employment rate (% population aged 55-64)	25.9	28.4	29.4	30.9	32.1	33.5	34.4	35.0	35.5	37.2	39.0
10. FTE employment rate (% population aged 15-64)	55.6	55.1	54.6	54.8	55.2	55.5	55.8	54.8	54.2	55.3	56.2
11. Self-employed (% total employment)	11.1	11.9	11.3	10.8	11.2	10.8	10.8	11.5	12.0	12.5	13.1
12. Part-time employment (% total employment)	8.3	8.5	8.3	8.6	8.7	8.5	8.5	9.2	9.9	9.4	9.5
13. Fixed term contracts (% total employees)	9.3	10.7	10.7	9.8	10.1	10.2	9.8	10.2	10.6	10.1	10.5
14. Employment in Services (% total employment)	70.7	71.5	71.1	71.5	71.7	72.5	72.8	75.1	76.3	75.5	76.1
15. Employment in Industry (% total employment)	26.4	25.7	26.0	25.9	25.6	25.2	24.7	22.5	21.8	22.4	21.8
16. Employment in Agriculture (% total employment)	2.9	2.8	2.9	2.7	2.7	2.4	2.4	2.3	2.0	2.1	2.1
17. Activity rate (% population aged 15-64)	62.7	62.5	62.2	62.4	62.3	61.5	61.0	61.5	61.5	62.2	63.5
18. Activity rate (% population aged 15-24)	35.2	34.0	31.5	28.9	29.2	26.9	26.1	26.1	25.3	24.2	25.9
19. Activity rate (% population aged 25-54)	81.5	81.0	80.9	81.6	81.3	80.3	79.6	79.9	79.8	80.4	80.9
20. Activity rate (% population aged 55-64)	27.2	30.0	31.3	32.9	34.0	35.2	36.1	37.2	38.0	39.4	41.5
21. Total unemployment (000)	205	224	225	223	202	153	127	177	193	180	189
22. Unemployment rate (% labour force)	9.0	9.9	9.9	9.8	8.8	6.7	5.6	7.7	8.5	7.9	8.2
23. Youth unemployment rate (% labour force 15-24)	17.2	18.8	19.5	19.1	18.7	11.0	9.9	16.7	18.5	18.0	19.0
24. Long term unemployment rate (% labour force)	4.6	5.0	5.3	5.3	4.9	3.6	2.8	2.5	3.5	3.2	3.6
25. Youth unemployment ratio (% population aged 15-24)	6.1	6.4	6.1	5.5	5.4	2.9	2.6	4.4	4.7	4.3	4.9

Source: Eurostat.

Labour market indicators: Germany

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	81558	81598	81589	81529	81489	81363	81265	80967	80760	80805	81002
2. Population aged 15-64	54852	54675	54450	54764	54543	54229	54066	53763	53546	53729	53870
3. Total employment (000)	39257	38918	39034	38976	39192	39857	40348	40370	40603	41164	41619
4. Population in employment aged 15-64	35883	35512	35413	35845	36633	37397	37902	37808	38073	38978	39238
5. Employment rate (% population aged 20-64)	68.8	68.4	68.8	69.4	71.1	72.9	74.0	74.2	74.9	76.3	76.7
6. Employment rate (% population aged 15-64)	65.4	65.0	65.0	65.5	67.2	69.0	70.1	70.3	71.1	72.5	72.8
7. Employment rate (% population aged 15-24)	45.7	44.2	41.9	41.9	43.5	45.4	46.6	46.0	46.2	47.9	46.6
8. Employment rate (% population aged 25-54)	78.7	77.9	78.1	77.4	78.8	80.3	80.9	80.8	81.5	82.8	83.2
9. Employment rate (% population aged 55-64)	38.9	39.9	41.8	45.5	48.1	51.3	53.7	56.1	57.7	59.9	61.5
10. FTE employment rate (% population aged 15-64)	58.1	57.5	56.6	57.1	58.0	59.5	60.7	60.9	61.6	62.6	63.0
11. Self-employed (% total employment)	10.3	10.6	10.9	11.3	11.4	11.3	11.1	11.1	11.1	11.0	10.9
12. Part-time employment (% total employment)	20.8	21.7	22.3	24.0	25.8	26.1	25.9	26.1	26.2	26.6	26.7
13. Fixed term contracts (% total employees)	12.0	12.2	12.4	14.2	14.5	14.6	14.7	14.5	14.7	14.7	13.8
14. Employment in Services (% total employment)	70.7	71.3	71.9	72.4	72.8	72.9	72.9	73.4	73.8	73.7	73.7
15. Employment in Industry (% total employment)	27.5	26.9	26.4	25.8	25.5	25.4	25.5	25.0	24.6	24.7	24.7
16. Employment in Agriculture (% total employment)	1.8	1.8	1.8	1.7	1.6	1.7	1.7	1.7	1.6	1.6	1.6
17. Activity rate (% population aged 15-64)	71.7	72.1	72.6	73.8	74.9	75.6	75.9	76.3	76.6	77.2	77.1
18. Activity rate (% population aged 15-24)	50.7	50.0	48.0	49.6	50.4	51.5	52.2	51.8	51.3	52.5	50.7
19. Activity rate (% population aged 25-54)	85.6	86.0	86.5	86.4	87.1	87.2	87.0	87.1	87.3	87.7	87.7
20. Activity rate (% population aged 55-64)	43.9	45.5	47.8	52.1	54.9	57.2	58.7	61.0	62.5	64.0	65.4
21. Total unemployment (000)	3462	3916	4251	4653	4245	3601	3136	3228	2946	2501	2316
22. Unemployment rate (% labour force)	8.7	9.8	10.5	11.3	10.3	8.7	7.5	7.8	7.1	5.9	5.5
23. Youth unemployment rate (% labour force 15-24)	9.9	11.6	13.8	15.6	13.8	11.9	10.6	11.2	9.9	8.6	8.1
24. Long term unemployment rate (% labour force)	4.2	4.9	5.9	6.0	5.8	4.9	4.0	3.5	3.4	2.8	2.5
25. Youth unemployment ratio (% population aged 15-24)	5.0	5.8	6.0	7.7	6.9	6.1	5.5	5.8	5.1	4.5	4.1

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	39877	39931	39947	39938	39952	39904	39857	39738	39645	39716	39881
2. Population aged 15-64	27642	27549	27451	27558	27482	27297	27213	27055	26943	27057	27160
3. Total employment (000)	21741	21447	21480	21399	21441	21765	22019	21844	21898	22172	22448
4. Population in employment aged 15-64	19845	19540	19434	19636	20000	20378	20631	20401	20481	20926	21088
5. Employment rate (% population aged 20-64)	75.6	74.7	74.9	75.6	77.2	79.1	80.1	79.6	80.1	81.4	81.8
6. Employment rate (% population aged 15-64)	71.8	70.9	70.8	71.3	72.8	74.7	75.8	75.4	76.0	77.3	77.6
7. Employment rate (% population aged 15-24)	46.9	45.4	43.6	43.6	45.3	47.2	48.7	47.5	47.9	49.7	48.6
8. Employment rate (% population aged 25-54)	85.6	84.3	83.9	83.7	84.8	86.4	87.1	86.1	86.5	87.7	88.1
9. Employment rate (% population aged 55-64)	47.3	48.2	50.7	53.6	56.1	59.4	61.7	63.8	65.0	67.0	68.5
10. FTE employment rate (% population aged 15-64)	69.9	68.9	67.8	68.7	69.6	71.4	72.6	72.1	72.7	73.8	74.0
11. Self-employed (% total employment)	12.5	12.9	13.3	13.5	13.6	13.4	13.3	13.6	13.6	13.6	13.5
12. Part-time employment (% total employment)	5.8	6.1	6.5	7.8	9.3	9.4	9.3	9.6	9.7	10.3	10.5
13. Fixed term contracts (% total employees)	11.8	12.1	12.7	14.4	14.7	14.7	14.7	14.4	14.5	14.6	13.9
14. Employment in Services (% total employment)	59.1	59.8	60.4	61.3	61.8	61.6	61.3	61.7	62.2	62.0	62.0
15. Employment in Industry (% total employment)	38.7	38.0	37.3	36.5	36.1	36.3	36.6	36.2	35.8	35.9	36.0
16. Employment in Agriculture (% total employment)	2.2	2.2	2.2	2.2	2.1	2.1	2.1	2.1	2.1	2.1	2.1
17. Activity rate (% population aged 15-64)	78.8	79.1	79.2	80.6	81.3	81.7	82.0	82.2	82.3	82.5	82.4
18. Activity rate (% population aged 15-24)	53.1	52.7	50.8	52.4	53.1	54.0	54.7	54.3	53.7	54.8	53.2
19. Activity rate (% population aged 25-54)	93.2	93.2	93.0	93.6	93.8	93.8	93.5	93.2	93.1	93.1	93.0
20. Activity rate (% population aged 55-64)	53.0	54.9	57.8	61.2	63.7	65.8	67.2	69.3	70.8	71.7	73.0
21. Total unemployment (000)	1954	2230	2397	2620	2338	1938	1686	1836	1696	1407	1299
22. Unemployment rate (% labour force)	8.8	10.1	10.7	11.6	10.3	8.6	7.4	8.1	7.5	6.2	5.7
23. Youth unemployment rate (% labour force 15-24)	11.8	13.9	15.3	16.9	14.8	12.6	11.0	12.5	10.9	9.3	8.8
24. Long term unemployment rate (% labour force)	4.1	4.8	5.9	6.1	5.8	4.9	4.0	3.6	3.6	3.1	2.7
25. Youth unemployment ratio (% population aged 15-24)	6.2	7.2	7.2	8.8	7.9	6.8	6.0	6.8	5.8	5.1	4.7

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	41681	41668	41642	41590	41537	41460	41408	41229	41115	41089	41120
2. Population aged 15-64	27210	27126	26999	27206	27061	26932	26854	26708	26604	26672	26710
3. Total employment (000)	17517	17471	17554	17577	17752	18091	18329	18527	18705	18992	19171
4. Population in employment aged 15-64	16038	15972	15979	16209	16633	17019	17271	17407	17591	18052	18150
5. Employment rate (% population aged 20-64)	61.9	61.9	62.6	63.1	65.0	66.7	67.8	68.7	69.6	71.1	71.5
6. Employment rate (% population aged 15-64)	58.9	58.9	59.2	59.6	61.5	63.2	64.3	65.2	66.1	67.7	68.0
7. Employment rate (% population aged 15-24)	44.5	43.0	40.2	40.2	41.6	43.5	44.5	44.4	44.6	46.1	44.6
8. Employment rate (% population aged 25-54)	71.6	71.4	72.1	71.0	72.7	74.0	74.7	75.4	76.3	77.8	78.2
9. Employment rate (% population aged 55-64)	30.6	31.6	33.0	37.6	40.3	43.4	46.0	48.6	50.5	53.0	54.8
10. FTE employment rate (% population aged 15-64)	46.4	46.2	45.5	45.7	46.6	47.9	49.0	49.8	50.6	51.8	52.1
11. Self-employed (% total employment)	7.7	7.7	8.0	8.6	8.7	8.7	8.4	8.1	8.0	8.0	7.9
12. Part-time employment (% total employment)	39.5	40.8	41.6	43.8	45.8	46.1	45.7	45.4	45.5	45.7	45.6
13. Fixed term contracts (% total employees)	12.2	12.3	12.2	14.0	14.3	14.6	14.8	14.7	14.9	14.8	13.8
14. Employment in Services (% total employment)	84.2	84.7	85.0	85.3	85.5	85.7	86.1	86.5	86.7	86.7	86.7
15. Employment in Industry (% total employment)	14.4	14.0	13.8	13.5	13.4	13.2	12.7	12.3	12.1	12.2	12.2
16. Employment in Agriculture (% total employment)	1.4	1.3	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.1	1.1
17. Activity rate (% population aged 15-64)	64.4	65.1	65.8	66.9	68.5	69.4	69.7	70.4	70.8	71.8	71.7
18. Activity rate (% population aged 15-24)	48.3	47.3	45.0	46.7	47.6	49.0	49.5	49.2	48.9	50.0	48.1
19. Activity rate (% population aged 25-54)	77.9	78.6	79.7	79.1	80.3	80.6	80.5	81.0	81.3	82.1	82.2
20. Activity rate (% population aged 55-64)	34.8	36.2	37.8	43.2	46.3	48.9	50.5	52.9	54.5	56.7	58.0
21. Total unemployment (000)	1507	1686	1854	2033	1907	1663	1450	1393	1250	1095	1017
22. Unemployment rate (% labour force)	8.5	9.4	10.2	11.0	10.2	8.8	7.7	7.3	6.6	5.6	5.2
23. Youth unemployment rate (% labour force 15-24)	7.6	8.9	12.2	14.1	12.6	11.1	10.0	9.8	8.8	7.8	7.3
24. Long term unemployment rate (% labour force)	4.3	4.9	5.9	5.8	5.8	5.0	4.0	3.4	3.0	2.6	2.3
25. Youth unemployment ratio (% population aged 15-24)	3.8	4.3	4.9	6.6	6.0	5.4	4.9	4.8	4.3	3.9	0.0

Source: Eurostat.

LFS indicators: Break in series 2005.

Labour market indicators: Estonia

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1 356	1 350	1 348	1 343	1 339	1 338	1 336	1 336	1 335	1 337	1 335
2. Population aged 15-64	912	911	910	910	913	909	907	906	904	903	897
3. Total employment (000)	584	593	592	604	637	641	643	579	551	590	602
4. Population in employment aged 15-64	566	573	573	586	621	631	634	576	552	588	602
5. Employment rate (% population aged 20-64)	69.2	70.0	70.6	72.0	75.8	76.8	77.0	69.9	66.7	70.4	72.1
6. Employment rate (% population aged 15-64)	62.0	62.9	63.0	64.4	68.1	69.4	69.8	63.5	61.0	65.1	67.1
7. Employment rate (% population aged 15-24)	28.2	29.3	27.2	29.1	31.6	34.5	36.4	28.9	25.7	31.5	33.0
8. Employment rate (% population aged 25-54)	76.8	77.8	78.8	79.6	84.2	84.8	83.9	76.4	74.8	78.1	79.2
9. Employment rate (% population aged 55-64)	51.6	52.3	52.4	56.1	58.5	60.0	62.4	60.4	53.8	57.2	60.6
10. FTE employment rate (% population aged 15-64)	60.9	61.3	61.8	63.1	66.6	67.7	68.3	61.5	59.0	63.2	65.1
11. Self-employed (% total employment)	8.1	8.9	9.7	8.1	8.1	9.1	7.8	8.2	8.3	8.5	8.8
12. Part-time employment (% total employment)	7.7	8.5	8.0	7.8	7.8	8.2	7.2	10.5	11.0	10.6	10.4
13. Fixed term contracts (% total employees)	2.7	2.5	2.6	2.7	2.7	2.1	2.4	2.5	3.7	4.5	3.7
14. Employment in Services (% total employment)	62.0	61.5	59.4	61.4	62.4	61.0	61.6	65.2	66.7	64.5	65.6
15. Employment in Industry (% total employment)	31.1	32.4	34.8	33.4	32.9	34.5	34.6	30.9	29.2	31.1	29.8
16. Employment in Agriculture (% total employment)	6.8	6.1	5.7	5.1	4.7	4.6	3.9	3.9	4.2	4.4	4.7
17. Activity rate (% population aged 15-64)	69.3	70.1	70.0	70.1	72.4	72.9	74.0	74.0	73.8	74.7	74.9
18. Activity rate (% population aged 15-24)	34.2	36.9	34.7	34.6	35.9	38.3	41.4	39.9	38.3	40.6	41.7
19. Activity rate (% population aged 25-54)	85.4	85.7	86.5	86.0	89.1	88.5	88.1	87.8	88.2	88.3	87.6
20. Activity rate (% population aged 55-64)	55.7	56.3	55.7	59.0	61.0	62.2	65.1	66.7	64.2	64.7	65.2
21. Total unemployment (000)	68	67	65	53	41	32	39	95	116	87	71
22. Unemployment rate (% labour force)	10.3	10.1	9.7	7.9	5.9	4.6	5.5	13.8	16.9	12.5	10.2
23. Youth unemployment rate (% labour force 15-24)	17.8	20.8	21.6	16.1	11.9	10.1	12.1	27.5	32.9	22.3	20.9
24. Long term unemployment rate (% labour force)	5.4	4.6	5.1	4.2	2.8	2.3	1.7	3.8	7.7	7.1	5.5
25. Youth unemployment ratio (% population aged 15-24)	6.0	7.6	7.5	5.5	4.3	3.8	5.0	11.0	12.6	9.1	8.7

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	624	621	619	616	616	615	613	613	614	615	614
2. Population aged 15-64	435	435	433	434	437	436	435	435	434	434	431
3. Total employment (000)	297	302	298	299	318	323	324	280	266	292	299
4. Population in employment aged 15-64	289	292	288	291	311	319	320	279	267	294	300
5. Employment rate (% population aged 20-64)	74.5	75.0	74.7	75.4	79.5	81.4	81.7	71.0	67.7	73.5	75.2
6. Employment rate (% population aged 15-64)	66.5	67.2	66.4	67.0	71.0	73.2	73.6	64.1	61.5	67.7	69.7
7. Employment rate (% population aged 15-24)	34.6	35.9	32.8	33.1	37.0	38.9	39.5	30.8	27.4	33.6	34.6
8. Employment rate (% population aged 25-54)	80.3	81.0	81.6	81.9	87.5	89.7	88.5	77.4	75.7	81.5	83.1
9. Employment rate (% population aged 55-64)	58.4	58.9	56.4	59.3	57.5	59.4	65.2	59.4	52.2	57.3	59.8
10. FTE employment rate (% population aged 15-64)	66.5	66.0	65.7	66.4	70.5	72.4	73.0	62.9	60.3	67.0	68.8
11. Self-employed (% total employment)	10.7	11.8	13.0	11.1	11.3	12.7	10.6	11.4	11.5	11.9	12.4
12. Part-time employment (% total employment)	4.8	5.4	5.4	4.9	4.3	4.3	4.1	7.0	7.1	5.6	5.8
13. Fixed term contracts (% total employees)	3.9	3.2	3.5	3.4	3.3	2.7	3.4	3.0	4.7	5.4	4.6
14. Employment in Services (% total employment)	49.9	49.9	47.9	49.6	48.7	46.3	47.2	50.9	52.0	49.0	50.0
15. Employment in Industry (% total employment)	40.7	41.7	44.2	43.5	44.9	47.4	47.4	43.7	42.2	44.5	43.3
16. Employment in Agriculture (% total employment)	9.4	8.4	7.9	7.0	6.4	6.2	5.3	5.4	5.8	6.5	6.8
17. Activity rate (% population aged 15-64)	74.6	75.0	74.4	73.6	75.8	77.5	78.3	77.6	76.8	78.1	78.5
18. Activity rate (% population aged 15-24)	40.4	43.1	41.6	39.7	41.2	44.2	45.2	45.0	42.3	44.0	45.2
19. Activity rate (% population aged 25-54)	90.1	89.6	90.1	89.2	92.8	93.6	92.9	91.9	91.8	92.1	92.1
20. Activity rate (% population aged 55-64)	63.7	64.4	60.7	62.9	61.6	63.7	68.8	67.4	64.5	67.1	65.8
21. Total unemployment (000)	37	35	35	30	21	19	20	59	67	46	38
22. Unemployment rate (% labour force)	10.8	10.3	10.4	8.9	6.1	5.4	5.7	16.9	19.5	13.1	11.0
23. Youth unemployment rate (% labour force 15-24)	14.3	17.0	21.2	16.9	10.0	12.0	12.7	31.7	35.2	23.7	23.4
24. Long term unemployment rate (% labour force)	6.3	4.8	5.6	4.3	3.1	2.9	2.0	4.5	9.4	7.9	6.1
25. Youth unemployment ratio (% population aged 15-24)	5.8	7.3	8.8	6.6	4.1	5.3	5.7	14.3	14.9	10.4	10.6

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	732	729	729	727	724	723	723	723	722	722	721
2. Population aged 15-64	478	476	476	476	475	473	472	472	470	469	466
3. Total employment (000)	287	291	295	305	319	318	319	299	286	298	304
4. Population in employment aged 15-64	277	281	286	296	310	312	313	297	285	295	301
5. Employment rate (% population aged 20-64)	64.5	65.5	66.8	69.0	72.5	72.5	72.8	68.8	65.7	67.6	69.3
6. Employment rate (% population aged 15-64)	57.9	59.0	60.0	62.1	65.3	65.9	66.3	63.0	60.6	62.8	64.7
7. Employment rate (% population aged 15-24)	21.6	22.7	21.6	25.1	26.1	30.0	33.2	27.0	24.0	29.4	31.3
8. Employment rate (% population aged 25-54)	73.6	74.8	76.2	77.5	81.1	80.1	79.5	75.5	73.9	74.8	75.5
9. Employment rate (% population aged 55-64)	46.5	47.3	49.4	53.7	59.2	60.5	60.3	61.2	54.9	57.1	61.2
10. FTE employment rate (% population aged 15-64)	55.9	57.0	58.3	60.0	63.0	63.4	64.0	60.2	57.9	59.7	61.6
11. Self-employed (% total employment)	5.4	5.9	6.3	5.1	4.8	5.5	5.0	5.2	5.3	5.2	5.2
12. Part-time employment (% total employment)	10.7	11.8	10.6	10.6	11.3	12.1	10.4	13.8	14.5	15.4	14.9
13. Fixed term contracts (% total employees)	1.5	1.8	1.8	2.0	2.2	1.6	1.4	2.0	2.8	3.6	2.8
14. Employment in Services (% total employment)	74.5	73.5	71.0	72.9	76.0	75.7	76.0	78.5	80.0	79.5	80.7
15. Employment in Industry (% total employment)	21.4	22.7	25.4	23.7	21.0	21.4	21.7	19.0	17.3	18.1	16.7
16. Employment in Agriculture (% total employment)	4.2	3.8	3.5	3.4	3.0	2.9	2.4	2.5	2.7	2.4	2.6
17. Activity rate (% population aged 15-64)	64.4	65.7	66.0	66.9	69.3	68.7	70.1	70.6	71.0	71.5	71.5
18. Activity rate (% population aged 15-24)	27.9	30.6	27.8	29.5	30.6	32.3	37.5	34.7	34.3	37.1	38.2
19. Activity rate (% population aged 25-54)	81.0	82.2	83.2	83.1	85.7	83.7	83.6	83.9	84.9	84.7	83.4
20. Activity rate (% population aged 55-64)	49.8	50.3	51.9	56.0	60.5	61.0	62.3	66.1	63.9	62.9	64.7
21. Total unemployment (000)	31	32	30	23	19	13	18	37	49	41	32
22. Unemployment rate (% labour force)	9.7	9.9	9.0	7.0	5.6	3.8	5.3	10.6	14.3	11.8	9.3
23. Youth unemployment rate (% labour force 15-24)	22.8	26.3	22.3	15.0	14.6	7.3	11.3	22.0	30.0	20.7	18.0
24. Long term unemployment rate (% labour force)	4.4	4.4	4.5	4.2	2.6	1.7	1.4	3.0	5.9	6.4	4.9
25. Youth unemployment ratio (% population aged 15-24)	6.3	8.0	6.2	4.4	4.5	2.3	4.2	7.6	10.3	7.7	6.9

Source: Eurostat.

Labour market indicators: Ireland

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	3926	3991	4059	4149	4253	4357	4440	4539	4560	4577	4590
2. Population aged 15-64	2661	2711	2761	2831	2919	2997	3041	3096	3081	3064	3042
3. Total employment (000)	1776	1809	1870	1962	2053	2143	2129	1962	1883	1849	1839
4. Population in employment aged 15-64	1742	1776	1830	1915	2005	2073	2055	1917	1838	1804	1790
5. Employment rate (% population aged 20-64)	70.7	70.6	71.5	72.6	73.4	73.8	72.3	66.9	64.6	63.8	63.7
6. Employment rate (% population aged 15-64)	65.5	65.5	66.3	67.6	68.7	69.2	67.6	61.9	59.6	58.9	58.8
7. Employment rate (% population aged 15-24)	47.6	47.5	47.7	48.7	50.3	50.4	45.9	36.9	31.5	29.5	28.2
8. Employment rate (% population aged 25-54)	76.1	75.9	76.8	77.9	78.3	78.6	77.3	72.3	70.3	69.3	69.5
9. Employment rate (% population aged 55-64)	48.0	49.0	49.5	51.6	53.1	53.8	53.7	51.3	50.2	50.0	49.3
10. FTE employment rate (% population aged 15-64)	60.9	60.6	61.0	62.8	64.0	64.1	62.3	55.8	53.3	52.4	52.3
11. Self-employed (% total employment)	17.9	17.6	17.7	16.9	16.3	16.9	17.5	17.6	16.9	16.4	16.5
12. Part-time employment (% total employment)	16.5	16.9	16.8	:	:	17.7	18.6	21.5	22.7	23.6	24.0
13. Fixed term contracts (% total employees)	5.3	5.2	4.1	3.7	6.0	8.1	8.5	8.8	9.6	10.2	10.2
14. Employment in Services (% total employment)	66.0	66.9	67.1	67.3	67.3	68.1	69.6	73.6	75.8	76.5	76.9
15. Employment in Industry (% total employment)	27.3	26.7	26.8	27.0	27.3	26.7	25.0	21.5	19.6	19.0	18.4
16. Employment in Agriculture (% total employment)	6.7	6.4	6.1	5.7	5.4	5.2	5.4	4.9	4.5	4.5	4.7
17. Activity rate (% population aged 15-64)	68.6	68.8	69.5	70.8	71.9	72.5	72.0	70.6	69.4	69.2	69.2
18. Activity rate (% population aged 15-24)	52.0	52.3	52.4	53.3	55.0	55.4	52.5	48.5	43.6	41.5	40.5
19. Activity rate (% population aged 25-54)	79.1	79.1	79.9	80.9	81.4	81.9	81.6	81.1	80.5	80.2	80.4
20. Activity rate (% population aged 55-64)	49.3	50.2	50.8	53.1	54.4	55.1	55.5	54.9	55.0	55.4	55.1
21. Total unemployment (000)	83	87	88	90	97	105	146	268	303	317	316
22. Unemployment rate (% labour force)	4.5	4.6	4.5	4.4	4.5	4.7	6.4	12.0	13.9	14.7	14.7
23. Youth unemployment rate (% labour force 15-24)	8.4	8.7	8.7	8.6	8.7	9.1	13.3	24.0	27.6	29.1	30.4
24. Long term unemployment rate (% labour force)	1.3	1.5	1.6	1.5	1.4	1.4	1.7	3.5	6.8	8.7	9.1
25. Youth unemployment ratio (% population aged 15-24)	4.4	4.8	4.7	4.6	4.7	5.0	6.7	11.7	12.0	12.1	12.3

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1951	1983	2018	2067	2127	2180	2215	2259	2264	2270	2271
2. Population aged 15-64	1337	1361	1387	1425	1476	1515	1531	1551	1538	1527	1510
3. Total employment (000)	1036	1050	1084	1130	1184	1223	1197	1064	1010	989	981
4. Population in employment aged 15-64	1008	1024	1053	1095	1149	1174	1146	1031	977	956	946
5. Employment rate (% population aged 20-64)	81.8	81.3	82.1	82.8	83.4	83.0	80.4	72.1	69.1	68.2	68.1
6. Employment rate (% population aged 15-64)	75.4	75.2	75.9	76.9	77.9	77.5	74.9	66.5	63.5	62.6	62.7
7. Employment rate (% population aged 15-24)	50.6	50.5	50.7	51.5	53.9	53.0	46.7	34.6	29.6	27.8	26.3
8. Employment rate (% population aged 25-54)	87.4	87.0	87.8	88.4	88.4	87.7	85.5	77.8	75.1	74.0	74.5
9. Employment rate (% population aged 55-64)	65.0	64.6	65.0	65.7	66.9	67.8	66.1	61.2	58.2	57.1	55.8
10. FTE employment rate (% population aged 15-64)	74.7	74.4	74.9	76.4	77.5	76.9	73.8	64.0	60.6	59.4	59.3
11. Self-employed (% total employment)	25.2	24.8	25.0	24.2	23.3	24.2	25.2	26.2	24.9	24.2	24.3
12. Part-time employment (% total employment)	6.5	6.6	6.1	:	:	7.0	7.8	10.9	12.1	13.1	14.1
13. Fixed term contracts (% total employees)	4.5	4.4	3.7	3.1	5.1	6.7	7.2	7.7	8.9	9.8	9.9
14. Employment in Services (% total employment)	52.0	52.9	52.8	52.5	52.1	52.5	54.8	60.2	63.5	64.7	65.6
15. Employment in Industry (% total employment)	37.6	37.2	37.6	38.6	39.4	39.2	36.6	31.6	28.9	27.8	26.7
16. Employment in Agriculture (% total employment)	10.4	9.8	9.6	9.0	8.5	8.2	8.6	8.2	7.6	7.5	7.7
17. Activity rate (% population aged 15-64)	79.2	79.3	79.9	80.6	81.7	81.6	80.7	78.5	77.0	76.6	76.6
18. Activity rate (% population aged 15-24)	55.7	56.0	55.9	56.6	59.3	58.8	55.2	49.9	44.6	42.7	41.3
19. Activity rate (% population aged 25-54)	91.2	91.0	91.8	92.1	92.1	91.6	91.3	90.3	89.5	89.0	89.3
20. Activity rate (% population aged 55-64)	66.7	66.3	66.9	67.7	68.6	69.6	68.6	66.6	65.3	65.0	64.6
21. Total unemployment (000)	51	54	55	54	58	64	97	187	207	213	210
22. Unemployment rate (% labour force)	4.7	4.9	4.8	4.6	4.7	5.0	7.6	15.0	17.1	17.8	17.7
23. Youth unemployment rate (% labour force 15-24)	9.1	9.4	9.1	9.2	9.0	9.9	16.0	30.7	33.7	35.0	36.4
24. Long term unemployment rate (% labour force)	1.8	1.9	2.0	1.9	1.8	1.7	2.3	4.8	9.2	11.6	12.1
25. Youth unemployment ratio (% population aged 15-24)	5.1	5.5	5.2	5.1	5.3	5.8	8.5	15.3	15.0	14.9	15.1

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1975	2008	2041	2081	2126	2177	2225	2280	2296	2307	2319
2. Population aged 15-64	1324	1350	1375	1406	1443	1482	1510	1545	1543	1537	1532
3. Total employment (000)	741	759	787	833	869	920	933	898	873	861	857
4. Population in employment aged 15-64	734	752	777	820	855	898	909	886	860	847	844
5. Employment rate (% population aged 20-64)	59.6	59.8	60.8	62.4	63.3	64.4	64.1	61.8	60.2	59.4	59.4
6. Employment rate (% population aged 15-64)	55.4	55.7	56.5	58.3	59.3	60.6	60.2	57.4	55.8	55.1	55.1
7. Employment rate (% population aged 15-24)	44.5	44.4	44.7	45.9	46.5	47.8	45.0	39.1	33.5	31.2	30.2
8. Employment rate (% population aged 25-54)	64.7	64.8	65.8	67.3	68.0	69.3	69.0	66.8	65.5	64.6	64.6
9. Employment rate (% population aged 55-64)	30.8	33.1	33.7	37.3	39.0	39.6	41.1	41.1	42.1	42.9	42.7
10. FTE employment rate (% population aged 15-64)	47.0	46.7	47.1	49.2	50.3	51.2	50.8	47.8	46.2	45.7	45.6
11. Self-employed (% total employment)	7.6	7.6	7.5	7.1	6.7	7.2	7.6	7.5	7.6	7.4	7.5
12. Part-time employment (% total employment)	30.6	31.0	31.5	:	:	32.0	32.4	34.0	34.9	35.7	35.4
13. Fixed term contracts (% total employees)	6.3	6.0	4.6	4.2	7.0	9.5	9.8	9.8	10.3	10.6	10.4
14. Employment in Services (% total employment)	85.2	85.9	86.4	87.2	87.7	88.4	88.6	89.5	90.1	90.2	90.0
15. Employment in Industry (% total employment)	13.1	12.4	12.3	11.6	11.1	10.4	10.0	9.5	8.8	8.8	8.8
16. Employment in Agriculture (% total employment)	1.6	1.6	1.3	1.2	1.2	1.2	1.4	1.1	1.1	1.0	1.2
17. Activity rate (% population aged 15-64)	57.8	58.3	59.0	60.8	61.9	63.3	63.1	62.6	61.9	61.9	62.0
18. Activity rate (% population aged 15-24)	48.1	48.5	48.8	49.9	50.6	51.9	49.9	47.1	42.5	40.3	39.7
19. Activity rate (% population aged 25-54)	66.9	67.2	68.0	69.6	70.5	71.9	71.8	71.8	71.6	71.5	71.7
20. Activity rate (% population aged 55-64)	31.6	33.8	34.4	38.2	40.0	40.4	42.2	42.9	44.6	45.7	45.6
21. Total unemployment (000)	31	32	33	35	39	41	49	80	95	104	106
22. Unemployment rate (% labour force)	4.1	4.1	4.0	4.1	4.3	4.3	4.9	8.2	9.9	10.8	11.0
23. Youth unemployment rate (% labour force 15-24)	7.6	7.8	8.3	7.9	8.3	8.0	10.3	17.0	21.2	22.7	24.0
24. Long term unemployment rate (% labour force)	0.8	0.9	1.0	0.9	0.9	0.9	1.0	1.8	3.8	5.1	5.4
25. Youth unemployment ratio (% population aged 15-24)	3.7	4.1	4.2	4.0	4.1	4.2	4.9	8.0	9.0	9.1	0.0

Source: Eurostat.

LFS indicators: Break in series 2009.

Labour market indicators: Greece

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	10542	10578	10616	10657	10710	10754	10780	10839	10882	10925	10963
2. Population aged 15-64	7111	7119	7129	7132	7158	7208	7232	7222	7231	7230	7223
3. Total employment (000)	4357	4408	4514	4650	4739	4807	4866	4836	4712	4447	4076
4. Population in employment aged 15-64	4087	4181	4235	4287	4365	4424	4474	4423	4307	4017	3705
5. Employment rate (% population aged 20-64)	62.5	63.6	64.0	64.6	65.7	66.0	66.5	65.8	64.0	59.9	55.3
6. Employment rate (% population aged 15-64)	57.5	58.7	59.4	60.1	61.0	61.4	61.9	61.2	59.6	55.6	51.3
7. Employment rate (% population aged 15-24)	26.5	25.3	26.8	25.0	24.2	24.0	23.5	22.9	20.4	16.3	13.1
8. Employment rate (% population aged 25-54)	71.6	72.9	73.5	74.0	75.3	75.6	76.1	75.4	73.3	69.0	64.1
9. Employment rate (% population aged 55-64)	39.2	41.3	39.4	41.6	42.3	42.4	42.8	42.2	42.3	39.4	36.4
10. FTE employment rate (% population aged 15-64)	57.1	58.4	58.8	59.3	59.8	60.3	60.9	60.0	58.2	54.0	49.5
11. Self-employed (% total employment)	37.0	36.5	35.7	35.6	35.1	34.3	33.7	34.0	34.1	34.2	34.6
12. Part-time employment (% total employment)	4.4	4.3	4.6	5.0	5.7	5.6	5.6	6.0	6.4	6.8	7.7
13. Fixed term contracts (% total employees)	11.7	11.2	11.9	11.8	10.7	10.9	11.5	12.1	12.4	11.6	10.0
14. Employment in Services (% total employment)	64.7	65.2	67.5	68.4	69.1	69.2	69.2	69.6	70.3	71.7	72.2
15. Employment in Industry (% total employment)	20.2	20.2	19.8	19.7	19.4	19.7	19.9	19.2	18.2	16.6	15.6
16. Employment in Agriculture (% total employment)	15.1	14.6	12.6	11.8	11.4	11.1	10.9	11.2	11.6	11.6	12.2
17. Activity rate (% population aged 15-64)	64.2	65.2	66.5	66.8	67.0	67.0	67.1	67.8	68.2	67.7	67.9
18. Activity rate (% population aged 15-24)	36.2	34.6	36.7	33.7	32.4	31.1	30.2	30.9	30.3	29.2	29.2
19. Activity rate (% population aged 25-54)	78.8	79.8	81.1	81.5	82.0	81.9	82.0	82.8	83.3	83.2	83.9
20. Activity rate (% population aged 55-64)	40.9	42.7	41.3	43.2	43.9	43.9	44.2	44.2	45.1	43.1	42.2
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	5.3	5.3	5.6	5.1	4.8	4.1	3.6	3.9	5.7	8.8	14.4
25. Youth unemployment ratio (% population aged 15-24)	9.7	9.3	9.9	8.8	8.2	7.1	6.7	8.0	10.0	13.0	16.1

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5172	5190	5207	5227	5255	5285	5300	5330	5354	5377	5399
2. Population aged 15-64	3529	3537	3545	3551	3570	3603	3617	3615	3623	3626	3626
3. Total employment (000)	2728	2747	2796	2870	2903	2942	2962	2915	2820	2654	2426
4. Population in employment aged 15-64	2550	2595	2613	2636	2663	2698	2713	2658	2570	2390	2199
5. Employment rate (% population aged 20-64)	78.7	79.6	79.5	79.8	80.3	80.4	80.4	78.8	76.2	71.1	65.3
6. Employment rate (% population aged 15-64)	72.2	73.4	73.7	74.2	74.6	74.9	75.0	73.5	70.9	65.9	60.6
7. Employment rate (% population aged 15-24)	31.5	30.9	32.3	30.1	29.7	29.2	28.5	27.7	24.5	19.6	16.1
8. Employment rate (% population aged 25-54)	88.7	89.3	89.3	89.5	90.0	90.1	90.2	88.4	85.3	80.0	74.0
9. Employment rate (% population aged 55-64)	55.9	58.7	56.4	58.8	59.2	59.1	59.1	57.7	56.5	52.3	47.6
10. FTE employment rate (% population aged 15-64)	72.8	73.9	74.1	74.4	74.6	74.9	75.2	73.5	70.6	65.1	59.5
11. Self-employed (% total employment)	39.0	38.5	38.4	38.2	37.8	37.1	36.4	37.1	37.1	37.3	38.1
12. Part-time employment (% total employment)	2.3	2.2	2.2	2.3	2.9	2.7	2.8	3.2	3.7	4.5	4.9
13. Fixed term contracts (% total employees)	10.5	9.7	10.5	10.1	9.1	9.3	9.9	10.6	10.9	10.5	8.8
14. Employment in Services (% total employment)	59.2	59.5	61.5	62.0	62.6	62.2	61.6	61.8	62.7	65.2	66.1
15. Employment in Industry (% total employment)	26.5	26.7	26.7	26.8	26.5	27.1	27.7	27.0	25.7	23.2	21.6
16. Employment in Agriculture (% total employment)	14.3	13.8	11.9	11.1	10.9	10.7	10.7	11.2	11.5	11.5	12.4
17. Activity rate (% population aged 15-64)	77.6	78.3	79.0	79.2	79.1	79.1	79.1	79.0	78.9	77.7	77.4
18. Activity rate (% population aged 15-24)	39.3	38.1	40.0	37.0	36.1	34.7	34.3	34.4	33.4	31.8	31.2
19. Activity rate (% population aged 25-54)	94.1	94.3	94.6	94.6	94.7	94.6	94.4	94.4	94.2	93.5	93.6
20. Activity rate (% population aged 55-64)	58.1	60.6	58.9	60.8	61.0	60.8	60.9	60.1	60.2	57.3	55.2
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	3.1	3.0	3.0	2.6	2.6	2.2	2.1	2.4	3.9	6.7	12.1
25. Youth unemployment ratio (% population aged 15-24)	7.8	7.2	7.6	6.9	6.4	5.5	5.8	6.6	8.9	12.2	15.1

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5369	5388	5409	5431	5455	5469	5480	5509	5528	5548	5564
2. Population aged 15-64	3582	3583	3584	3581	3588	3605	3615	3607	3608	3604	3597
3. Total employment (000)	1629	1662	1719	1780	1836	1865	1904	1921	1892	1793	1650
4. Population in employment aged 15-64	1537	1586	1621	1651	1702	1725	1761	1766	1737	1626	1507
5. Employment rate (% population aged 20-64)	46.6	47.9	48.8	49.6	51.2	51.6	52.5	52.7	51.7	48.6	45.2
6. Employment rate (% population aged 15-64)	42.9	44.3	45.2	46.1	47.4	47.9	48.7	48.9	48.1	45.1	41.9
7. Employment rate (% population aged 15-24)	21.4	19.8	21.3	19.8	18.7	18.7	18.5	18.1	16.2	12.9	10.0
8. Employment rate (% population aged 25-54)	54.5	56.4	57.6	58.5	60.5	60.8	61.9	62.2	61.1	57.7	53.8
9. Employment rate (% population aged 55-64)	24.0	25.5	24.0	25.8	26.6	26.9	27.5	27.7	28.9	27.3	26.0
10. FTE employment rate (% population aged 15-64)	41.7	43.2	43.8	44.3	45.3	45.7	46.6	46.7	45.9	43.0	39.5
11. Self-employed (% total employment)	33.7	33.3	31.2	31.5	30.8	29.8	29.6	29.5	29.7	29.6	29.6
12. Part-time employment (% total employment)	8.0	7.7	8.5	9.3	10.2	10.1	9.9	10.4	10.4	10.2	11.9
13. Fixed term contracts (% total employees)	13.6	13.3	14.0	14.3	13.0	13.1	13.7	14.1	14.4	12.9	11.5
14. Employment in Services (% total employment)	73.6	74.3	77.1	78.5	79.1	79.9	80.6	81.1	81.2	81.2	81.0
15. Employment in Industry (% total employment)	9.9	9.8	9.1	8.6	8.5	8.5	8.3	7.7	7.1	7.0	6.9
16. Employment in Agriculture (% total employment)	16.5	15.8	13.8	12.9	12.3	11.6	11.2	11.2	11.6	11.8	12.1
17. Activity rate (% population aged 15-64)	51.0	52.2	54.1	54.5	55.0	54.9	55.1	56.5	57.6	57.5	58.4
18. Activity rate (% population aged 15-24)	33.1	31.2	33.4	30.4	28.7	27.6	26.1	27.4	27.2	26.6	27.2
19. Activity rate (% population aged 25-54)	63.4	65.2	67.6	68.2	69.1	69.1	69.4	71.0	72.2	72.7	73.9
20. Activity rate (% population aged 55-64)	25.2	26.4	25.2	27.1	28.0	28.2	28.6	29.3	30.9	29.7	29.9
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	8.6	8.9	9.4	8.9	8.1	7.0	6.0	6.0	8.1	11.5	17.4
25. Youth unemployment ratio (% population aged 15-24)	11.7	11.4	12.1	10.6	9.9	8.8	7.5	9.3	11.1	13.7	17.2

Source: Eurostat.

Labour market indicators: Spain

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	41063	41753	42440	43141	43835	44630	45329	45671	45820	45908	45884
2. Population aged 15-64	28231	28729	29227	29755	30255	30808	31252	31349	31261	31127	30906
3. Total employment (000)	17359	17916	18565	19335	20105	20713	20687	19338	18856	18564	17777
4. Population in employment aged 15-64	16527	17188	17861	18834	19600	20211	20103	18736	18304	17953	17124
5. Employment rate (% population aged 20-64)	62.7	64.0	65.2	67.2	68.7	69.5	68.3	63.7	62.5	61.6	59.3
6. Employment rate (% population aged 15-64)	58.5	59.8	61.1	63.3	64.8	65.6	64.3	59.8	58.6	57.7	55.4
7. Employment rate (% population aged 15-24)	34.0	34.4	35.2	38.3	39.5	39.1	36.0	28.0	24.9	21.9	18.2
8. Employment rate (% population aged 25-54)	70.2	71.4	72.7	74.4	75.8	76.8	75.3	70.7	69.6	68.7	66.3
9. Employment rate (% population aged 55-64)	39.6	40.7	41.3	43.1	44.1	44.6	45.6	44.1	43.6	44.5	43.9
10. FTE employment rate (% population aged 15-64)	56.2	57.3	58.3	59.4	60.8	61.7	60.5	55.8	54.5	53.5	51.0
11. Self-employed (% total employment)	15.3	14.8	14.6	14.2	13.8	13.5	13.4	13.4	13.3	13.1	13.7
12. Part-time employment (% total employment)	8.0	8.2	8.7	12.4	12.0	11.8	12.0	12.8	13.3	13.8	14.7
13. Fixed term contracts (% total employees)	31.8	31.8	32.5	33.3	34.0	31.7	29.3	25.4	24.9	25.3	23.6
14. Employment in Services (% total employment)	65.1	65.7	66.4	67.0	67.9	68.5	70.3	73.2	74.3	75.5	76.7
15. Employment in Industry (% total employment)	29.3	28.9	28.5	28.3	27.8	27.4	25.7	22.8	21.5	20.4	19.1
16. Employment in Agriculture (% total employment)	5.6	5.4	5.1	4.8	4.3	4.1	3.9	4.0	4.2	4.1	4.2
17. Activity rate (% population aged 15-64)	66.2	67.6	68.7	69.7	70.8	71.6	72.6	73.0	73.4	73.7	74.1
18. Activity rate (% population aged 15-24)	43.7	44.5	45.1	47.7	48.2	47.8	47.7	45.1	42.7	40.9	38.8
19. Activity rate (% population aged 25-54)	78.2	79.6	80.6	80.9	82.0	82.8	83.8	84.7	85.5	86.0	86.7
20. Activity rate (% population aged 55-64)	42.7	43.8	44.4	45.9	46.8	47.4	49.2	50.2	50.8	52.3	53.5
21. Total unemployment (000)	2155	2242	2214	1913	1837	1834	2591	4150	4632	4999	5769
22. Unemployment rate (% labour force)	11.4	11.4	10.9	9.2	8.5	8.3	11.3	18.0	20.1	21.7	25.0
23. Youth unemployment rate (% labour force 15-24)	22.2	22.6	22.0	19.7	17.9	18.2	24.6	37.8	41.6	46.4	53.2
24. Long term unemployment rate (% labour force)	3.8	3.8	3.5	2.2	1.8	1.7	2.0	4.3	7.3	9.0	11.1
25. Youth unemployment ratio (% population aged 15-24)	9.7	10.1	9.9	9.4	8.6	8.7	11.7	17.1	17.8	19.0	20.6

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	20172	20532	20894	21268	21641	22062	22412	22569	22604	22612	22559
2. Population aged 15-64	14185	14456	14727	15019	15292	15596	15816	15855	15778	15664	15528
3. Total employment (000)	10819	11035	11296	11606	11955	12198	11969	10900	10512	10245	9702
4. Population in employment aged 15-64	10296	10583	10864	11294	11642	11888	11624	10555	10204	9908	9344
5. Employment rate (% population aged 20-64)	77.7	78.3	78.7	79.9	80.7	80.7	78.1	71.0	69.1	67.6	64.5
6. Employment rate (% population aged 15-64)	72.6	73.2	73.8	75.2	76.1	76.2	73.5	66.6	64.7	63.2	60.2
7. Employment rate (% population aged 15-24)	39.7	39.9	40.8	43.5	44.4	44.2	39.3	29.4	25.6	22.1	18.4
8. Employment rate (% population aged 25-54)	85.7	85.9	86.1	86.9	87.6	87.6	84.4	77.3	75.7	74.5	71.1
9. Employment rate (% population aged 55-64)	58.4	59.2	58.9	59.7	60.4	60.0	60.9	56.7	54.7	53.9	52.4
10. FTE employment rate (% population aged 15-64)	72.1	72.6	73.0	73.7	74.6	74.8	72.1	65.0	62.9	61.3	58.0
11. Self-employed (% total employment)	17.1	16.6	16.5	16.2	16.0	15.7	15.8	15.9	16.1	15.8	16.7
12. Part-time employment (% total employment)	2.6	2.6	2.8	4.5	4.3	4.1	4.2	4.9	5.4	6.0	6.6
13. Fixed term contracts (% total employees)	29.9	29.9	30.6	31.7	32.0	30.6	27.6	23.8	23.9	24.2	22.3
14. Employment in Services (% total employment)	53.9	54.0	54.2	54.5	54.8	55.4	57.5	61.0	62.5	64.0	65.8
15. Employment in Industry (% total employment)	39.3	39.5	39.6	39.7	39.8	39.5	37.5	33.7	31.9	30.5	28.4
16. Employment in Agriculture (% total employment)	6.8	6.5	6.2	5.9	5.3	5.2	5.0	5.3	5.6	5.5	5.8
17. Activity rate (% population aged 15-64)	79.1	80.0	80.4	80.9	81.3	81.4	81.8	81.0	80.7	80.4	80.1
18. Activity rate (% population aged 15-24)	48.8	49.5	50.2	52.3	52.2	52.1	51.5	48.3	45.1	42.6	40.2
19. Activity rate (% population aged 25-54)	92.1	92.5	92.5	92.4	92.5	92.6	92.6	92.3	92.5	92.6	92.7
20. Activity rate (% population aged 55-64)	62.1	62.9	62.7	63.2	63.5	63.1	65.1	64.0	63.9	63.7	63.8
21. Total unemployment (000)	929	976	971	863	791	815	1311	2292	2529	2689	3099
22. Unemployment rate (% labour force)	8.2	8.4	8.1	7.1	6.3	6.4	10.1	17.7	19.7	21.2	24.7
23. Youth unemployment rate (% labour force 15-24)	17.9	18.9	18.2	16.7	15.0	15.2	23.7	39.1	43.2	48.2	54.4
24. Long term unemployment rate (% labour force)	2.3	2.4	2.3	1.4	1.2	1.1	1.4	3.7	7.1	8.6	10.8
25. Youth unemployment ratio (% population aged 15-24)	9.0	9.7	9.4	8.7	7.8	7.9	12.2	18.9	19.5	20.6	21.9

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	20891	21221	21547	21873	22193	22569	22917	23102	23216	23296	23326
2. Population aged 15-64	14046	14273	14500	14736	14963	15212	15436	15494	15483	15463	15379
3. Total employment (000)	6540	6881	7269	7729	8150	8516	8718	8438	8343	8319	8074
4. Population in employment aged 15-64	6230	6605	6997	7540	7958	8323	8479	8181	8101	8046	7780
5. Employment rate (% population aged 20-64)	47.6	49.5	51.5	54.4	56.4	58.0	58.3	56.3	55.8	55.5	54.0
6. Employment rate (% population aged 15-64)	44.4	46.3	48.3	51.2	53.2	54.7	54.9	52.8	52.3	52.0	50.6
7. Employment rate (% population aged 15-24)	28.0	28.6	29.3	32.8	34.4	33.8	32.5	26.5	24.2	21.8	18.0
8. Employment rate (% population aged 25-54)	54.4	56.6	58.9	61.5	63.7	65.6	65.9	63.8	63.2	62.7	61.3
9. Employment rate (% population aged 55-64)	21.9	23.3	24.6	27.4	28.7	30.0	31.1	32.3	33.2	35.6	36.0
10. FTE employment rate (% population aged 15-64)	40.3	41.9	43.5	45.0	47.0	48.5	48.7	46.7	46.1	45.8	44.1
11. Self-employed (% total employment)	12.2	11.7	11.6	11.4	10.7	10.3	10.1	10.1	9.8	9.8	10.2
12. Part-time employment (% total employment)	16.8	17.1	17.9	24.2	23.2	22.8	22.7	23.0	23.2	23.5	24.5
13. Fixed term contracts (% total employees)	34.8	34.6	35.2	35.7	36.7	33.1	31.4	27.3	26.1	26.6	25.1
14. Employment in Services (% total employment)	83.0	83.9	84.8	85.2	86.4	86.7	87.4	88.5	88.8	89.5	89.4
15. Employment in Industry (% total employment)	13.2	12.4	11.9	11.6	10.7	10.7	10.1	9.1	8.8	8.1	8.2
16. Employment in Agriculture (% total employment)	3.8	3.7	3.3	3.2	2.9	2.6	2.5	2.4	2.4	2.4	2.4
17. Activity rate (% population aged 15-64)	53.1	55.1	56.8	58.3	60.2	61.4	63.2	64.8	65.9	67.0	67.9
18. Activity rate (% population aged 15-24)	38.5	39.2	39.8	42.9	43.9	43.3	43.7	41.7	40.1	39.1	37.4
19. Activity rate (% population aged 25-54)	64.1	66.5	68.3	69.0	71.2	72.7	74.7	76.7	78.3	79.3	80.6
20. Activity rate (% population aged 55-64)	24.4	25.7	27.2	29.6	31.0	32.5	34.2	37.2	38.5	41.7	43.8
21. Total unemployment (000)	1226	1266	1243	1050	1046	1019	1280	1857	2103	2310	2670
22. Unemployment rate (% labour force)	16.2	15.8	14.8	12.2	11.6	10.9	13.0	18.4	20.5	22.2	25.4
23. Youth unemployment rate (% labour force 15-24)	28.2	27.9	27.3	23.4	21.6	21.9	25.8	36.4	39.8	44.4	51.8
24. Long term unemployment rate (% labour force)	6.1	5.9	5.2	3.4	2.8	2.5	2.9	5.0	7.7	9.5	11.6
25. Youth unemployment ratio (% population aged 15-24)	10.5	10.6	10.5	10.1	9.5	9.5	11.3	15.1	16.0	17.4	19.4

Source: Eurostat.

LFS indicators: Break in series 2005.

Labour market indicators: France

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	57987	58922	59278	59732	60123	60503	60831	61144	61458	61773	62060
2. Population aged 15-64	37825	38461	38699	39020	39313	39568	39733	39856	39995	40057	40000
3. Total employment (000)	26105	26137	26176	26349	26634	27006	27137	26783	26798	26966	26959
4. Population in employment aged 15-64	23840	24594	24666	24843	25011	25425	25753	25511	25545	25583	25563
5. Employment rate (% population aged 20-64)	68.7	69.7	69.5	69.4	69.3	69.8	70.4	69.4	69.2	69.2	69.3
6. Employment rate (% population aged 15-64)	63.0	63.9	63.7	63.7	63.6	64.3	64.8	64.0	63.9	63.9	63.9
7. Employment rate (% population aged 15-24)	29.9	31.0	30.5	30.2	29.8	31.0	31.3	30.4	30.2	29.9	28.8
8. Employment rate (% population aged 25-54)	79.5	80.5	80.5	80.7	81.2	82.0	83.0	82.0	81.8	81.4	80.8
9. Employment rate (% population aged 55-64)	34.7	37.0	37.8	38.5	38.1	38.2	38.2	39.0	39.8	41.5	44.5
10. FTE employment rate (% population aged 15-64)	60.4	59.6	59.1	59.4	59.2	59.9	60.5	59.6	59.3	59.4	59.4
11. Self-employed (% total employment)	8.7	8.7	8.8	8.9	8.9	8.8	8.9	9.0	9.2	9.4	9.6
12. Part-time employment (% total employment)	16.4	16.8	17.0	17.2	17.2	17.3	17.0	17.4	17.8	17.9	18.0
13. Fixed term contracts (% total employees)	13.5	13.4	13.3	13.9	14.8	15.1	14.9	14.3	15.0	15.2	15.2
14. Employment in Services (% total employment)	75.6	75.9	76.3	76.5	76.8	77.0	77.2	77.5	78.1	78.5	78.6
15. Employment in Industry (% total employment)	20.9	20.7	20.3	20.1	20.0	19.8	19.8	19.5	19.0	18.7	18.6
16. Employment in Agriculture (% total employment)	3.5	3.4	3.4	3.4	3.2	3.1	3.0	3.0	2.9	2.8	2.8
17. Activity rate (% population aged 15-64)	69.1	69.9	70.0	69.9	69.8	69.9	70.0	70.5	70.5	70.4	71.0
18. Activity rate (% population aged 15-24)	36.9	38.0	38.1	38.0	38.1	38.4	38.4	39.6	39.1	38.3	37.8
19. Activity rate (% population aged 25-54)	86.3	87.0	87.3	87.5	87.8	88.1	88.6	88.8	88.9	88.5	88.5
20. Activity rate (% population aged 55-64)	36.7	38.9	40.1	40.7	40.4	40.2	40.0	41.5	42.6	44.4	47.9
21. Total unemployment (000)	2277	2456	2583	2603	2608	2383	2229	2754	2828	2800	3015
22. Unemployment rate (% labour force)	8.3	8.9	9.3	9.3	9.2	8.4	7.8	9.5	9.7	9.6	10.3
23. Youth unemployment rate (% labour force 15-24)	17.2	19.1	20.8	21.3	22.4	19.8	19.3	24.0	23.6	22.8	24.6
24. Long term unemployment rate (% labour force)	2.9	3.5	3.8	3.8	3.9	3.4	2.9	3.4	3.9	4.0	4.1
25. Youth unemployment ratio (% population aged 15-24)	7.0	7.0	7.6	7.8	8.2	7.3	7.1	9.2	8.9	8.4	9.0

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	28152	28518	28678	28880	29067	29260	29426	29586	29748	29910	30063
2. Population aged 15-64	18697	18943	19060	19197	19334	19461	19537	19594	19664	19693	19670
3. Total employment (000)	14230	14079	14056	14086	14183	14292	14328	14063	14075	14162	14113
4. Population in employment aged 15-64	12986	13239	13237	13275	13313	13447	13588	13385	13403	13422	13368
5. Employment rate (% population aged 20-64)	75.6	76.1	75.7	75.3	74.9	75.0	75.5	74.1	73.8	73.9	73.8
6. Employment rate (% population aged 15-64)	69.5	69.9	69.4	69.2	68.9	69.1	69.5	68.3	68.2	68.2	68.0
7. Employment rate (% population aged 15-24)	33.6	34.3	33.8	33.7	33.4	34.1	34.3	32.6	33.3	32.8	31.3
8. Employment rate (% population aged 25-54)	87.4	87.8	87.6	87.6	87.8	88.2	89.1	87.6	87.1	86.7	85.8
9. Employment rate (% population aged 55-64)	38.7	40.9	41.6	41.5	40.5	40.5	40.6	41.5	42.2	44.1	47.4
10. FTE employment rate (% population aged 15-64)	70.4	68.2	67.9	67.7	67.3	67.6	68.0	66.8	66.4	66.4	66.1
11. Self-employed (% total employment)	10.8	10.9	11.1	11.3	11.3	11.4	11.3	11.7	12.0	12.3	12.5
12. Part-time employment (% total employment)	5.2	5.6	5.5	5.8	5.8	5.7	5.7	6.0	6.7	6.9	6.9
13. Fixed term contracts (% total employees)	11.9	11.8	12.0	13.0	14.0	14.0	13.7	12.9	14.1	14.7	14.4
14. Employment in Services (% total employment)	65.4	65.4	66.2	66.0	65.9	66.4	66.4	66.3	67.1	68.1	68.1
15. Employment in Industry (% total employment)	30.1	30.0	29.4	29.4	29.6	29.4	29.7	29.7	28.9	28.2	28.1
16. Employment in Agriculture (% total employment)	4.6	4.6	4.4	4.6	4.5	4.2	3.9	4.0	4.0	3.8	3.8
17. Activity rate (% population aged 15-64)	75.5	75.7	75.5	75.2	74.9	74.7	74.7	75.0	74.9	74.8	75.4
18. Activity rate (% population aged 15-24)	40.9	41.8	41.8	41.8	41.9	41.8	42.1	42.9	42.8	41.6	41.1
19. Activity rate (% population aged 25-54)	93.8	93.9	94.0	94.0	94.1	94.2	94.4	94.4	94.2	93.8	93.6
20. Activity rate (% population aged 55-64)	41.2	43.0	44.0	43.8	43.0	42.7	42.6	44.3	45.3	47.2	51.2
21. Total unemployment (000)	1093	1182	1240	1246	1262	1168	1090	1403	1421	1385	1547
22. Unemployment rate (% labour force)	7.4	8.0	8.4	8.4	8.5	7.8	7.3	9.3	9.4	9.1	10.1
23. Youth unemployment rate (% labour force 15-24)	16.9	18.5	20.0	20.2	21.1	19.1	19.3	24.7	22.9	21.9	24.7
24. Long term unemployment rate (% labour force)	2.5	3.2	3.4	3.3	3.6	3.2	2.8	3.3	3.9	3.8	4.1
25. Youth unemployment ratio (% population aged 15-24)	7.2	7.4	8.0	8.1	8.5	7.7	7.8	10.3	9.5	8.8	9.8

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	29835	30404	30600	30852	31056	31242	31405	31558	31710	31864	31997
2. Population aged 15-64	19128	19518	19639	19823	19979	20107	20196	20262	20331	20364	20330
3. Total employment (000)	11874	12058	12120	12263	12450	12713	12810	12720	12723	12804	12845
4. Population in employment aged 15-64	10854	11356	11429	11568	11699	11979	12165	12126	12142	12160	12195
5. Employment rate (% population aged 20-64)	61.9	63.5	63.5	63.7	63.8	64.8	65.5	64.9	64.8	64.7	65.0
6. Employment rate (% population aged 15-64)	56.7	58.2	58.2	58.4	58.6	59.6	60.2	59.8	59.7	59.7	60.0
7. Employment rate (% population aged 15-24)	26.2	27.6	27.2	26.7	26.3	27.9	28.3	28.2	27.1	26.9	26.3
8. Employment rate (% population aged 25-54)	71.7	73.4	73.7	74.0	74.7	76.0	77.2	76.6	76.6	76.2	76.0
9. Employment rate (% population aged 55-64)	30.8	33.3	34.2	35.7	35.8	36.0	35.9	36.6	37.5	39.1	41.7
10. FTE employment rate (% population aged 15-64)	50.9	51.7	51.0	51.8	51.8	52.8	53.7	53.1	52.9	52.9	53.3
11. Self-employed (% total employment)	6.2	6.1	6.1	6.0	6.1	5.9	6.2	6.0	6.1	6.3	6.4
12. Part-time employment (% total employment)	29.8	29.9	30.4	30.3	30.3	30.4	29.5	30.0	30.1	30.1	30.2
13. Fixed term contracts (% total employees)	15.3	15.1	14.7	14.8	15.6	16.1	16.1	15.7	15.9	15.8	15.9
14. Employment in Services (% total employment)	87.2	87.5	87.4	87.9	88.5	88.5	88.9	89.4	89.8	89.5	89.6
15. Employment in Industry (% total employment)	10.5	10.3	10.2	10.0	9.6	9.6	9.2	8.7	8.5	8.7	8.6
16. Employment in Agriculture (% total employment)	2.3	2.2	2.4	2.1	1.9	1.9	2.0	1.9	1.7	1.8	1.7
17. Activity rate (% population aged 15-64)	63.0	64.3	64.6	64.8	64.8	65.2	65.4	66.0	66.1	66.2	66.7
18. Activity rate (% population aged 15-24)	32.9	34.1	34.4	34.3	34.2	35.0	34.8	36.3	35.5	34.9	34.5
19. Activity rate (% population aged 25-54)	78.9	80.4	80.9	81.3	81.7	82.3	83.1	83.4	83.7	83.4	83.4
20. Activity rate (% population aged 55-64)	32.3	35.1	36.4	37.7	37.9	37.8	37.6	38.9	40.0	41.8	44.8
21. Total unemployment (000)	1184	1275	1343	1357	1346	1214	1138	1351	1406	1415	1468
22. Unemployment rate (% labour force)	9.3	9.9	10.3	10.3	10.1	9.0	8.4	9.8	10.1	10.2	10.5
23. Youth unemployment rate (% labour force 15-24)	17.6	19.9	21.7	22.7	23.9	20.7	19.4	23.0	24.4	24.0	24.5
24. Long term unemployment rate (% labour force)	3.3	3.9	4.2	4.3	4.2	3.6	3.0	3.4	3.9	4.1	4.1
25. Youth unemployment ratio (% population aged 15-24)	6.8	6.5	7.2	7.5	7.9	7.0	6.5	8.1	8.4	8.1	8.2

Source: Eurostat.

Labour market indicators: Croatia

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	4206	4218	4215	4217	4218	4219	4225	4225	4225	4225	4225
2. Population aged 15-64	2773	2778	2751	2746	2744	2743	2742	2736	2757	2746	2754
3. Total employment (000)	1418	1473	1495	1506	1564	1586	1635	1605	1523	1487	1430
4. Population in employment aged 15-64	1482	1482	1505	1512	1526	1568	1584	1549	1489	1438	1395
5. Employment rate (% population aged 20-64)	58.4	58.3	59.6	60.0	60.6	62.3	62.9	61.7	58.7	57.0	55.4
6. Employment rate (% population aged 15-64)	53.4	53.4	54.7	55.0	55.6	57.1	57.8	56.6	54.0	52.4	50.7
7. Employment rate (% population aged 15-24)	26.2	24.9	26.5	25.8	25.5	26.5	27.1	25.6	23.0	20.1	16.9
8. Employment rate (% population aged 25-54)	70.2	70.1	70.9	71.8	72.2	74.1	75.0	73.6	71.2	70.1	68.7
9. Employment rate (% population aged 55-64)	24.8	28.4	30.1	32.6	34.3	35.8	36.7	38.5	37.6	37.1	36.7
10. FTE employment rate (% population aged 15-64)	51.9	52.2	53.8	53.7	54.3	55.8	56.4	55.2	52.5	50.8	49.5
11. Self-employed (% total employment)	15.6	16.1	15.8	15.4	15.3	15.1	14.7	14.7	14.4	13.6	12.0
12. Part-time employment (% total employment)	8.3	8.5	8.5	10.1	9.4	8.6	8.8	9.0	9.7	9.9	8.4
13. Fixed term contracts (% total employees)	10.9	11.3	12.2	12.4	12.9	12.6	12.1	11.6	12.3	12.7	12.8
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	62.9	62.4	63.7	63.3	62.8	63.4	63.2	62.4	61.4	60.8	60.5
18. Activity rate (% population aged 15-24)	40.6	38.7	39.6	38.1	35.9	34.9	34.7	34.1	34.2	31.4	29.6
19. Activity rate (% population aged 25-54)	80.3	79.8	80.7	80.6	80.1	80.9	80.9	79.9	79.4	79.8	80.1
20. Activity rate (% population aged 55-64)	26.8	30.4	32.3	35.1	36.5	38.3	38.8	40.8	40.5	40.5	41.1
21. Total unemployment (000)	268	252	249	230	202	171	149	160	206	232	272
22. Unemployment rate (% labour force)	15.1	14.1	13.8	12.8	11.4	9.6	8.4	9.1	11.8	13.5	15.9
23. Youth unemployment rate (% labour force 15-24)	35.5	34.7	32.8	31.9	28.8	24.0	21.9	25.1	32.6	36.1	43.0
24. Long term unemployment rate (% labour force)	9.2	8.4	7.5	7.5	6.8	5.9	5.3	5.1	6.7	8.6	10.3
25. Youth unemployment ratio (% population aged 15-24)	14.4	13.9	13.1	12.3	10.4	8.4	7.6	8.5	11.2	11.3	12.7

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1999	2000	2012	2006	2008	1995	2000	1995	1991	2009	2024
2. Population aged 15-64	1352	1361	1357	1354	1353	1359	1357	1346	1352	1355	1377
3. Total employment (000)	:	816	829	830	856	881	905	869	820	810	779
4. Population in employment aged 15-64	818	821	838	835	839	875	882	840	802	785	759
5. Employment rate (% population aged 20-64)	66.3	66.0	67.5	67.5	67.6	70.3	70.7	68.2	64.7	63.2	60.6
6. Employment rate (% population aged 15-64)	60.5	60.3	61.8	61.7	62.0	64.4	65.0	62.4	59.4	57.9	55.1
7. Employment rate (% population aged 15-24)	29.2	28.6	30.9	30.0	29.1	31.6	33.2	31.0	27.7	23.9	19.7
8. Employment rate (% population aged 25-54)	77.6	77.2	77.7	77.9	78.1	80.6	80.9	78.0	74.6	74.1	71.8
9. Employment rate (% population aged 55-64)	34.2	38.1	40.9	43.0	44.4	48.4	49.0	50.1	49.3	48.4	46.7
10. FTE employment rate (% population aged 15-64)	59.5	60.1	61.6	61.0	61.1	63.6	64.1	61.7	58.5	56.9	54.3
11. Self-employed (% total employment)	:	16.8	16.3	15.7	16.2	15.9	15.3	15.5	14.8	14.0	12.8
12. Part-time employment (% total employment)	6.6	6.3	6.3	7.3	7.5	6.4	6.7	6.9	7.3	7.9	7.0
13. Fixed term contracts (% total employees)	11.3	11.8	12.1	12.4	13.1	12.2	11.9	11.4	12.1	12.7	12.9
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	69.9	69.5	70.5	70.0	68.9	70.4	70.0	68.0	67.2	67.4	66.1
18. Activity rate (% population aged 15-24)	44.8	43.4	43.8	43.0	39.9	39.9	40.7	40.3	40.2	37.1	34.1
19. Activity rate (% population aged 25-54)	86.7	86.2	86.6	85.9	84.9	86.4	85.6	83.2	82.4	84.2	83.7
20. Activity rate (% population aged 55-64)	37.4	41.1	44.0	47.2	47.7	52.2	52.3	53.2	53.4	53.3	52.5
21. Total unemployment (000)	130	125	120	114	96	81	68	76	107	129	151
22. Unemployment rate (% labour force)	13.4	12.8	12.3	11.6	9.9	8.4	7.0	8.0	11.4	13.8	16.2
23. Youth unemployment rate (% labour force 15-24)	34.9	33.4	29.5	29.6	26.6	20.9	18.5	23.1	31.1	35.6	42.3
24. Long term unemployment rate (% labour force)	7.6	7.4	6.1	6.5	5.9	4.8	4.3	4.1	6.2	8.6	10.4
25. Youth unemployment ratio (% population aged 15-24)	15.5	14.8	12.9	13.0	10.9	8.3	7.5	9.3	12.5	13.2	14.4

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	2207	2218	2203	2211	2209	2225	2225	2230	2234	2216	2201
2. Population aged 15-64	1421	1417	1394	1392	1391	1385	1385	1390	1406	1391	1377
3. Total employment (000)	:	658	666	676	708	704	730	736	703	677	651
4. Population in employment aged 15-64	664	661	667	676	687	692	703	708	687	653	636
5. Employment rate (% population aged 20-64)	50.9	50.9	51.9	52.8	53.7	54.5	55.2	55.4	53.0	50.9	50.2
6. Employment rate (% population aged 15-64)	46.7	46.7	47.8	48.6	49.4	50.0	50.7	51.0	48.8	47.0	46.2
7. Employment rate (% population aged 15-24)	23.2	21.0	21.7	21.3	21.8	21.1	20.6	19.4	17.9	15.8	13.6
8. Employment rate (% population aged 25-54)	63.1	63.2	64.3	65.7	66.3	67.7	69.2	69.4	67.9	66.2	65.5
9. Employment rate (% population aged 55-64)	16.9	20.3	21.0	23.8	25.7	24.2	25.5	28.1	27.4	27.0	27.8
10. FTE employment rate (% population aged 15-64)	44.6	44.5	46.2	46.7	47.7	48.1	48.9	49.0	46.7	45.0	44.7
11. Self-employed (% total employment)	:	15.3	15.2	15.0	14.1	14.1	13.8	13.7	13.9	13.1	11.1
12. Part-time employment (% total employment)	10.5	11.2	11.2	13.4	11.7	11.3	11.5	11.6	12.5	12.4	10.0
13. Fixed term contracts (% total employees)	10.4	10.7	12.4	12.3	12.6	13.2	12.3	11.9	12.6	12.7	12.7
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	56.2	55.6	57.1	56.7	56.9	56.4	56.6	57.0	55.9	54.4	55.0
18. Activity rate (% population aged 15-24)	36.3	33.9	35.1	32.9	31.6	29.5	28.3	27.1	27.6	25.0	24.3
19. Activity rate (% population aged 25-54)	74.0	73.5	74.9	75.3	75.2	75.4	76.3	76.7	76.5	75.5	76.4
20. Activity rate (% population aged 55-64)	17.9	21.3	22.3	24.9	26.9	25.5	26.7	29.7	29.1	29.2	30.9
21. Total unemployment (000)	139	127	129	116	107	89	81	84	99	103	121
22. Unemployment rate (% labour force)	17.0	15.7	15.7	14.2	13.1	11.2	10.1	10.3	12.3	13.2	15.6
23. Youth unemployment rate (% labour force 15-24)	36.2	36.4	37.1	35.0	31.8	28.5	27.2	28.4	35.1	36.8	44.3
24. Long term unemployment rate (% labour force)	11.0	9.6	9.0	8.6	8.0	7.3	6.5	6.3	7.4	8.6	10.2
25. Youth unemployment ratio (% population aged 15-24)	13.2	12.9	13.4	11.6	9.8	8.4	7.7	7.7	9.7	9.2	10.8

Source: Eurostat.

Labour market indicators: Italy

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	57382	57399	57442	58077	58435	58880	59336	59752	60051	60328	60515
2. Population aged 15-64	38676	38692	38292	38588	38726	38946	39182	39406	39546	39659	39603
3. Total employment (000)	23793	24150	24256	24396	24874	25187	25256	24839	24660	24739	24662
4. Population in employment aged 15-64	21478	21710	22060	22214	22619	22846	23011	22650	22497	22583	22481
5. Employment rate (% population aged 20-64)	59.4	60.0	61.5	61.6	62.5	62.8	63.0	61.7	61.1	61.2	61.0
6. Employment rate (% population aged 15-64)	55.5	56.1	57.6	57.6	58.4	58.7	58.7	57.5	56.9	56.9	56.8
7. Employment rate (% population aged 15-24)	25.8	25.2	27.6	25.7	25.5	24.7	24.4	21.7	20.5	19.4	18.6
8. Employment rate (% population aged 25-54)	70.1	70.7	72.2	72.3	73.3	73.5	73.5	71.9	71.1	71.1	70.3
9. Employment rate (% population aged 55-64)	28.9	30.3	30.5	31.4	32.5	33.8	34.4	35.7	36.6	37.9	40.4
10. FTE employment rate (% population aged 15-64)	53.6	54.3	54.3	54.1	54.8	55.0	55.0	53.9	53.2	53.1	52.5
11. Self-employed (% total employment)	25.5	25.6	25.7	24.7	24.4	24.1	23.6	23.2	23.4	23.2	23.1
12. Part-time employment (% total employment)	8.6	8.5	12.7	12.8	13.3	13.6	14.3	14.3	15.0	15.5	17.1
13. Fixed term contracts (% total employees)	9.9	9.9	11.8	12.3	13.1	13.2	13.3	12.5	12.8	13.4	13.8
14. Employment in Services (% total employment)	66.5	66.9	67.1	67.1	67.3	67.4	67.7	68.3	68.9	69.3	70.1
15. Employment in Industry (% total employment)	29.0	28.9	28.7	28.8	28.6	28.6	28.4	27.8	27.2	26.8	26.2
16. Employment in Agriculture (% total employment)	4.5	4.2	4.2	4.1	4.1	4.0	3.9	3.9	4.0	3.9	3.8
17. Activity rate (% population aged 15-64)	61.1	61.5	62.7	62.5	62.7	62.5	63.0	62.4	62.2	62.2	63.7
18. Activity rate (% population aged 15-24)	35.5	34.6	36.1	33.8	32.5	30.9	30.9	29.1	28.4	27.4	28.7
19. Activity rate (% population aged 25-54)	75.7	76.3	77.5	77.4	77.8	77.6	78.1	77.2	76.9	76.9	77.9
20. Activity rate (% population aged 55-64)	30.2	31.5	31.8	32.6	33.4	34.6	35.5	37.0	38.0	39.5	42.6
21. Total unemployment (000)	2058	2050	1960	1889	1673	1506	1692	1945	2102	2108	2744
22. Unemployment rate (% labour force)	8.5	8.4	8.0	7.7	6.8	6.1	6.7	7.8	8.4	8.4	10.7
23. Youth unemployment rate (% labour force 15-24)	22.0	23.6	23.5	24.0	21.6	20.3	21.3	25.4	27.8	29.1	35.3
24. Long term unemployment rate (% labour force)	5.0	4.9	4.0	3.9	3.4	2.9	3.1	3.5	4.1	4.4	5.7
25. Youth unemployment ratio (% population aged 15-24)	9.7	9.4	8.5	8.1	7.0	6.3	6.6	7.4	7.9	8.0	10.1

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	27858	27873	27830	28192	28406	28629	28849	29047	29181	29304	29401
2. Population aged 15-64	19293	19309	19047	19248	19355	19467	19574	19670	19719	19755	19724
3. Total employment (000)	14816	14990	14747	14854	15083	15247	15176	14876	14699	14669	14475
4. Population in employment aged 15-64	13332	13438	13353	13460	13647	13762	13755	13500	13347	13327	13119
5. Employment rate (% population aged 20-64)	74.0	74.6	74.9	74.8	75.5	75.8	75.4	73.8	72.8	72.6	71.6
6. Employment rate (% population aged 15-64)	69.1	69.6	70.1	69.9	70.5	70.7	70.3	68.6	67.7	67.5	66.5
7. Employment rate (% population aged 15-24)	30.3	29.7	32.1	30.4	30.6	29.6	29.1	26.1	24.3	23.1	21.9
8. Employment rate (% population aged 25-54)	86.0	86.5	86.7	86.6	87.2	87.3	86.7	84.7	83.5	83.4	81.6
9. Employment rate (% population aged 55-64)	41.3	42.8	42.2	42.7	43.7	45.1	45.5	46.7	47.6	48.4	50.4
10. FTE employment rate (% population aged 15-64)	68.4	69.0	68.9	68.5	69.0	69.2	68.9	67.3	66.3	65.9	64.6
11. Self-employed (% total employment)	29.1	29.1	29.1	28.4	28.0	27.8	27.4	27.2	27.6	27.5	27.4
12. Part-time employment (% total employment)	3.5	3.2	4.8	4.6	4.7	5.0	5.3	5.1	5.5	5.9	7.2
13. Fixed term contracts (% total employees)	8.4	8.2	9.9	10.5	11.2	11.2	11.6	10.8	11.4	12.3	12.9
14. Employment in Services (% total employment)	59.2	59.3	58.4	58.1	58.2	58.1	58.1	58.2	58.5	59.1	59.7
15. Employment in Industry (% total employment)	35.8	36.0	36.8	37.1	37.1	37.3	37.4	37.2	36.8	36.3	35.7
16. Employment in Agriculture (% total employment)	5.0	4.7	4.8	4.8	4.8	4.6	4.5	4.6	4.7	4.6	4.6
17. Activity rate (% population aged 15-64)	74.3	74.7	74.9	74.6	74.6	74.4	74.4	73.7	73.3	73.1	73.9
18. Activity rate (% population aged 15-24)	39.9	39.2	40.5	38.7	37.8	36.1	35.9	34.0	33.2	31.6	33.1
19. Activity rate (% population aged 25-54)	91.0	91.5	91.4	91.2	91.3	91.0	91.0	90.0	89.4	89.2	89.4
20. Activity rate (% population aged 55-64)	43.0	44.4	44.0	44.3	45.0	46.3	47.0	48.5	49.6	50.7	53.6
21. Total unemployment (000)	947	937	925	902	801	722	820	1000	1114	1114	1469
22. Unemployment rate (% labour force)	6.5	6.5	6.4	6.2	5.4	4.9	5.5	6.8	7.6	7.6	9.9
23. Youth unemployment rate (% labour force 15-24)	:	:	20.6	21.5	19.1	18.2	18.9	23.3	26.8	27.1	33.7
24. Long term unemployment rate (% labour force)	3.9	3.8	2.9	2.9	2.6	2.2	2.4	2.8	3.6	3.9	5.1
25. Youth unemployment ratio (% population aged 15-24)	9.6	9.5	8.4	8.3	7.2	6.6	6.8	7.9	8.9	8.6	11.1

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	29524	29525	29612	29885	30030	30251	30488	30705	30871	31024	31114
2. Population aged 15-64	19383	19384	19245	19340	19371	19479	19608	19736	19827	19904	19879
3. Total employment (000)	8977	9159	9509	9542	9791	9941	10080	9964	9960	10070	10186
4. Population in employment aged 15-64	8146	8272	8706	8754	8971	9084	9256	9151	9150	9256	9362
5. Employment rate (% population aged 20-64)	44.9	45.6	48.3	48.4	49.6	49.9	50.6	49.7	49.5	49.9	50.5
6. Employment rate (% population aged 15-64)	42.0	42.7	45.2	45.3	46.3	46.6	47.2	46.4	46.1	46.5	47.1
7. Employment rate (% population aged 15-24)	21.3	20.6	23.1	20.8	20.1	19.5	19.4	17.0	16.5	15.5	15.0
8. Employment rate (% population aged 25-54)	54.0	54.9	57.8	57.9	59.3	59.6	60.2	59.1	58.7	58.9	59.1
9. Employment rate (% population aged 55-64)	17.3	18.5	19.6	20.8	21.9	23.0	24.0	25.4	26.2	28.1	30.9
10. FTE employment rate (% population aged 15-64)	39.2	39.9	40.2	40.1	41.0	41.3	41.7	40.9	40.6	40.9	40.9
11. Self-employed (% total employment)	19.7	19.8	20.3	19.1	18.9	18.5	17.9	17.2	17.2	17.0	17.0
12. Part-time employment (% total employment)	16.9	17.3	25.0	25.6	26.5	26.9	27.9	27.9	29.0	29.3	31.1
13. Fixed term contracts (% total employees)	12.0	12.2	14.5	14.7	15.8	15.9	15.6	14.6	14.5	14.7	14.9
14. Employment in Services (% total employment)	78.2	79.0	80.2	80.7	81.1	81.5	82.1	83.2	84.0	84.0	84.5
15. Employment in Industry (% total employment)	18.0	17.7	16.6	16.1	15.7	15.4	15.0	14.0	13.2	13.3	12.9
16. Employment in Agriculture (% total employment)	3.7	3.3	3.3	3.2	3.2	3.0	3.0	2.8	2.8	2.7	2.6
17. Activity rate (% population aged 15-64)	47.9	48.3	50.6	50.4	50.8	50.7	51.6	51.1	51.1	51.5	53.5
18. Activity rate (% population aged 15-24)	31.0	29.9	31.7	28.7	26.9	25.5	25.7	23.9	23.4	22.9	24.0
19. Activity rate (% population aged 25-54)	60.3	60.9	63.6	63.6	64.3	64.1	65.2	64.5	64.4	64.6	66.4
20. Activity rate (% population aged 55-64)	18.1	19.3	20.4	21.5	22.5	23.5	24.7	26.1	27.0	28.9	32.2
21. Total unemployment (000)	1111	1114	1036	986	873	784	872	944	989	994	1275
22. Unemployment rate (% labour force)	11.4	11.3	10.5	10.1	8.8	7.9	8.5	9.3	9.7	9.6	11.9
23. Youth unemployment rate (% labour force 15-24)	:	:	27.2	27.4	25.3	23.3	24.7	28.7	29.4	32.0	37.5
24. Long term unemployment rate (% labour force)	6.8	6.6	5.5	5.2	4.5	3.9	4.1	4.4	4.8	5.0	6.5
25. Youth unemployment ratio (% population aged 15-24)	9.7	9.2	8.6	7.9	6.8	6.0	6.3	6.9	6.9	7.3	9.0

Source: Eurostat.

LFS indicators: Break in series 2004.

Labour market indicators: Cyprus

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	681	690	714	727	737	752	758	775	796	819	839
2. Population aged 15-64	449	460	479	494	500	518	524	538	555	571	585
3. Total employment (000)	328	341	354	366	373	385	393	392	391	393	377
4. Population in employment aged 15-64	308	318	330	338	348	368	371	371	382	386	378
5. Employment rate (% population aged 20-64)	75.1	75.4	74.9	74.4	75.8	76.8	76.5	75.3	75.0	73.4	70.2
6. Employment rate (% population aged 15-64)	68.6	69.2	68.9	68.5	69.6	71.0	70.9	69.0	68.9	67.6	64.6
7. Employment rate (% population aged 15-24)	37.0	37.6	37.5	36.7	37.4	37.4	38.0	34.8	33.8	30.1	28.1
8. Employment rate (% population aged 25-54)	82.2	82.6	82.4	81.8	82.6	83.8	83.7	82.3	82.2	81.3	78.4
9. Employment rate (% population aged 55-64)	49.4	50.4	49.9	50.6	53.6	55.9	54.8	55.7	56.3	54.8	50.7
10. FTE employment rate (% population aged 15-64)	67.4	67.8	68.0	66.7	68.0	69.3	69.0	67.0	66.3	64.9	61.5
11. Self-employed (% total employment)	22.2	22.8	22.6	22.1	20.6	19.7	17.8	17.8	17.3	17.3	16.4
12. Part-time employment (% total employment)	7.2	8.9	8.6	8.9	7.7	7.3	7.8	8.6	9.5	10.2	10.7
13. Fixed term contracts (% total employees)	9.1	12.5	12.9	14.0	13.1	13.2	13.9	13.7	14.0	14.1	15.0
14. Employment in Services (% total employment)	73.4	73.6	73.5	74.0	74.7	74.4	74.8	74.9	75.9	76.9	78.9
15. Employment in Industry (% total employment)	20.5	20.9	21.0	20.9	21.1	21.1	20.9	20.3	19.6	18.6	17.5
16. Employment in Agriculture (% total employment)	6.1	5.5	5.5	5.0	4.2	4.5	4.3	4.8	4.5	4.5	3.6
17. Activity rate (% population aged 15-64)	71.2	72.4	72.6	72.4	73.0	73.9	73.6	73.0	73.6	73.5	73.5
18. Activity rate (% population aged 15-24)	40.2	41.3	42.4	42.6	41.5	41.7	41.7	40.4	40.6	38.8	39.0
19. Activity rate (% population aged 25-54)	84.7	85.8	86.0	85.7	86.2	86.7	86.5	86.3	86.9	87.3	87.6
20. Activity rate (% population aged 55-64)	51.3	52.7	52.4	52.4	55.5	57.7	56.6	58.2	59.1	57.6	56.1
21. Total unemployment (000)	12	14	16	19	17	15	15	22	26	34	52
22. Unemployment rate (% labour force)	3.5	4.1	4.6	5.3	4.6	3.9	3.7	5.4	6.3	7.9	11.9
23. Youth unemployment rate (% labour force 15-24)	8.0	8.8	10.2	13.9	10.0	10.2	9.0	13.8	16.6	22.4	27.8
24. Long term unemployment rate (% labour force)	0.7	1.0	1.2	1.3	0.9	0.7	0.5	0.6	1.3	1.6	3.6
25. Youth unemployment ratio (% population aged 15-24)	3.2	3.7	4.9	5.9	4.1	4.2	3.8	5.6	6.7	8.7	10.8

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	330	333	347	354	360	367	371	374	384	393	402
2. Population aged 15-64	216	221	232	240	244	252	256	257	265	272	278
3. Total employment (000)	184	189	200	208	209	213	218	209	207	206	197
4. Population in employment aged 15-64	171	174	185	190	194	202	203	196	199	200	196
5. Employment rate (% population aged 20-64)	86.2	85.6	86.3	85.5	86.2	86.4	85.2	82.8	81.7	79.6	76.1
6. Employment rate (% population aged 15-64)	78.9	78.8	79.8	79.2	79.4	80.0	79.2	76.3	75.3	73.7	70.4
7. Employment rate (% population aged 15-24)	38.0	38.7	41.6	40.5	41.0	39.1	39.4	36.4	34.4	31.8	30.5
8. Employment rate (% population aged 25-54)	93.0	92.2	92.5	91.8	92.0	92.4	91.4	89.2	88.3	86.4	83.3
9. Employment rate (% population aged 55-64)	67.3	68.9	70.8	70.8	71.6	72.5	70.9	71.2	70.5	69.2	63.5
10. FTE employment rate (% population aged 15-64)	79.5	79.3	80.3	79.4	79.5	79.7	78.8	75.7	73.9	71.8	68.3
11. Self-employed (% total employment)	27.6	28.9	28.2	27.3	25.6	25.3	22.9	22.3	22.0	22.4	21.5
12. Part-time employment (% total employment)	4.0	5.5	4.8	5.0	4.3	4.4	4.8	5.3	6.8	7.7	8.0
13. Fixed term contracts (% total employees)	5.8	8.1	8.5	9.0	7.9	7.6	8.2	7.6	7.1	7.1	9.0
14. Employment in Services (% total employment)	64.5	63.7	63.0	63.4	64.2	62.7	63.3	63.8	65.1	65.1	68.1
15. Employment in Industry (% total employment)	28.4	29.7	30.4	30.4	30.5	31.0	31.0	30.4	29.0	28.9	27.0
16. Employment in Agriculture (% total employment)	7.1	6.6	6.6	6.1	5.3	6.2	5.6	5.8	5.9	6.0	4.9
17. Activity rate (% population aged 15-64)	81.3	82.2	83.0	82.9	82.7	82.9	82.0	80.7	80.4	80.4	80.7
18. Activity rate (% population aged 15-24)	41.3	42.6	46.3	46.6	45.0	43.9	43.1	42.1	40.9	41.4	42.8
19. Activity rate (% population aged 25-54)	95.2	95.2	95.2	95.3	95.3	95.0	94.0	93.5	93.4	93.1	93.8
20. Activity rate (% population aged 55-64)	69.7	73.2	74.2	73.2	74.1	74.8	73.0	74.4	74.3	72.9	71.2
21. Total unemployment (000)	5	7	7	9	8	7	7	11	14	18	29
22. Unemployment rate (% labour force)	2.8	3.7	3.5	4.4	3.9	3.4	3.2	5.3	6.2	8.1	12.6
23. Youth unemployment rate (% labour force 15-24)	8.0	8.7	9.0	13.2	8.9	11.0	8.7	13.6	15.9	23.3	28.8
24. Long term unemployment rate (% labour force)	0.5	0.8	0.9	0.8	0.7	0.8	0.5	0.6	1.3	1.7	4.0
25. Youth unemployment ratio (% population aged 15-24)	3.3	3.9	4.7	6.1	4.0	4.8	3.7	5.7	6.5	9.6	12.3

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	351	356	367	373	377	386	387	401	413	425	436
2. Population aged 15-64	233	239	247	254	257	266	268	281	290	299	307
3. Total employment (000)	144	152	154	159	164	172	175	182	184	187	180
4. Population in employment aged 15-64	138	144	145	148	155	166	168	175	183	186	182
5. Employment rate (% population aged 20-64)	64.7	65.9	64.1	63.8	65.9	67.7	68.2	68.3	68.8	67.7	64.8
6. Employment rate (% population aged 15-64)	59.1	60.4	58.7	58.4	60.3	62.4	62.9	62.3	63.0	62.1	59.4
7. Employment rate (% population aged 15-24)	36.0	36.6	33.8	33.2	34.1	36.0	36.7	33.3	33.3	28.7	26.1
8. Employment rate (% population aged 25-54)	72.0	73.6	72.8	72.2	73.6	75.5	76.2	76.2	76.7	76.7	74.0
9. Employment rate (% population aged 55-64)	32.2	32.7	30.0	31.5	36.6	40.3	39.4	40.6	42.5	40.8	38.2
10. FTE employment rate (% population aged 15-64)	56.3	57.2	56.6	54.9	57.2	59.5	59.7	59.0	59.5	58.6	55.5
11. Self-employed (% total employment)	15.3	15.1	15.2	15.3	14.2	12.8	11.5	12.6	12.1	11.6	10.9
12. Part-time employment (% total employment)	11.3	13.2	13.6	14.0	12.1	10.9	11.4	12.4	12.7	12.9	13.7
13. Fixed term contracts (% total employees)	12.7	17.1	17.7	19.5	19.0	19.2	19.9	20.0	20.7	20.9	20.9
14. Employment in Services (% total employment)	84.5	85.6	86.7	87.4	87.7	88.6	88.6	87.4	88.0	89.6	90.4
15. Employment in Industry (% total employment)	10.5	10.2	9.2	9.0	9.4	9.0	8.7	8.9	9.0	7.6	7.3
16. Employment in Agriculture (% total employment)	4.9	4.1	4.1	3.6	2.9	2.5	2.7	3.6	3.0	2.8	2.3
17. Activity rate (% population aged 15-64)	61.8	63.3	62.8	62.5	63.8	65.4	65.7	66.0	67.4	67.4	66.9
18. Activity rate (% population aged 15-24)	39.2	40.2	39.0	39.0	38.3	39.7	40.5	38.8	40.2	36.6	35.5
19. Activity rate (% population aged 25-54)	74.9	76.9	77.2	76.5	77.4	78.7	79.1	79.8	81.0	82.0	82.0
20. Activity rate (% population aged 55-64)	33.8	33.2	31.6	32.8	37.8	41.6	41.0	42.3	44.3	42.7	41.3
21. Total unemployment (000)	6	7	9	10	9	8	8	10	13	16	23
22. Unemployment rate (% labour force)	4.3	4.7	6.0	6.5	5.4	4.6	4.3	5.5	6.4	7.7	11.1
23. Youth unemployment rate (% labour force 15-24)	8.0	8.9	11.5	14.7	11.1	9.4	9.4	14.0	17.2	21.5	26.7
24. Long term unemployment rate (% labour force)	1.0	1.3	1.6	1.8	1.1	0.7	0.5	0.6	1.3	1.5	3.2
25. Youth unemployment ratio (% population aged 15-24)	3.1	3.6	5.1	5.7	4.3	3.7	3.8	5.4	6.9	7.9	9.5

Source: Eurostat.

LFS indicators: Break in series 2009.

Labour market indicators: Latvia

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	2344	2330	2319	2305	2294	2281	2271	2261	2248	2050	2032
2. Population aged 15-64	1590	1588	1587	1583	1580	1573	1568	1560	1549	1382	1366
3. Total employment (000)	981	1000	1012	1028	1079	1117	1128	979	933	857	878
4. Population in employment aged 15-64	960	982	988	1002	1047	1075	1076	951	919	841	862
5. Employment rate (% population aged 20-64)	67.0	68.9	69.3	70.3	73.5	75.2	75.8	67.1	65.0	66.3	68.2
6. Employment rate (% population aged 15-64)	60.4	61.8	62.3	63.3	66.3	68.3	68.6	60.9	59.3	60.8	63.1
7. Employment rate (% population aged 15-24)	31.0	31.5	30.5	32.6	35.9	38.4	37.2	27.7	26.4	25.8	28.7
8. Employment rate (% population aged 25-54)	76.1	77.7	77.9	78.4	81.1	82.3	82.6	74.7	73.4	75.0	76.4
9. Employment rate (% population aged 55-64)	41.7	44.1	47.9	49.5	53.3	57.7	59.4	53.2	48.2	50.5	52.8
10. FTE employment rate (% population aged 15-64)	59.9	61.1	60.8	63.0	66.1	68.3	68.5	59.6	57.6	59.4	61.5
11. Self-employed (% total employment)	14.2	13.4	13.5	11.9	11.9	11.0	10.3	11.6	11.7	11.6	11.7
12. Part-time employment (% total employment)	9.7	10.3	10.4	8.3	6.5	6.4	6.3	8.9	9.7	9.2	9.4
13. Fixed term contracts (% total employees)	13.9	11.1	9.5	8.4	7.1	4.2	3.3	4.3	6.8	6.6	4.7
14. Employment in Services (% total employment)	59.4	59.4	59.9	61.6	61.8	62.6	64.3	67.6	67.8	67.9	68.3
15. Employment in Industry (% total employment)	26.0	27.2	27.2	27.3	27.3	28.1	27.9	23.9	23.5	23.3	23.5
16. Employment in Agriculture (% total employment)	14.6	13.4	13.0	11.2	10.9	9.3	7.8	8.6	8.7	8.8	8.3
17. Activity rate (% population aged 15-64)	68.8	69.2	69.7	69.6	71.3	72.8	74.4	73.9	73.2	72.8	74.4
18. Activity rate (% population aged 15-24)	39.1	38.4	37.2	37.7	40.8	43.0	42.9	41.7	40.4	37.5	40.1
19. Activity rate (% population aged 25-54)	85.7	86.3	86.3	85.6	86.4	87.2	88.9	88.5	88.5	88.0	88.4
20. Activity rate (% population aged 55-64)	46.3	47.9	52.3	53.9	57.1	60.3	63.3	61.4	57.1	59.4	61.7
21. Total unemployment (000)	132	112	111	95	75	67	85	191	203	167	156
22. Unemployment rate (% labour force)	12.8	11.3	11.2	9.6	7.3	6.5	8.0	18.2	19.8	16.2	14.9
23. Youth unemployment rate (% labour force 15-24)	23.6	19.9	20.0	15.0	13.5	11.9	14.5	36.2	37.2	31.0	28.4
24. Long term unemployment rate (% labour force)	5.8	4.7	4.9	4.4	2.7	1.7	2.1	4.9	8.9	8.8	7.8
25. Youth unemployment ratio (% population aged 15-24)	8.1	6.9	6.8	5.1	5.0	4.6	5.6	14.0	13.9	11.6	11.4

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1078	1071	1068	1062	1057	1052	1047	1043	1038	933	926
2. Population aged 15-64	762	761	764	763	763	761	759	757	752	662	656
3. Total employment (000)	501	513	518	530	553	573	574	476	451	414	431
4. Population in employment aged 15-64	490	503	507	516	537	552	547	462	445	407	424
5. Employment rate (% population aged 20-64)	71.4	73.9	74.1	75.4	78.2	80.1	79.7	67.4	65.1	67.5	70.2
6. Employment rate (% population aged 15-64)	64.3	66.1	66.4	67.6	70.4	72.5	72.1	61.0	59.2	61.5	64.6
7. Employment rate (% population aged 15-24)	36.4	37.1	36.4	38.7	42.8	43.4	42.4	29.3	27.8	28.3	31.9
8. Employment rate (% population aged 25-54)	78.1	80.7	80.4	81.7	83.7	85.6	85.4	74.5	72.9	75.1	77.8
9. Employment rate (% population aged 55-64)	50.5	51.3	55.8	55.2	59.5	64.6	63.1	53.1	47.6	51.7	53.1
10. FTE employment rate (% population aged 15-64)	63.5	66.3	66.8	67.7	70.5	73.0	72.4	60.2	57.9	60.5	63.6
11. Self-employed (% total employment)	16.1	15.4	14.7	13.8	13.7	13.3	13.0	14.7	13.9	14.0	14.2
12. Part-time employment (% total employment)	7.6	7.9	7.7	6.3	4.7	4.9	4.5	7.5	7.8	7.3	7.1
13. Fixed term contracts (% total employees)	17.0	13.1	11.6	10.7	8.8	5.5	4.7	5.8	8.9	7.9	6.2
14. Employment in Services (% total employment)	47.3	47.4	48.3	49.1	48.2	48.2	50.3	55.3	54.0	54.6	54.8
15. Employment in Industry (% total employment)	34.7	35.9	35.8	36.5	37.9	40.2	39.6	33.3	34.1	32.9	33.3
16. Employment in Agriculture (% total employment)	18.0	16.7	15.9	14.4	13.8	11.7	10.1	11.5	11.9	12.5	11.9
17. Activity rate (% population aged 15-64)	74.1	74.1	74.3	74.4	76.2	77.6	78.6	77.0	75.8	75.8	77.2
18. Activity rate (% population aged 15-24)	44.6	44.5	43.3	43.8	47.8	48.9	48.8	46.8	43.0	41.1	44.1
19. Activity rate (% population aged 25-54)	89.2	89.7	89.7	89.4	90.0	91.0	92.2	91.1	91.3	90.8	91.2
20. Activity rate (% population aged 55-64)	57.1	56.1	60.4	61.0	64.4	67.9	68.7	63.8	58.9	62.5	63.0
21. Total unemployment (000)	74	57	57	49	41	36	46	112	116	95	83
22. Unemployment rate (% labour force)	14.1	11.5	11.5	9.8	8.0	6.9	8.6	21.7	23.1	18.6	16.0
23. Youth unemployment rate (% labour force 15-24)	21.9	18.3	17.6	13.0	11.6	12.4	14.5	40.2	38.0	31.3	27.6
24. Long term unemployment rate (% labour force)	6.7	4.6	5.1	4.8	3.3	2.1	2.1	5.9	11.1	11.0	8.5
25. Youth unemployment ratio (% population aged 15-24)	8.2	7.4	6.9	5.2	5.0	5.5	6.4	17.6	15.2	12.9	12.2

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1266	1258	1251	1244	1237	1230	1224	1218	1211	1117	1106
2. Population aged 15-64	828	826	823	820	817	812	808	803	797	720	710
3. Total employment (000)	481	487	494	498	526	545	554	504	482	443	447
4. Population in employment aged 15-64	471	478	482	487	510	523	529	489	474	434	438
5. Employment rate (% population aged 20-64)	63.0	64.3	65.0	65.7	69.1	70.7	72.1	66.8	64.9	65.3	66.4
6. Employment rate (% population aged 15-64)	56.8	57.9	58.5	59.3	62.4	64.4	65.4	60.9	59.4	60.2	61.7
7. Employment rate (% population aged 15-24)	25.4	25.7	24.4	26.3	28.7	33.1	31.9	26.0	25.1	23.4	25.4
8. Employment rate (% population aged 25-54)	74.3	74.9	75.5	75.3	78.6	79.1	79.9	74.9	73.8	74.8	75.1
9. Employment rate (% population aged 55-64)	35.2	38.8	41.9	45.2	48.7	52.4	56.7	53.3	48.7	49.7	52.5
10. FTE employment rate (% population aged 15-64)	56.7	56.5	55.2	58.5	62.0	63.9	64.9	59.1	57.4	58.3	59.7
11. Self-employed (% total employment)	12.2	11.3	12.4	10.0	10.1	8.6	7.5	8.7	9.6	9.3	9.3
12. Part-time employment (% total employment)	12.0	12.7	13.2	10.4	8.3	8.0	8.1	10.2	11.4	10.9	11.6
13. Fixed term contracts (% total employees)	10.8	9.1	7.3	6.2	5.4	2.9	2.0	2.9	5.0	5.5	3.3
14. Employment in Services (% total employment)	71.9	72.1	72.0	74.9	76.1	77.5	78.5	79.0	80.6	80.4	81.2
15. Employment in Industry (% total employment)	17.1	18.1	18.1	17.4	16.1	15.6	16.0	15.1	13.7	14.3	14.0
16. Employment in Agriculture (% total employment)	11.0	9.8	9.9	7.7	7.8	6.9	5.5	5.9	5.7	5.3	4.9
17. Activity rate (% population aged 15-64)	63.9	64.7	65.3	65.1	66.7	68.3	70.5	71.0	70.7	70.1	71.9
18. Activity rate (% population aged 15-24)	33.4	32.1	31.0	31.3	33.6	36.8	36.7	36.3	37.7	33.7	36.0
19. Activity rate (% population aged 25-54)	82.3	83.0	83.1	82.0	82.9	83.6	85.7	86.1	85.9	85.3	85.7
20. Activity rate (% population aged 55-64)	38.2	41.8	46.1	48.6	51.6	54.6	59.3	59.7	55.8	57.1	60.8
21. Total unemployment (000)	58	55	54	46	33	31	40	78	87	71	72
22. Unemployment rate (% labour force)	11.5	11.2	10.9	9.3	6.6	6.0	7.4	14.8	16.7	13.8	13.9
23. Youth unemployment rate (% labour force 15-24)	25.9	22.1	23.4	17.9	16.3	11.2	14.6	30.9	36.3	30.6	29.3
24. Long term unemployment rate (% labour force)	4.8	4.8	4.7	4.0	2.0	1.3	2.0	3.8	6.8	6.7	6.9
25. Youth unemployment ratio (% population aged 15-24)	8.1	6.4	6.6	5.1	4.9	3.7	4.8	10.3	12.6	10.3	10.6

Source: Eurostat.

LFS indicators: Break in series 2011.

Labour market indicators: Lithuania

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	3453	3445	3434	3424	3403	3385	3366	3350	3311	3033	2996
2. Population aged 15-64	2303	2305	2311	2322	2321	2319	2316	2309	2283	2037	2006
3. Total employment (000)	1395	1426	1425	1461	1487	1529	1519	1415	1343	1370	1278
4. Population in employment aged 15-64	1379	1408	1413	1454	1476	1506	1490	1388	1320	1228	1247
5. Employment rate (% population aged 20-64)	67.2	68.9	69.0	70.6	71.6	72.9	72.0	67.2	64.4	67.0	68.7
6. Employment rate (% population aged 15-64)	59.9	61.1	61.2	62.6	63.6	64.9	64.3	60.1	57.8	60.3	62.2
7. Employment rate (% population aged 15-24)	23.8	22.5	20.3	21.2	23.7	25.2	26.7	21.5	19.2	19.1	21.6
8. Employment rate (% population aged 25-54)	76.9	78.9	79.4	81.0	81.7	82.5	81.2	76.3	73.8	77.1	78.6
9. Employment rate (% population aged 55-64)	41.6	44.7	47.1	49.2	49.6	53.4	53.1	51.6	48.6	50.1	51.8
10. FTE employment rate (% population aged 15-64)	60.3	62.0	60.3	61.9	62.5	64.1	63.7	58.9	57.0	59.4	61.1
11. Self-employed (% total employment)	20.2	20.5	18.7	17.1	15.8	13.7	11.5	12.1	11.0	10.6	11.1
12. Part-time employment (% total employment)	10.8	9.6	8.4	7.1	9.9	8.6	6.7	8.3	8.1	8.9	9.4
13. Fixed term contracts (% total employees)	7.2	7.2	6.3	5.5	4.5	3.5	2.4	2.2	2.4	2.8	2.6
14. Employment in Services (% total employment)	55.3	54.5	56.4	57.1	58.3	59.2	61.5	63.8	66.3	66.9	66.1
15. Employment in Industry (% total employment)	27.1	27.8	28.0	29.1	29.6	30.6	30.6	27.0	24.6	24.6	25.0
16. Employment in Agriculture (% total employment)	17.7	17.7	15.6	13.9	12.1	10.1	7.9	9.2	9.0	8.5	8.9
17. Activity rate (% population aged 15-64)	69.6	69.9	69.1	68.4	67.4	67.9	68.4	69.8	70.5	71.4	71.9
18. Activity rate (% population aged 15-24)	30.9	30.0	26.2	25.1	26.3	27.4	30.8	30.3	29.6	28.1	29.3
19. Activity rate (% population aged 25-54)	88.5	88.8	88.7	87.9	86.2	86.0	85.5	87.3	88.5	89.8	89.8
20. Activity rate (% population aged 55-64)	46.9	50.5	52.6	52.8	52.9	55.6	55.6	57.6	56.8	57.9	58.8
21. Total unemployment (000)	222	200	178	125	80	58	81	210	274	226	195
22. Unemployment rate (% labour force)	13.8	12.4	11.3	8.0	5.2	3.8	5.3	13.6	18.0	15.3	13.3
23. Youth unemployment rate (% labour force 15-24)	22.9	24.7	22.1	14.9	8.6	6.8	12.2	29.0	35.3	32.2	26.4
24. Long term unemployment rate (% labour force)	7.4	5.9	5.8	4.2	2.3	1.2	1.1	3.2	7.4	8.0	6.5
25. Youth unemployment ratio (% population aged 15-24)	7.1	7.5	5.9	3.9	2.6	2.2	4.1	8.9	10.4	9.0	7.7

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1611	1607	1601	1597	1587	1577	1567	1559	1539	1398	1380
2. Population aged 15-64	1104	1108	1113	1119	1121	1121	1121	1119	1105	981	968
3. Total employment (000)	702	720	728	744	750	775	768	680	640	661	620
4. Population in employment aged 15-64	692	709	720	740	743	761	752	666	628	593	605
5. Employment rate (% population aged 20-64)	70.8	72.5	73.4	74.9	75.2	76.5	75.5	66.9	63.6	67.5	69.4
6. Employment rate (% population aged 15-64)	62.7	64.0	64.7	66.1	66.3	67.9	67.1	59.5	56.8	60.4	62.5
7. Employment rate (% population aged 15-24)	27.1	26.3	24.0	24.8	26.4	29.6	30.9	22.0	20.2	21.0	22.7
8. Employment rate (% population aged 25-54)	78.0	79.8	81.7	83.3	84.1	84.3	82.7	74.6	71.4	76.0	78.1
9. Employment rate (% population aged 55-64)	51.5	55.3	57.6	59.1	55.7	60.8	60.2	56.0	52.3	54.2	56.2
10. FTE employment rate (% population aged 15-64)	64.4	65.8	64.8	66.2	66.1	67.8	67.2	59.1	56.6	60.2	62.3
11. Self-employed (% total employment)	23.4	23.8	21.0	19.4	17.7	16.3	14.2	14.8	13.0	12.5	13.4
12. Part-time employment (% total employment)	9.4	7.4	6.5	5.1	7.9	7.0	4.9	7.0	6.7	7.1	7.4
13. Fixed term contracts (% total employees)	9.8	9.6	8.7	7.6	6.4	4.9	2.9	2.9	3.3	3.7	3.4
14. Employment in Services (% total employment)	45.1	44.9	46.5	46.5	46.1	46.2	48.0	51.3	54.9	56.0	54.1
15. Employment in Industry (% total employment)	33.6	34.2	35.5	37.0	39.7	41.3	42.1	37.0	33.6	33.4	34.4
16. Employment in Agriculture (% total employment)	21.3	21.0	18.0	16.4	14.2	12.6	9.9	11.7	11.5	10.7	11.5
17. Activity rate (% population aged 15-64)	73.6	73.5	72.8	72.1	70.5	71.0	71.4	72.0	72.4	73.6	73.8
18. Activity rate (% population aged 15-24)	35.2	34.1	30.9	29.5	29.3	31.8	35.4	33.9	32.8	31.9	32.4
19. Activity rate (% population aged 25-54)	90.5	90.5	90.7	90.1	88.7	87.9	87.4	88.3	89.2	90.8	90.7
20. Activity rate (% population aged 55-64)	59.8	62.0	63.7	63.8	59.9	63.4	63.0	63.8	63.0	64.4	65.0
21. Total unemployment (000)	120	103	87	63	41	28	42	131	163	130	110
22. Unemployment rate (% labour force)	14.6	12.6	10.9	7.9	5.4	3.7	5.5	17.1	21.6	17.7	15.1
23. Youth unemployment rate (% labour force 15-24)	23.0	22.3	22.0	15.2	8.8	5.5	11.4	35.2	38.9	34.3	29.9
24. Long term unemployment rate (% labour force)	7.9	5.9	5.5	4.1	2.3	1.2	0.9	3.6	9.1	9.2	7.3
25. Youth unemployment ratio (% population aged 15-24)	8.1	7.8	7.0	4.7	2.9	2.2	4.4	11.9	12.6	10.9	9.7

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1842	1839	1832	1827	1817	1808	1799	1791	1772	1636	1616
2. Population aged 15-64	1200	1197	1197	1202	1200	1198	1196	1190	1178	1055	1038
3. Total employment (000)	693	706	698	717	737	754	751	735	703	709	658
4. Population in employment aged 15-64	687	699	693	714	733	745	739	722	692	636	642
5. Employment rate (% population aged 20-64)	63.9	65.6	65.0	66.6	68.3	69.5	68.8	67.5	65.1	66.6	67.9
6. Employment rate (% population aged 15-64)	57.2	58.4	57.8	59.4	61.0	62.2	61.8	60.7	58.7	60.2	61.9
7. Employment rate (% population aged 15-24)	20.5	18.5	16.5	17.4	20.9	20.5	22.2	20.9	18.2	17.0	20.4
8. Employment rate (% population aged 25-54)	75.8	78.0	77.3	78.8	79.5	80.8	79.7	78.0	76.1	78.2	79.2
9. Employment rate (% population aged 55-64)	34.1	36.7	39.3	41.7	45.1	47.9	47.8	48.3	45.8	47.0	48.3
10. FTE employment rate (% population aged 15-64)	56.5	58.4	56.1	57.8	59.1	60.6	60.3	58.8	57.3	58.6	60.0
11. Self-employed (% total employment)	17.0	17.2	16.3	14.7	13.9	11.0	8.8	9.6	9.1	8.8	9.0
12. Part-time employment (% total employment)	12.3	11.8	10.5	9.1	12.0	10.2	8.6	9.5	9.3	10.5	11.3
13. Fixed term contracts (% total employees)	4.9	4.8	3.9	3.6	2.7	2.3	1.9	1.6	1.7	1.9	2.0
14. Employment in Services (% total employment)	65.5	64.3	66.7	68.0	70.7	72.6	75.3	75.3	76.7	77.2	77.4
15. Employment in Industry (% total employment)	20.5	21.4	20.1	20.8	19.4	19.7	18.9	17.7	16.5	16.4	16.1
16. Employment in Agriculture (% total employment)	14.0	14.3	13.2	11.2	9.9	7.6	5.8	6.9	6.8	6.5	6.4
17. Activity rate (% population aged 15-64)	65.8	66.5	65.6	64.9	64.6	65.0	65.5	67.8	68.8	69.3	70.1
18. Activity rate (% population aged 15-24)	26.6	25.8	21.4	20.5	23.1	22.8	26.0	26.7	26.3	24.1	26.1
19. Activity rate (% population aged 25-54)	86.7	87.2	86.8	85.8	83.8	84.2	83.8	86.3	87.9	88.9	89.0
20. Activity rate (% population aged 55-64)	37.2	41.8	44.2	44.5	47.6	49.7	50.0	52.9	52.2	52.9	54.1
21. Total unemployment (000)	102	97	91	62	38	29	39	79	111	96	85
22. Unemployment rate (% labour force)	12.9	12.1	11.7	8.1	5.1	3.9	5.2	10.1	14.4	12.9	11.5
23. Youth unemployment rate (% labour force 15-24)	22.8	28.0	22.3	14.5	8.4	8.6	13.4	20.7	30.6	29.3	21.9
24. Long term unemployment rate (% labour force)	6.8	5.9	6.1	4.4	2.3	1.2	1.3	2.7	5.8	6.7	5.7
25. Youth unemployment ratio (% population aged 15-24)	6.1	7.3	4.9	3.1	2.2	2.3	3.8	5.8	8.1	7.1	5.7

Source: Eurostat.

LFS indicators: Break in series 2011;

Indicator 3, 11, 14, 15, 16: Break in series 2012.

Labour market indicators: Luxembourg

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	436	443	446	450	456	465	467	481	488	500	513
2. Population aged 15-64	295	300	301	304	307	316	318	330	335	344	355
3. Total employment (000)	288	293	299	308	319	333	350	354	360	370	379
4. Population in employment aged 15-64	187	186	188	193	195	203	202	215	219	222	234
5. Employment rate (% population aged 20-64)	68.2	67.2	67.7	69.0	69.1	69.6	68.8	70.4	70.7	70.1	71.4
6. Employment rate (% population aged 15-64)	63.4	62.2	62.5	63.6	63.6	64.2	63.4	65.2	65.2	64.6	65.8
7. Employment rate (% population aged 15-24)	31.2	27.0	23.3	24.9	23.3	22.5	23.8	26.7	21.2	20.7	21.7
8. Employment rate (% population aged 25-54)	79.0	77.8	79.3	80.7	81.0	81.9	80.0	81.2	82.3	82.0	83.1
9. Employment rate (% population aged 55-64)	28.1	30.3	30.4	31.7	33.2	32.0	34.1	38.2	39.6	39.3	41.0
10. FTE employment rate (% population aged 15-64)	60.9	58.3	58.2	59.2	59.7	60.5	59.4	59.7	59.8	59.3	60.5
11. Self-employed (% total employment)	6.9	6.8	6.7	6.5	6.2	6.0	6.0	6.1	6.1	6.1	6.0
12. Part-time employment (% total employment)	10.7	13.4	16.4	17.4	17.1	17.8	18.0	18.2	17.9	18.4	19.0
13. Fixed term contracts (% total employees)	5.1	3.1	4.8	5.3	6.1	6.8	6.2	7.2	7.1	7.1	7.7
14. Employment in Services (% total employment)	75.0	74.4	74.6	75.0	75.3	75.8	76.6	77.2	77.5	77.8	78.2
15. Employment in Industry (% total employment)	23.5	23.9	23.7	23.4	23.2	22.7	22.1	21.6	21.3	21.0	20.6
16. Employment in Agriculture (% total employment)	1.4	1.7	1.6	1.6	1.6	1.6	1.2	1.2	1.2	1.2	1.2
17. Activity rate (% population aged 15-64)	65.2	64.6	65.8	66.6	66.7	66.9	66.8	68.7	68.2	67.9	69.4
18. Activity rate (% population aged 15-24)	33.8	30.4	28.0	28.8	27.8	26.5	29.0	32.3	24.7	24.9	26.8
19. Activity rate (% population aged 25-54)	81.0	80.4	83.0	83.9	84.5	84.7	83.4	84.8	85.7	85.6	87.0
20. Activity rate (% population aged 55-64)	28.2	30.7	30.9	32.4	33.6	32.7	35.1	39.4	40.6	40.4	41.9
21. Total unemployment (000)	5	7	10	9	9	9	10	12	11	11	13
22. Unemployment rate (% labour force)	2.6	3.8	5.0	4.6	4.6	4.2	4.9	5.1	4.6	4.8	5.1
23. Youth unemployment rate (% labour force 15-24)	7.0	11.2	16.4	14.6	15.5	15.6	17.3	16.5	15.8	16.4	18.0
24. Long term unemployment rate (% labour force)	0.7	1.0	1.0	1.2	1.4	1.2	1.6	1.2	1.3	1.4	1.5
25. Youth unemployment ratio (% population aged 15-24)	2.6	3.3	4.7	3.9	4.5	4.0	5.2	5.5	3.5	4.2	5.0

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	216	219	221	223	232	234	233	240	243	249	256
2. Population aged 15-64	149	151	152	153	153	157	161	167	169	175	180
3. Total employment (000)	179	174	176	179	181	187	200	202	204	210	212
4. Population in employment aged 15-64	112	111	111	112	111	114	115	122	124	126	130
5. Employment rate (% population aged 20-64)	80.8	79.1	78.9	79.4	78.9	78.3	77.2	79.0	79.2	78.1	78.5
6. Employment rate (% population aged 15-64)	75.1	73.3	72.8	73.3	72.6	72.3	71.5	73.2	73.1	72.1	72.5
7. Employment rate (% population aged 15-24)	34.3	28.0	26.0	28.4	25.4	26.5	27.0	29.1	22.1	22.8	23.4
8. Employment rate (% population aged 25-54)	93.1	91.6	92.2	92.8	92.7	92.2	90.2	90.8	92.0	90.8	91.0
9. Employment rate (% population aged 55-64)	37.7	39.7	38.3	38.3	38.7	35.6	38.7	46.5	47.7	47.0	47.4
10. FTE employment rate (% population aged 15-64)	76.0	72.9	72.9	73.7	73.5	73.8	72.3	71.6	71.8	70.7	71.0
11. Self-employed (% total employment)	7.9	7.2	7.5	7.1	7.1	6.8	6.1	7.1	6.9	6.8	6.4
12. Part-time employment (% total employment)	1.8	1.6	2.5	2.5	2.6	2.6	2.7	5.6	4.0	4.8	5.4
13. Fixed term contracts (% total employees)	4.7	2.4	4.1	4.9	5.7	6.2	5.9	6.3	6.2	6.3	7.3
14. Employment in Services (% total employment)	64.5	63.7	64.5	64.6	64.2	64.6	67.5	67.3	68.2	67.9	68.2
15. Employment in Industry (% total employment)	33.8	34.3	33.6	33.5	33.9	33.4	31.0	31.2	30.4	30.6	30.3
16. Employment in Agriculture (% total employment)	1.7	2.0	1.9	1.9	1.9	2.0	1.4	1.5	1.5	1.5	1.4
17. Activity rate (% population aged 15-64)	76.7	75.5	75.6	76.0	75.3	75.0	74.7	76.6	76.0	75.0	75.9
18. Activity rate (% population aged 15-24)	36.6	31.0	29.6	32.1	30.6	30.6	30.9	34.9	26.8	26.3	28.8
19. Activity rate (% population aged 25-54)	94.9	94.1	95.3	95.5	95.3	94.9	93.7	94.1	94.8	93.9	94.6
20. Activity rate (% population aged 55-64)	37.9	40.1	38.8	39.4	38.9	36.4	39.7	47.7	48.8	48.4	48.3
21. Total unemployment (000)	2	3	4	4	4	4	5	6	5	5	6
22. Unemployment rate (% labour force)	2.0	3.0	3.6	3.6	3.5	3.4	4.1	4.5	3.8	3.9	4.5
23. Youth unemployment rate (% labour force 15-24)	5.8	9.9	12.0	12.6	16.0	13.8	13.4	15.0	17.2	15.1	18.5
24. Long term unemployment rate (% labour force)	0.6	0.9	0.8	1.2	1.2	1.3	1.2	0.9	1.3	1.3	1.3
25. Youth unemployment ratio (% population aged 15-24)	2.3	3.0	3.6	3.8	5.2	4.1	3.9	5.8	4.7	3.5	5.4

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	221	224	224	227	225	230	235	241	246	250	257
2. Population aged 15-64	146	148	149	151	154	159	157	163	166	170	175
3. Total employment (000)	109	119	123	129	138	146	150	152	156	161	167
4. Population in employment aged 15-64	76	76	77	81	84	89	87	93	95	97	103
5. Employment rate (% population aged 20-64)	55.4	55.1	56.2	58.4	59.4	61.0	60.1	61.5	62.0	61.9	64.1
6. Employment rate (% population aged 15-64)	51.6	50.9	51.9	53.7	54.6	56.1	55.1	57.0	57.2	56.9	59.0
7. Employment rate (% population aged 15-24)	28.0	26.1	20.5	21.3	21.2	18.4	20.6	24.2	20.3	18.5	20.1
8. Employment rate (% population aged 25-54)	64.6	63.8	66.2	68.4	69.5	71.7	69.5	71.4	72.6	72.9	75.0
9. Employment rate (% population aged 55-64)	18.4	20.6	22.2	24.9	27.8	28.6	29.3	29.4	31.3	31.3	34.3
10. FTE employment rate (% population aged 15-64)	45.7	43.7	43.3	44.4	46.1	47.5	46.2	47.7	48.0	47.8	50.0
11. Self-employed (% total employment)	5.3	6.1	5.5	5.7	5.1	5.0	6.0	4.8	5.0	5.1	5.5
12. Part-time employment (% total employment)	25.3	30.7	36.3	38.2	36.2	37.2	38.3	35.1	36.0	36.1	36.3
13. Fixed term contracts (% total employees)	5.6	4.2	5.8	5.8	6.6	7.6	6.6	8.4	8.3	8.2	8.2
14. Employment in Services (% total employment)	92.1	91.0	90.1	90.7	91.2	91.2	89.8	91.9	91.0	92.1	92.3
15. Employment in Industry (% total employment)	7.0	7.8	8.6	8.3	7.7	7.8	9.3	7.3	8.2	7.1	6.9
16. Employment in Agriculture (% total employment)	0.9	1.2	1.3	1.0	1.1	1.0	0.9	0.8	0.9	0.9	0.9
17. Activity rate (% population aged 15-64)	53.6	53.5	55.8	57.0	58.2	58.9	58.7	60.7	60.3	60.7	62.8
18. Activity rate (% population aged 15-24)	30.9	29.7	26.4	25.5	25.0	22.3	27.1	29.5	22.7	23.4	24.7
19. Activity rate (% population aged 25-54)	66.8	66.5	70.4	72.2	73.8	74.7	72.9	75.3	76.4	77.1	79.2
20. Activity rate (% population aged 55-64)	18.5	21.2	22.6	25.1	28.5	29.1	30.3	30.6	32.0	32.1	35.2
21. Total unemployment (000)	3	4	6	5	5	5	5	6	6	6	6
22. Unemployment rate (% labour force)	3.5	4.9	6.8	6.1	5.9	5.1	5.9	5.9	5.5	6.0	5.8
23. Youth unemployment rate (% labour force 15-24)	8.6	12.5	21.5	17.2	14.9	18.2	22.0	18.2	14.3	17.9	17.5
24. Long term unemployment rate (% labour force)	0.8	0.9	1.3	1.2	1.5	1.1	2.1	1.6	1.4	1.5	1.8
25. Youth unemployment ratio (% population aged 15-24)	2.9	3.6	5.9	4.1	3.8	3.9	6.5	5.2	2.3	4.9	4.6

Source: Eurostat.

Labour market indicators: Hungary

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	10012	9980	9944	9932	9921	9907	9893	9867	9852	9833	9802
2. Population aged 15-64	6849	6836	6826	6815	6816	6800	6794	6771	6769	6770	6716
3. Total employment (000)	4227	4227	4186	4174	4192	4222	4146	4043	4071	4088	4090
4. Population in employment aged 15-64	3850	3897	3875	3879	3906	3897	3849	3751	3750	3779	3843
5. Employment rate (% population aged 20-64)	61.4	62.4	62.1	62.2	62.6	62.6	61.9	60.5	60.4	60.7	62.1
6. Employment rate (% population aged 15-64)	56.2	57.0	56.8	56.9	57.3	57.3	56.7	55.4	55.4	55.8	57.2
7. Employment rate (% population aged 15-24)	28.5	26.8	23.6	21.8	21.7	21.0	20.0	18.1	18.3	18.3	18.6
8. Employment rate (% population aged 25-54)	73.0	73.7	73.6	73.7	74.2	74.6	74.4	72.9	72.5	73.1	74.6
9. Employment rate (% population aged 55-64)	25.6	28.9	31.1	33.0	33.6	33.1	31.4	32.8	34.4	35.8	36.9
10. FTE employment rate (% population aged 15-64)	56.2	56.9	56.5	56.5	57.0	56.9	56.2	54.6	54.6	54.7	56.1
11. Self-employed (% total employment)	14.9	13.8	13.6	12.7	12.2	11.6	11.4	10.9	10.6	10.8	10.7
12. Part-time employment (% total employment)	3.6	4.4	4.7	4.1	4.0	4.1	4.6	5.6	5.8	6.8	7.0
13. Fixed term contracts (% total employees)	7.3	7.5	6.8	7.0	6.7	7.3	7.9	8.5	9.7	8.9	9.4
14. Employment in Services (% total employment)	56.6	58.5	59.7	60.7	61.0	61.6	61.9	63.0	63.7	63.2	63.1
15. Employment in Industry (% total employment)	32.3	32.0	31.5	31.0	31.0	31.0	31.0	30.1	29.4	29.7	29.5
16. Employment in Agriculture (% total employment)	11.1	9.4	8.8	8.3	8.0	7.5	7.1	6.9	6.9	7.1	7.4
17. Activity rate (% population aged 15-64)	59.7	60.6	60.5	61.3	62.0	61.9	61.5	61.6	62.4	62.7	64.3
18. Activity rate (% population aged 15-24)	32.6	31.0	27.9	27.1	26.8	25.6	25.0	24.6	24.9	24.7	25.9
19. Activity rate (% population aged 25-54)	77.0	77.8	77.9	78.7	79.6	80.0	80.1	80.2	80.9	81.3	82.9
20. Activity rate (% population aged 55-64)	26.4	29.8	32.0	34.3	34.9	34.5	33.1	35.0	37.3	39.2	40.0
21. Total unemployment (000)	229	240	252	302	317	312	329	421	475	468	476
22. Unemployment rate (% labour force)	5.6	5.8	6.1	7.2	7.5	7.4	7.8	10.0	11.2	10.9	10.9
23. Youth unemployment rate (% labour force 15-24)	11.9	13.2	15.5	19.4	19.1	18.1	19.9	26.5	26.6	26.1	28.1
24. Long term unemployment rate (% labour force)	2.4	2.4	2.7	3.2	3.4	3.4	3.6	4.2	5.5	5.2	4.9
25. Youth unemployment ratio (% population aged 15-24)	4.1	4.1	4.3	5.2	5.1	4.6	5.0	6.5	6.6	6.4	7.3

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	4742	4722	4703	4698	4692	4691	4680	4671	4664	4658	4645
2. Population aged 15-64	3338	3329	3329	3328	3328	3319	3321	3316	3321	3331	3296
3. Total employment (000)	2307	2292	2273	2264	2280	2305	2256	2186	2178	2206	2196
4. Population in employment aged 15-64	2100	2113	2102	2101	2122	2126	2093	2026	2005	2039	2061
5. Employment rate (% population aged 20-64)	69.0	69.6	69.2	69.2	69.9	70.2	69.0	67.0	66.0	66.8	68.1
6. Employment rate (% population aged 15-64)	62.9	63.5	63.1	63.1	63.8	64.0	63.0	61.1	60.4	61.2	62.5
7. Employment rate (% population aged 15-24)	31.2	29.8	26.3	24.4	24.5	24.2	23.2	19.9	20.0	19.9	20.0
8. Employment rate (% population aged 25-54)	79.7	80.1	80.5	80.3	81.0	81.3	81.0	78.9	77.9	79.6	80.4
9. Employment rate (% population aged 55-64)	35.5	37.8	38.4	40.6	41.4	41.7	38.5	39.9	39.6	39.8	42.6
10. FTE employment rate (% population aged 15-64)	63.6	64.0	63.7	63.3	64.1	64.3	63.1	60.9	60.1	60.7	62.1
11. Self-employed (% total employment)	18.3	17.4	16.9	15.8	15.1	14.1	14.2	13.5	13.2	13.5	13.0
12. Part-time employment (% total employment)	2.3	2.8	3.2	2.7	2.6	2.8	3.3	3.9	3.9	4.7	4.7
13. Fixed term contracts (% total employees)	7.9	8.3	7.5	7.6	7.4	7.7	8.7	9.0	10.1	9.4	10.3
14. Employment in Services (% total employment)	46.3	47.5	48.5	49.1	49.4	49.9	50.4	51.1	52.0	51.8	51.7
15. Employment in Industry (% total employment)	39.0	39.3	39.2	39.6	39.7	39.7	39.9	39.5	38.2	38.4	38.2
16. Employment in Agriculture (% total employment)	14.7	13.2	12.3	11.3	10.9	10.5	9.7	9.4	9.7	9.8	10.1
17. Activity rate (% population aged 15-64)	67.1	67.6	67.2	67.9	68.7	69.0	68.3	68.2	68.3	68.8	70.5
18. Activity rate (% population aged 15-24)	36.0	34.6	31.4	30.3	30.1	29.3	28.6	27.7	27.7	27.3	28.0
19. Activity rate (% population aged 25-54)	84.3	84.8	85.0	85.5	86.5	86.9	87.0	86.9	87.2	88.3	89.5
20. Activity rate (% population aged 55-64)	36.9	38.9	39.7	42.3	43.1	43.6	40.5	42.6	43.1	44.0	46.4
21. Total unemployment (000)	134	136	137	159	165	164	174	234	264	253	263
22. Unemployment rate (% labour force)	6.0	6.0	6.1	7.0	7.2	7.1	7.6	10.3	11.6	11.0	11.2
23. Youth unemployment rate (% labour force 15-24)	:	13.6	16.2	19.6	18.6	17.6	19.1	28.2	27.9	27.2	28.8
24. Long term unemployment rate (% labour force)	2.7	2.5	2.8	3.3	3.3	3.3	3.6	4.2	5.8	5.2	5.1
25. Youth unemployment ratio (% population aged 15-24)	4.8	4.8	5.1	6.0	5.6	5.2	5.5	7.8	7.7	7.4	8.1

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5270	5258	5241	5234	5228	5216	5212	5196	5187	5174	5157
2. Population aged 15-64	3512	3506	3497	3486	3488	3481	3473	3455	3448	3439	3420
3. Total employment (000)	1920	1935	1914	1910	1912	1918	1890	1857	1893	1882	1894
4. Population in employment aged 15-64	1750	1785	1773	1777	1784	1772	1756	1725	1745	1740	1782
5. Employment rate (% population aged 20-64)	54.3	55.5	55.3	55.6	55.7	55.5	55.1	54.4	55.0	54.9	56.4
6. Employment rate (% population aged 15-64)	49.8	50.9	50.7	51.0	51.1	50.9	50.6	49.9	50.6	50.6	52.1
7. Employment rate (% population aged 15-24)	25.8	23.8	20.8	19.2	18.8	17.8	16.8	16.3	16.6	16.7	17.2
8. Employment rate (% population aged 25-54)	66.5	67.4	67.0	67.2	67.6	67.9	67.9	66.9	67.1	66.6	68.9
9. Employment rate (% population aged 55-64)	17.6	21.8	25.0	26.7	27.1	26.2	25.7	27.0	30.1	32.4	32.2
10. FTE employment rate (% population aged 15-64)	49.1	50.0	49.5	50.0	50.2	49.9	49.5	48.6	49.2	48.9	50.4
11. Self-employed (% total employment)	10.7	9.5	9.7	9.1	8.7	8.6	8.0	7.9	7.6	7.6	8.0
12. Part-time employment (% total employment)	5.1	6.2	6.3	5.8	5.6	5.8	6.2	7.5	8.0	9.2	9.7
13. Fixed term contracts (% total employees)	6.6	6.7	6.1	6.4	6.0	6.8	7.0	7.8	9.2	8.4	8.5
14. Employment in Services (% total employment)	69.5	72.2	73.5	74.9	75.1	75.9	75.9	77.2	77.5	76.8	76.6
15. Employment in Industry (% total employment)	23.8	23.1	22.0	20.6	20.4	20.3	20.3	18.8	19.0	19.3	19.2
16. Employment in Agriculture (% total employment)	6.7	4.8	4.4	4.6	4.5	3.8	3.8	3.9	3.6	3.9	4.2
17. Activity rate (% population aged 15-64)	52.7	53.9	54.0	55.1	55.5	55.1	55.0	55.3	56.7	56.8	58.3
18. Activity rate (% population aged 15-24)	29.3	27.3	24.3	23.8	23.4	21.8	21.3	21.5	22.1	22.1	23.7
19. Activity rate (% population aged 25-54)	69.9	71.0	70.9	72.1	72.9	73.2	73.3	73.6	74.6	74.3	76.3
20. Activity rate (% population aged 55-64)	18.0	22.4	25.8	27.7	28.2	27.3	27.0	28.8	32.4	35.2	34.8
21. Total unemployment (000)	95	104	116	143	152	148	155	187	210	215	213
22. Unemployment rate (% labour force)	5.1	5.5	6.1	7.4	7.8	7.7	8.1	9.7	10.7	10.9	10.6
23. Youth unemployment rate (% labour force 15-24)	:	12.8	14.4	19.1	19.8	18.6	20.9	24.2	24.9	24.6	27.3
24. Long term unemployment rate (% labour force)	2.1	2.3	2.6	3.2	3.4	3.6	3.7	4.1	5.2	5.3	4.7
25. Youth unemployment ratio (% population aged 15-24)	3.5	3.5	3.5	4.5	4.6	4.1	4.4	5.2	5.5	5.4	6.5

Source: Eurostat.

Labour market indicators: Malta

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	396	399	400	402	406	409	411	414	416	419	421
2. Population aged 15-64	269	271	272	274	281	285	288	290	289	289	288
3. Total employment (000)	149	149	149	152	154	157	161	161	164	168	172
4. Population in employment aged 15-64	147	147	147	148	151	156	159	159	162	166	170
5. Employment rate (% population aged 20-64)	57.7	57.8	57.9	57.9	57.6	58.5	59.1	58.8	60.1	61.5	63.1
6. Employment rate (% population aged 15-64)	54.4	54.2	54.0	53.9	53.6	54.6	55.3	55.0	56.1	57.6	59.0
7. Employment rate (% population aged 15-24)	50.5	47.2	46.2	45.3	44.2	45.7	45.9	44.0	44.7	44.6	43.8
8. Employment rate (% population aged 25-54)	61.6	61.8	62.1	62.4	64.4	66.2	67.3	68.0	68.7	70.6	72.7
9. Employment rate (% population aged 55-64)	30.1	32.5	31.5	30.8	29.8	28.5	29.2	27.8	30.4	31.8	33.6
10. FTE employment rate (% population aged 15-64)	53.7	53.0	52.6	51.6	51.9	52.5	53.3	53.1	53.7	55.0	56.1
11. Self-employed (% total employment)	11.5	11.9	12.0	12.1	12.1	12.2	12.2	12.6	12.5	12.2	12.6
12. Part-time employment (% total employment)	8.3	9.2	8.7	9.6	10.0	10.9	11.5	11.3	12.5	13.2	14.0
13. Fixed term contracts (% total employees)	4.3	3.6	4.0	4.5	3.7	5.1	4.3	4.9	5.6	6.6	6.9
14. Employment in Services (% total employment)	68.5	70.1	71.3	71.8	72.6	73.7	75.4	76.5	76.7	77.2	77.7
15. Employment in Industry (% total employment)	28.6	26.7	25.2	24.8	24.0	22.9	21.3	20.1	19.9	19.5	19.0
16. Employment in Agriculture (% total employment)	2.9	3.2	3.4	3.4	3.4	3.4	3.3	3.4	3.4	3.3	3.2
17. Activity rate (% population aged 15-64)	58.5	58.6	58.2	58.1	57.6	58.4	58.9	59.1	60.4	61.6	63.1
18. Activity rate (% population aged 15-24)	58.8	56.5	55.3	54.4	52.6	53.1	52.2	51.4	51.5	51.8	51.1
19. Activity rate (% population aged 25-54)	65.0	65.4	65.3	65.7	67.9	69.7	70.8	71.8	73.1	74.7	76.7
20. Activity rate (% population aged 55-64)	30.7	33.4	32.3	31.9	30.6	29.6	30.4	29.5	31.7	32.7	34.9
21. Total unemployment (000)	12	12	11	12	11	11	10	12	12	12	12
22. Unemployment rate (% labour force)	7.4	7.7	7.2	7.3	6.9	6.5	6.0	6.9	6.9	6.5	6.4
23. Youth unemployment rate (% labour force 15-24)	17.1	17.4	16.6	16.8	15.9	13.9	12.2	14.4	13.1	13.8	14.2
24. Long term unemployment rate (% labour force)	3.3	3.2	3.4	3.5	2.9	2.7	2.5	3.0	3.2	3.0	3.0
25. Youth unemployment ratio (% population aged 15-24)	8.3	9.3	9.2	9.1	8.4	7.4	6.4	7.4	6.7	7.1	7.2

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	196	198	198	199	202	203	204	207	207	208	209
2. Population aged 15-64	135	136	137	138	143	145	146	148	147	147	147
3. Total employment (000)	103	103	104	105	107	107	108	107	108	110	109
4. Population in employment aged 15-64	101	102	103	102	105	106	106	106	107	108	108
5. Employment rate (% population aged 20-64)	81.0	80.6	81.2	80.6	79.2	78.7	78.2	77.1	77.9	78.9	79.0
6. Employment rate (% population aged 15-64)	74.7	74.5	75.1	73.8	73.3	72.9	72.6	71.6	72.4	73.6	73.3
7. Employment rate (% population aged 15-24)	51.7	49.1	50.4	46.7	46.9	48.1	47.7	46.3	47.6	48.4	46.2
8. Employment rate (% population aged 25-54)	88.5	88.3	88.8	88.9	89.6	90.0	89.5	89.0	88.9	89.8	89.5
9. Employment rate (% population aged 55-64)	50.8	53.8	53.4	50.8	49.4	45.9	46.5	45.0	48.2	50.2	51.7
10. FTE employment rate (% population aged 15-64)	75.7	75.3	75.5	72.7	72.9	72.6	72.7	71.6	72.0	72.8	72.4
11. Self-employed (% total employment)	14.5	14.2	14.8	15.2	15.1	15.0	15.4	15.7	16.2	15.7	16.2
12. Part-time employment (% total employment)	3.9	3.8	4.1	4.5	4.9	4.4	4.5	5.1	6.0	6.6	6.9
13. Fixed term contracts (% total employees)	3.4	3.0	3.1	3.7	2.7	3.7	3.4	3.8	4.6	5.7	6.4
14. Employment in Services (% total employment)	63.7	64.4	65.8	65.4	66.3	67.0	67.8	69.5	70.1	70.6	70.6
15. Employment in Industry (% total employment)	32.4	31.3	29.7	29.9	29.1	28.3	27.6	25.8	25.1	24.7	24.8
16. Employment in Agriculture (% total employment)	3.9	4.3	4.5	4.7	4.6	4.7	4.6	4.7	4.8	4.7	4.6
17. Activity rate (% population aged 15-64)	80.1	80.2	80.2	79.1	78.1	77.6	76.9	76.7	77.8	78.5	78.0
18. Activity rate (% population aged 15-24)	61.1	58.8	59.9	56.4	56.6	57.1	55.3	55.0	55.4	56.2	53.7
19. Activity rate (% population aged 25-54)	93.2	93.5	93.3	93.2	93.9	94.2	93.7	93.7	94.4	94.9	94.1
20. Activity rate (% population aged 55-64)	52.0	55.5	54.7	53.1	50.6	47.3	48.0	47.6	50.5	51.6	53.3
21. Total unemployment (000)	7	8	7	7	7	7	6	8	8	7	7
22. Unemployment rate (% labour force)	6.6	7.0	6.4	6.6	6.1	5.9	5.6	6.6	6.9	6.2	5.9
23. Youth unemployment rate (% labour force 15-24)	17.5	16.9	15.9	17.2	17.2	15.8	13.7	15.9	14.1	13.8	13.9
24. Long term unemployment rate (% labour force)	3.5	3.4	3.6	3.5	3.0	2.8	2.7	3.2	3.4	3.3	3.3
25. Youth unemployment ratio (% population aged 15-24)	9.4	9.7	9.5	9.7	9.7	9.0	7.6	8.7	7.8	7.8	7.4

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	200	201	202	203	204	205	207	207	209	211	212
2. Population aged 15-64	134	135	136	136	139	140	142	142	142	142	142
3. Total employment (000)	46	46	45	47	47	50	53	54	56	58	63
4. Population in employment aged 15-64	45	45	44	46	46	50	53	53	56	58	63
5. Employment rate (% population aged 20-64)	34.4	34.9	34.3	35.1	35.4	37.4	39.3	39.8	41.5	43.4	46.8
6. Employment rate (% population aged 15-64)	33.9	33.6	32.7	33.7	33.4	35.7	37.4	37.6	39.3	40.9	44.2
7. Employment rate (% population aged 15-24)	49.2	45.2	41.8	43.9	41.3	43.2	43.9	41.4	41.6	40.6	41.2
8. Employment rate (% population aged 25-54)	34.2	34.7	34.8	35.4	38.1	41.3	44.1	45.9	47.7	50.6	55.2
9. Employment rate (% population aged 55-64)	10.9	13.0	11.5	12.4	10.8	11.6	12.4	11.0	13.0	13.7	15.8
10. FTE employment rate (% population aged 15-64)	31.7	30.6	29.7	30.4	30.4	31.8	33.5	33.9	34.9	36.7	39.4
11. Self-employed (% total employment)	4.7	6.6	5.5	5.4	5.2	6.2	5.7	6.3	5.4	5.7	6.3
12. Part-time employment (% total employment)	18.3	21.3	19.3	21.1	21.5	24.6	25.5	23.7	25.0	25.7	26.3
13. Fixed term contracts (% total employees)	5.9	4.8	5.8	6.1	5.8	7.7	5.8	6.8	7.3	8.0	7.7
14. Employment in Services (% total employment)	79.4	82.7	83.9	85.6	86.8	87.7	90.3	89.8	89.2	89.4	90.1
15. Employment in Industry (% total employment)	20.2	16.5	15.1	13.7	12.6	11.6	8.9	9.1	10.1	10.0	8.9
16. Employment in Agriculture (% total employment)	:	0.9	1.0	0.7	0.6	0.7	0.8	1.0	0.7	0.6	0.9
17. Activity rate (% population aged 15-64)	36.7	36.8	36.0	36.9	36.5	38.6	40.2	40.8	42.3	44.1	47.8
18. Activity rate (% population aged 15-24)	56.4	54.0	50.6	52.4	48.3	48.9	49.0	47.4	47.1	47.0	48.3
19. Activity rate (% population aged 25-54)	36.2	36.8	36.8	37.6	40.8	44.0	46.7	48.8	50.8	53.7	58.4
20. Activity rate (% population aged 55-64)	11.1	13.1	11.9	12.4	11.2	12.3	13.3	11.9	13.4	14.1	16.8
21. Total unemployment (000)	5	5	4	4	4	4	4	4	4	4	5
22. Unemployment rate (% labour force)	9.3	9.3	9.0	8.9	8.6	7.6	6.9	7.6	7.1	7.1	7.3
23. Youth unemployment rate (% labour force 15-24)	16.6	17.9	17.4	16.2	14.3	11.6	10.4	12.5	11.9	13.7	14.6
24. Long term unemployment rate (% labour force)	2.3	2.4	3.0	3.4	2.6	2.5	2.6	2.4	2.7	2.5	2.6
25. Youth unemployment ratio (% population aged 15-24)	7.2	8.8	8.8	8.5	6.9	5.7	5.1	5.9	5.6	6.4	7.0

Source: Eurostat.

Labour market indicators: Netherlands

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	15964	16037	16119	16107	16142	16180	16190	16223	16350	16400	16507
2. Population aged 15-64	10871	10920	10960	10943	10964	10986	10970	10970	11017	10994	10992
3. Total employment (000)	8324	8283	8211	8251	8392	8605	8733	8671	8637	8698	8682
4. Population in employment aged 15-64	8089	8042	8014	8013	8152	8345	8468	8443	8227	8232	8254
5. Employment rate (% population aged 20-64)	75.8	75.2	74.9	75.1	76.3	77.8	78.9	78.8	76.8	77.0	77.2
6. Employment rate (% population aged 15-64)	74.4	73.6	73.1	73.2	74.3	76.0	77.2	77.0	74.7	74.9	75.1
7. Employment rate (% population aged 15-24)	70.0	68.3	65.9	65.2	66.2	68.4	69.3	68.0	63.0	63.5	63.3
8. Employment rate (% population aged 25-54)	82.8	82.6	82.5	82.9	84.2	85.4	86.8	86.3	84.7	84.2	83.8
9. Employment rate (% population aged 55-64)	42.3	44.3	45.2	46.1	47.7	50.9	53.0	55.1	53.7	56.1	58.6
10. FTE employment rate (% population aged 15-64)	58.1	57.2	56.5	56.4	57.4	58.6	59.6	59.2	57.2	57.3	57.3
11. Self-employed (% total employment)	13.5	13.5	13.7	13.9	13.9	13.7	13.5	13.6	13.8	14.0	14.4
12. Part-time employment (% total employment)	43.9	45.0	45.5	46.1	46.2	46.8	47.3	48.3	48.9	49.1	49.8
13. Fixed term contracts (% total employees)	14.4	14.5	14.8	15.5	16.6	18.1	18.2	18.2	18.5	18.4	19.5
14. Employment in Services (% total employment)	78.3	78.9	79.2	79.7	80.0	80.4	80.5	80.8	81.1	81.5	81.7
15. Employment in Industry (% total employment)	18.5	18.0	17.7	17.4	17.1	16.8	16.8	16.6	16.2	15.9	15.8
16. Employment in Agriculture (% total employment)	3.2	3.1	3.0	3.0	2.9	2.8	2.7	2.6	2.6	2.6	2.5
17. Activity rate (% population aged 15-64)	76.5	76.5	76.6	76.9	77.4	78.5	79.3	79.7	78.2	78.4	79.3
18. Activity rate (% population aged 15-24)	73.7	72.9	71.6	71.0	70.8	72.7	73.2	72.8	69.0	68.8	69.9
19. Activity rate (% population aged 25-54)	84.8	85.3	85.9	86.5	87.1	87.6	88.5	88.8	87.9	87.5	87.7
20. Activity rate (% population aged 55-64)	43.3	45.5	46.9	48.1	49.6	52.8	54.7	56.8	55.9	58.5	61.5
21. Total unemployment (000)	254	341	419	441	366	306	267	327	390	389	469
22. Unemployment rate (% labour force)	3.1	4.2	5.1	5.3	4.4	3.6	3.1	3.7	4.5	4.4	5.3
23. Youth unemployment rate (% labour force 15-24)	5.4	7.3	9.0	9.4	7.5	7.0	6.3	7.7	8.7	7.6	9.5
24. Long term unemployment rate (% labour force)	0.8	1.2	1.7	2.1	1.9	1.4	1.1	0.9	1.2	1.5	1.8
25. Youth unemployment ratio (% population aged 15-24)	3.7	4.6	5.7	5.8	4.6	4.3	3.9	4.8	6.0	5.3	6.6

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	7930	7969	8012	7992	8006	8022	8027	8043	8103	8126	8187
2. Population aged 15-64	5502	5525	5543	5519	5524	5529	5516	5512	5533	5517	5519
3. Total employment (000)	4680	4626	4572	4560	4624	4709	4752	4689	4670	4676	4663
4. Population in employment aged 15-64	4536	4479	4447	4411	4471	4547	4588	4540	4425	4403	4401
5. Employment rate (% population aged 20-64)	84.6	83.4	82.7	82.4	83.5	84.8	85.5	84.9	82.8	82.6	82.5
6. Employment rate (% population aged 15-64)	82.4	81.1	80.2	79.9	80.9	82.2	83.2	82.4	80.0	79.8	79.7
7. Employment rate (% population aged 15-24)	70.6	68.9	66.3	65.5	67.2	68.9	69.8	67.5	62.6	62.7	62.4
8. Employment rate (% population aged 25-54)	91.8	90.6	90.2	90.3	91.4	92.1	93.0	92.0	90.0	89.4	88.6
9. Employment rate (% population aged 55-64)	54.6	56.7	56.9	56.9	58.0	61.5	63.7	65.4	64.5	65.8	68.1
10. FTE employment rate (% population aged 15-64)	74.7	73.2	72.0	71.7	72.5	73.5	74.3	73.2	70.9	70.7	70.3
11. Self-employed (% total employment)	15.5	15.9	16.0	16.3	16.4	16.4	16.2	16.2	16.6	16.8	17.4
12. Part-time employment (% total employment)	21.2	22.0	22.3	22.6	23.0	23.6	23.9	24.9	25.4	25.4	26.4
13. Fixed term contracts (% total employees)	12.1	12.9	13.4	14.3	15.4	16.6	16.6	16.4	17.3	17.3	18.6
14. Employment in Services (% total employment)	68.9	69.3	69.5	70.0	70.2	70.8	70.8	70.9	71.1	71.4	71.7
15. Employment in Industry (% total employment)	27.1	26.7	26.5	26.1	26.0	25.6	25.7	25.6	25.3	25.0	24.8
16. Employment in Agriculture (% total employment)	4.0	4.0	4.0	3.9	3.8	3.6	3.5	3.5	3.6	3.6	3.4
17. Activity rate (% population aged 15-64)	84.5	84.0	83.9	83.7	83.9	84.6	85.3	85.3	83.7	83.5	84.2
18. Activity rate (% population aged 15-24)	74.5	73.5	72.0	71.2	71.5	73.0	73.7	72.7	68.6	67.8	68.5
19. Activity rate (% population aged 25-54)	93.6	93.5	93.7	93.8	94.1	94.0	94.5	94.4	93.3	93.0	92.9
20. Activity rate (% population aged 55-64)	55.8	58.2	59.1	59.5	60.4	64.0	65.9	67.6	67.3	68.6	71.6
21. Total unemployment (000)	127	187	227	227	179	147	134	175	208	211	254
22. Unemployment rate (% labour force)	2.7	4.1	4.9	4.9	3.9	3.1	2.8	3.7	4.4	4.5	5.3
23. Youth unemployment rate (% labour force 15-24)	5.7	7.7	9.1	9.5	6.7	6.3	6.3	8.1	8.8	7.5	8.9
24. Long term unemployment rate (% labour force)	0.7	1.1	1.8	2.1	1.8	1.3	1.0	0.9	1.2	1.6	1.9
25. Youth unemployment ratio (% population aged 15-24)	3.9	4.6	5.7	5.7	4.3	4.1	4.0	5.2	6.1	5.1	6.1

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	8035	8068	8107	8116	8136	8157	8164	8181	8247	8274	8320
2. Population aged 15-64	5368	5395	5417	5424	5441	5457	5454	5458	5485	5477	5473
3. Total employment (000)	3644	3657	3639	3691	3768	3896	3981	3982	3967	4023	4019
4. Population in employment aged 15-64	3553	3562	3567	3603	3681	3798	3880	3903	3802	3829	3853
5. Employment rate (% population aged 20-64)	66.8	66.9	66.9	67.6	69.0	70.7	72.2	72.7	70.8	71.4	71.9
6. Employment rate (% population aged 15-64)	66.2	66.0	65.8	66.4	67.7	69.6	71.1	71.5	69.3	69.9	70.4
7. Employment rate (% population aged 15-24)	69.5	67.8	65.4	64.9	65.1	67.9	68.8	68.4	63.5	64.4	64.3
8. Employment rate (% population aged 25-54)	73.6	74.4	74.6	75.5	77.0	78.7	80.5	80.7	79.3	79.0	78.9
9. Employment rate (% population aged 55-64)	29.9	31.8	33.4	35.2	37.2	40.1	42.2	44.7	42.8	46.4	49.1
10. FTE employment rate (% population aged 15-64)	42.0	41.7	41.5	41.8	43.0	44.4	45.7	45.9	44.3	44.7	45.0
11. Self-employed (% total employment)	10.9	10.3	10.9	10.9	10.8	10.5	10.3	10.6	10.5	10.7	11.0
12. Part-time employment (% total employment)	73.1	74.1	74.7	75.1	74.7	75.0	75.3	75.8	76.5	76.7	77.0
13. Fixed term contracts (% total employees)	17.1	16.4	16.5	16.9	18.0	19.7	20.0	20.3	19.9	19.6	20.5
14. Employment in Services (% total employment)	90.2	90.7	91.0	91.1	91.4	91.6	91.7	91.9	92.3	92.4	92.5
15. Employment in Industry (% total employment)	7.7	7.3	7.1	7.0	6.8	6.7	6.6	6.4	6.1	6.1	6.0
16. Employment in Agriculture (% total employment)	2.1	2.0	1.9	1.9	1.8	1.7	1.7	1.6	1.6	1.5	1.5
17. Activity rate (% population aged 15-64)	68.3	68.7	69.2	70.0	70.7	72.2	73.3	74.1	72.6	73.1	74.3
18. Activity rate (% population aged 15-24)	73.0	72.3	71.1	70.8	70.1	72.4	72.6	72.9	69.4	69.9	71.4
19. Activity rate (% population aged 25-54)	75.7	77.0	77.9	79.0	80.1	81.2	82.5	83.0	82.4	81.9	82.4
20. Activity rate (% population aged 55-64)	30.6	32.6	34.4	36.5	38.6	41.4	43.5	46.0	44.5	48.4	51.3
21. Total unemployment (000)	126	154	192	214	187	159	134	152	182	178	214
22. Unemployment rate (% labour force)	3.5	4.3	5.3	5.8	5.0	4.1	3.4	3.8	4.5	4.4	5.2
23. Youth unemployment rate (% labour force 15-24)	5.1	6.9	8.9	9.4	8.4	7.8	6.4	7.3	8.6	7.8	10.0
24. Long term unemployment rate (% labour force)	1.0	1.2	1.7	2.1	2.0	1.5	1.1	1.0	1.2	1.4	1.7
25. Youth unemployment ratio (% population aged 15-24)	3.5	4.6	5.7	5.9	4.9	4.5	3.8	4.5	6.0	5.5	0.0

Source: Eurostat.

LFS indicators: Break in series 2010.

Labour market indicators: Austria

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	7893	7998	8045	8109	8155	8191	8220	8238	8259	8290	8329
2. Population aged 15-64	5356	5459	5485	5516	5532	5551	5576	5588	5606	5644	5666
3. Total employment (000)	3759	3784	3807	3852	3917	3987	4066	4037	4069	4139	4184
4. Population in employment aged 15-64	3682	3763	3716	3786	3881	3963	4020	4002	4021	4070	4109
5. Employment rate (% population aged 20-64)	71.8	72.0	70.8	71.7	73.2	74.4	75.1	74.7	74.9	75.2	75.6
6. Employment rate (% population aged 15-64)	68.7	68.9	67.8	68.6	70.2	71.4	72.1	71.6	71.7	72.1	72.5
7. Employment rate (% population aged 15-24)	51.7	51.1	51.9	53.1	54.0	55.5	55.9	54.5	53.6	54.9	54.6
8. Employment rate (% population aged 25-54)	83.6	84.0	82.6	82.6	83.5	84.0	84.4	84.0	84.2	84.9	85.4
9. Employment rate (% population aged 55-64)	29.1	30.3	28.8	31.8	35.5	38.6	41.0	41.1	42.4	41.5	43.1
10. FTE employment rate (% population aged 15-64)	62.9	63.2	60.6	61.8	63.0	63.8	64.2	63.4	63.3	63.7	63.9
11. Self-employed (% total employment)	13.3	13.4	13.5	13.5	13.6	13.4	13.4	13.5	13.5	13.2	13.1
12. Part-time employment (% total employment)	19.0	18.7	19.8	21.1	21.8	22.6	23.3	24.6	25.2	25.2	25.7
13. Fixed term contracts (% total employees)	7.4	6.9	9.6	9.1	9.0	8.9	9.0	9.1	9.3	9.6	9.3
14. Employment in Services (% total employment)	68.6	69.0	69.5	70.2	70.5	70.5	70.7	71.1	71.5	71.7	71.9
15. Employment in Industry (% total employment)	25.4	25.1	24.7	24.4	24.1	24.3	24.3	23.8	23.5	23.4	23.4
16. Employment in Agriculture (% total employment)	6.0	5.9	5.7	5.4	5.4	5.2	5.1	5.1	5.0	4.8	4.6
17. Activity rate (% population aged 15-64)	71.6	72.0	71.3	72.4	73.7	74.7	75.0	75.3	75.1	75.3	75.9
18. Activity rate (% population aged 15-24)	55.1	55.0	57.4	59.2	59.4	60.8	60.8	60.5	58.8	59.9	59.9
19. Activity rate (% population aged 25-54)	86.6	87.3	86.3	86.4	87.1	87.4	87.3	87.7	87.7	88.1	88.7
20. Activity rate (% population aged 55-64)	30.8	32.0	29.9	33.0	36.8	39.8	41.9	42.1	43.4	42.9	44.4
21. Total unemployment (000)	163	166	195	208	196	186	162	204	188	179	189
22. Unemployment rate (% labour force)	4.2	4.3	4.9	5.2	4.8	4.4	3.8	4.8	4.4	4.2	4.3
23. Youth unemployment rate (% labour force 15-24)	6.7	8.1	9.7	10.3	9.1	8.7	8.0	10.0	8.8	8.3	8.7
24. Long term unemployment rate (% labour force)	1.1	1.1	1.4	1.3	1.3	1.2	0.9	1.0	1.1	1.1	1.1
25. Youth unemployment ratio (% population aged 15-24)	3.4	3.9	5.6	6.1	5.4	5.3	4.9	6.0	5.2	5.0	5.2

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	3805	3877	3898	3939	3964	3985	4001	4012	4024	4041	4066
2. Population aged 15-64	2653	2718	2728	2745	2753	2763	2775	2780	2789	2807	2821
3. Total employment (000)	2070	2088	2096	2110	2141	2186	2209	2164	2183	2225	2241
4. Population in employment aged 15-64	2026	2076	2043	2070	2118	2168	2178	2138	2151	2183	2195
5. Employment rate (% population aged 20-64)	79.6	79.6	78.0	78.5	80.0	81.6	81.7	80.1	80.2	80.8	80.9
6. Employment rate (% population aged 15-64)	76.4	76.4	74.9	75.4	76.9	78.4	78.5	76.9	77.1	77.8	77.8
7. Employment rate (% population aged 15-24)	56.0	55.7	56.0	56.8	58.2	59.6	59.5	57.3	57.9	59.8	58.8
8. Employment rate (% population aged 25-54)	91.1	91.1	89.4	89.1	89.9	90.6	90.2	88.5	88.7	89.6	89.6
9. Employment rate (% population aged 55-64)	39.6	40.4	38.9	41.3	45.3	49.8	51.8	51.0	51.6	50.6	52.5
10. FTE employment rate (% population aged 15-64)	74.8	74.9	72.6	74.1	75.5	76.7	76.4	74.6	74.6	75.3	75.4
11. Self-employed (% total employment)	14.4	14.6	15.6	15.6	15.4	15.0	15.3	15.6	15.5	15.3	15.3
12. Part-time employment (% total employment)	5.1	4.7	4.9	6.1	6.5	7.2	8.1	8.7	9.0	8.9	9.0
13. Fixed term contracts (% total employees)	7.6	7.1	10.2	9.3	9.1	8.8	8.9	9.2	9.8	9.6	9.3
14. Employment in Services (% total employment)	56.4	56.7	58.5	58.7	59.1	59.3	59.3	59.5	60.0	60.3	60.4
15. Employment in Industry (% total employment)	37.7	37.5	35.8	35.8	35.5	35.5	35.6	35.3	34.8	34.5	34.5
16. Employment in Agriculture (% total employment)	5.9	5.9	5.6	5.4	5.4	5.2	5.1	5.2	5.2	5.1	5.1
17. Activity rate (% population aged 15-64)	79.6	79.9	78.5	79.3	80.5	81.7	81.4	81.0	80.9	81.1	81.4
18. Activity rate (% population aged 15-24)	59.9	60.3	61.7	63.6	63.9	65.0	64.6	64.0	63.6	64.9	64.5
19. Activity rate (% population aged 25-54)	94.3	94.6	92.9	92.8	93.2	93.7	93.0	92.6	92.5	92.8	93.1
20. Activity rate (% population aged 55-64)	42.1	42.9	40.6	43.0	47.3	51.3	52.8	52.3	53.0	52.6	54.4
21. Total unemployment (000)	85	84	98	108	97	90	82	114	105	93	101
22. Unemployment rate (% labour force)	4.0	4.0	4.5	4.9	4.3	3.9	3.6	5.0	4.6	4.0	4.4
23. Youth unemployment rate (% labour force 15-24)	6.4	7.3	9.3	10.7	8.9	8.3	7.9	10.5	8.9	7.9	8.8
24. Long term unemployment rate (% labour force)	1.0	1.1	1.3	1.3	1.3	1.0	0.9	1.1	1.3	1.1	1.1
25. Youth unemployment ratio (% population aged 15-24)	3.9	4.5	5.7	6.8	5.7	5.4	5.1	6.7	5.7	5.1	5.7

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	4088	4120	4147	4170	4191	4206	4219	4226	4235	4249	4263
2. Population aged 15-64	2704	2741	2757	2770	2779	2788	2801	2808	2818	2837	2846
3. Total employment (000)	1690	1695	1711	1742	1776	1801	1857	1873	1886	1914	1944
4. Population in employment aged 15-64	1656	1688	1673	1717	1764	1796	1842	1865	1870	1887	1914
5. Employment rate (% population aged 20-64)	64.1	64.5	63.7	64.9	66.4	67.2	68.6	69.4	69.6	69.6	70.3
6. Employment rate (% population aged 15-64)	61.3	61.6	60.7	62.0	63.5	64.4	65.8	66.4	66.4	66.5	67.3
7. Employment rate (% population aged 15-24)	47.4	46.5	47.9	49.4	49.9	51.5	52.3	51.6	49.4	50.1	50.5
8. Employment rate (% population aged 25-54)	76.2	76.9	75.8	76.0	77.0	77.5	78.6	79.5	79.7	80.2	81.1
9. Employment rate (% population aged 55-64)	19.3	20.8	19.3	22.9	26.3	28.0	30.8	31.7	33.7	32.9	34.1
10. FTE employment rate (% population aged 15-64)	51.2	51.6	49.0	50.1	51.0	51.4	52.6	52.8	52.5	52.6	53.0
11. Self-employed (% total employment)	11.9	11.8	10.9	11.1	11.4	11.5	11.2	11.1	11.1	10.8	10.6
12. Part-time employment (% total employment)	35.9	36.0	38.0	39.3	40.2	41.2	41.5	42.9	43.8	44.0	44.9
13. Fixed term contracts (% total employees)	7.3	6.7	9.0	8.8	8.9	9.0	9.1	9.0	8.8	9.4	9.3
14. Employment in Services (% total employment)	82.8	83.4	82.5	83.5	83.5	83.5	83.9	84.3	84.6	84.5	84.7
15. Employment in Industry (% total employment)	11.0	10.7	11.6	11.2	11.1	11.2	11.1	10.8	10.7	11.0	11.1
16. Employment in Agriculture (% total employment)	6.2	6.0	5.9	5.3	5.3	5.2	5.0	4.9	4.7	4.5	4.2
17. Activity rate (% population aged 15-64)	63.7	64.3	64.2	65.6	67.0	67.8	68.6	69.6	69.3	69.5	70.3
18. Activity rate (% population aged 15-24)	50.3	49.8	53.3	54.8	55.1	56.7	56.9	57.0	54.1	55.0	55.3
19. Activity rate (% population aged 25-54)	79.0	79.9	79.6	79.9	80.9	81.1	81.5	82.8	82.8	83.4	84.3
20. Activity rate (% population aged 55-64)	20.1	21.7	19.9	23.5	26.9	28.9	31.6	32.4	34.2	33.7	35.0
21. Total unemployment (000)	78	82	97	100	98	96	80	90	83	86	88
22. Unemployment rate (% labour force)	4.4	4.7	5.4	5.5	5.2	5.0	4.1	4.6	4.2	4.3	4.3
23. Youth unemployment rate (% labour force 15-24)	7.1	8.9	10.1	9.9	9.3	9.1	8.2	9.4	8.8	8.8	8.7
24. Long term unemployment rate (% labour force)	1.2	1.1	1.4	1.4	1.3	1.4	0.9	1.0	0.9	1.0	1.0
25. Youth unemployment ratio (% population aged 15-24)	2.9	3.2	5.4	5.4	5.1	5.2	4.7	5.4	4.7	4.8	4.8

Source: Eurostat.

LFS indicators: Break in series 2004.

Labour market indicators: Poland

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	38070	37657	37601	37527	37446	37277	37158	37196	37368	37503	36610
2. Population aged 15-64	26159	26031	26142	26211	26325	26299	26266	26338	26527	26618	25697
3. Total employment (000)	:	:	13760	14057	14504	15156	15740	15803	15876	16035	15484
4. Population in employment aged 15-64	13470	13324	13504	13834	14338	14997	15557	15630	15719	15880	15340
5. Employment rate (% population aged 20-64)	57.4	57.1	57.3	58.3	60.1	62.7	65.0	64.9	64.6	64.8	64.7
6. Employment rate (% population aged 15-64)	51.5	51.2	51.7	52.8	54.5	57.0	59.2	59.3	59.3	59.7	59.7
7. Employment rate (% population aged 15-24)	21.7	21.2	21.7	22.5	24.0	25.8	27.3	26.8	26.3	24.9	24.7
8. Employment rate (% population aged 25-54)	67.4	67.5	68.2	69.6	71.8	74.9	77.5	77.6	77.1	77.2	77.2
9. Employment rate (% population aged 55-64)	26.1	26.9	26.2	27.2	28.1	29.7	31.6	32.3	34.0	36.9	38.7
10. FTE employment rate (% population aged 15-64)	50.7	50.3	50.2	51.5	53.3	55.9	58.3	58.4	58.3	58.8	58.9
11. Self-employed (% total employment)	:	:	26.8	25.8	24.5	23.5	23.0	22.8	22.8	22.7	22.4
12. Part-time employment (% total employment)	10.8	10.5	10.8	10.8	9.8	9.2	8.5	8.4	8.3	8.0	7.9
13. Fixed term contracts (% total employees)	15.4	19.4	22.7	25.7	27.3	28.2	27.0	26.5	27.3	26.9	26.9
14. Employment in Services (% total employment)	:	:	53.0	53.2	54.1	54.5	54.3	55.8	57.2	56.9	57.3
15. Employment in Industry (% total employment)	:	:	29.1	29.5	30.2	30.9	31.8	30.9	30.0	30.4	30.2
16. Employment in Agriculture (% total employment)	:	:	17.9	17.3	15.7	14.6	14.0	13.3	12.8	12.7	12.6
17. Activity rate (% population aged 15-64)	64.6	63.9	64.0	64.4	63.4	63.2	63.8	64.7	65.6	66.1	66.5
18. Activity rate (% population aged 15-24)	37.8	36.4	35.9	35.7	34.2	33.0	33.1	33.8	34.5	33.6	33.6
19. Activity rate (% population aged 25-54)	81.5	81.4	81.9	82.5	81.7	81.7	82.5	83.4	84.1	84.2	84.6
20. Activity rate (% population aged 55-64)	29.1	30.1	29.6	30.5	30.7	31.8	33.3	34.5	36.7	39.6	41.8
21. Total unemployment (000)	3423	3308	3209	3018	2311	1579	1165	1359	1650	1659	1749
22. Unemployment rate (% labour force)	20.0	19.8	19.1	17.9	13.9	9.6	7.1	8.1	9.7	9.7	10.1
23. Youth unemployment rate (% labour force 15-24)	42.5	41.9	39.6	36.9	29.8	21.6	17.2	20.6	23.7	25.8	26.5
24. Long term unemployment rate (% labour force)	11.0	11.1	10.3	10.3	7.8	4.9	2.4	2.5	3.0	3.6	4.1
25. Youth unemployment ratio (% population aged 15-24)	16.1	15.2	14.2	13.2	10.2	7.1	5.7	7.0	8.2	8.7	8.9

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	18381	18169	18139	18104	18052	17924	17831	17850	17973	18063	17715
2. Population aged 15-64	12919	12873	12940	12986	13027	12976	12931	12971	13103	13174	12819
3. Total employment (000)	:	:	7546	7777	8031	8356	8685	8686	8700	8839	8592
4. Population in employment aged 15-64	7352	7271	7400	7643	7927	8258	8573	8578	8598	8739	8498
5. Employment rate (% population aged 20-64)	63.6	63.1	63.5	65.1	67.3	70.2	73.0	72.6	71.6	72.2	72.0
6. Employment rate (% population aged 15-64)	56.9	56.5	57.2	58.9	60.9	63.6	66.3	66.1	65.6	66.3	66.3
7. Employment rate (% population aged 15-24)	24.2	23.9	24.8	25.4	26.9	29.2	31.0	30.4	30.3	29.6	29.2
8. Employment rate (% population aged 25-54)	73.0	73.0	73.9	76.1	78.3	81.1	84.0	83.7	82.6	83.0	82.9
9. Employment rate (% population aged 55-64)	34.5	35.2	34.1	35.9	38.4	41.4	44.1	44.3	45.3	47.8	49.3
10. FTE employment rate (% population aged 15-64)	56.7	56.1	56.4	58.4	60.5	63.4	66.3	66.2	65.6	66.4	66.5
11. Self-employed (% total employment)	:	:	29.0	27.9	26.7	25.6	25.0	25.0	25.2	25.2	25.0
12. Part-time employment (% total employment)	8.5	8.2	8.2	8.0	7.1	6.6	5.9	5.8	5.7	5.5	5.2
13. Fixed term contracts (% total employees)	16.4	20.8	23.7	26.5	28.5	28.4	26.3	26.3	27.4	27.6	27.4
14. Employment in Services (% total employment)	:	:	42.7	42.8	43.4	43.5	42.8	44.0	45.3	44.9	45.1
15. Employment in Industry (% total employment)	:	:	38.7	39.4	40.3	41.4	43.1	42.6	41.5	41.8	41.6
16. Employment in Agriculture (% total employment)	:	:	18.6	17.8	16.3	15.1	14.1	13.4	13.2	13.2	13.3
17. Activity rate (% population aged 15-64)	70.6	70.0	70.1	70.8	70.1	70.0	70.9	71.8	72.4	73.0	73.3
18. Activity rate (% population aged 15-24)	41.6	40.5	39.7	39.5	37.5	36.5	36.5	38.1	39.1	38.7	38.5
19. Activity rate (% population aged 25-54)	87.2	87.1	87.8	88.7	88.2	87.9	88.8	89.4	89.7	89.8	90.0
20. Activity rate (% population aged 55-64)	38.7	39.7	39.1	40.9	42.6	44.7	46.8	47.5	48.9	51.6	53.5
21. Total unemployment (000)	1776	1733	1673	1543	1191	817	583	716	881	856	900
22. Unemployment rate (% labour force)	19.2	19.1	18.3	16.7	13.0	9.0	6.4	7.8	9.4	9.0	9.4
23. Youth unemployment rate (% labour force 15-24)	41.9	40.9	37.7	35.8	28.3	20.0	15.2	20.2	22.4	23.6	24.1
24. Long term unemployment rate (% labour force)	9.8	10.4	9.7	9.4	7.1	4.6	2.0	2.2	2.9	3.3	3.7
25. Youth unemployment ratio (% population aged 15-24)	17.4	16.6	15.0	14.1	10.6	7.3	5.6	7.7	8.7	9.1	9.3

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	19688	19487	19461	19422	19394	19353	19327	19346	19395	19440	18894
2. Population aged 15-64	13241	13158	13203	13225	13298	13322	13335	13368	13424	13444	12878
3. Total employment (000)	:	:	6214	6280	6473	6800	7055	7117	7176	7196	6892
4. Population in employment aged 15-64	6119	6054	6103	6191	6411	6738	6984	7052	7121	7141	6842
5. Employment rate (% population aged 20-64)	51.4	51.2	51.2	51.7	53.1	55.5	57.3	57.6	57.7	57.6	57.5
6. Employment rate (% population aged 15-64)	46.2	46.0	46.2	46.8	48.2	50.6	52.4	52.8	53.0	53.1	53.1
7. Employment rate (% population aged 15-24)	19.3	18.3	18.6	19.6	21.0	22.4	23.7	23.2	22.1	20.1	19.9
8. Employment rate (% population aged 25-54)	61.9	62.1	62.6	63.1	65.3	68.8	71.0	71.6	71.7	71.4	71.5
9. Employment rate (% population aged 55-64)	18.9	19.8	19.4	19.7	19.0	19.4	20.7	21.9	24.2	27.3	29.2
10. FTE employment rate (% population aged 15-64)	44.9	44.7	44.2	44.8	46.3	48.6	50.6	50.9	51.2	51.4	51.4
11. Self-employed (% total employment)	:	:	24.1	23.1	21.8	21.0	20.5	20.1	19.9	19.6	19.2
12. Part-time employment (% total employment)	13.4	13.2	14.0	14.3	13.0	12.5	11.7	11.6	11.5	11.1	11.3
13. Fixed term contracts (% total employees)	14.4	17.8	21.5	24.7	26.0	27.9	27.7	26.6	27.1	26.2	26.3
14. Employment in Services (% total employment)	:	:	65.5	66.1	67.4	67.9	68.3	70.1	71.6	71.6	72.4
15. Employment in Industry (% total employment)	:	:	17.3	17.3	17.6	18.0	17.8	16.7	16.0	16.4	15.9
16. Employment in Agriculture (% total employment)	:	:	17.2	16.6	15.0	14.1	13.8	13.2	12.5	12.0	11.7
17. Activity rate (% population aged 15-64)	58.7	58.0	57.9	58.1	56.8	56.5	57.0	57.8	59.0	59.4	59.7
18. Activity rate (% population aged 15-24)	34.1	32.2	32.0	31.8	30.7	29.3	29.6	29.4	29.7	28.2	28.4
19. Activity rate (% population aged 25-54)	75.8	75.8	76.0	76.4	75.4	75.6	76.3	77.5	78.6	78.7	79.1
20. Activity rate (% population aged 55-64)	20.9	22.0	21.4	21.5	20.3	20.6	21.6	23.2	25.9	29.1	31.3
21. Total unemployment (000)	1647	1576	1536	1475	1120	763	582	644	769	802	850
22. Unemployment rate (% labour force)	21.0	20.6	20.1	19.4	15.1	10.3	7.9	8.6	10.0	10.4	10.9
23. Youth unemployment rate (% labour force 15-24)	43.3	43.2	42.0	38.4	31.6	23.7	19.7	21.1	25.4	28.8	30.0
24. Long term unemployment rate (% labour force)	12.4	11.8	11.2	11.5	8.7	5.4	2.8	2.8	3.2	4.0	4.6
25. Youth unemployment ratio (% population aged 15-24)	14.8	13.9	13.4	12.2	9.7	7.0	5.9	6.2	7.5	8.2	8.5

Source: Eurostat.

LFS indicators: Break in series 2012;

Indicator 1: 2002-2005 Estimate.

Labour market indicators: Portugal

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	10357	10435	10504	10563	10586	10604	10623	10638	10636	10647	10600
2. Population aged 15-64	6992	7038	7084	7115	7116	7135	7145	7143	7114	7097	7038
3. Total employment (000)	5151	5121	5117	5100	5126	5124	5147	5014	4937	4861	4656
4. Population in employment aged 15-64	4812	4792	4806	4800	4830	4837	4872	4736	4663	4557	4349
5. Employment rate (% population aged 20-64)	73.6	72.9	72.6	72.3	72.7	72.6	73.1	71.2	70.5	69.1	66.5
6. Employment rate (% population aged 15-64)	68.8	68.1	67.8	67.5	67.9	67.8	68.2	66.3	65.6	64.2	61.8
7. Employment rate (% population aged 15-24)	42.2	38.8	37.1	36.1	35.8	34.9	34.7	31.3	28.5	27.2	23.6
8. Employment rate (% population aged 25-54)	81.5	81.0	81.1	80.8	81.3	81.0	81.6	79.7	79.2	77.8	75.4
9. Employment rate (% population aged 55-64)	51.4	51.6	50.3	50.5	50.1	50.9	50.8	49.7	49.2	47.9	46.5
10. FTE employment rate (% population aged 15-64)	67.6	66.5	66.4	65.8	66.1	65.7	66.3	64.4	63.5	61.1	58.3
11. Self-employed (% total employment)	16.4	16.6	15.9	15.4	14.9	14.5	14.5	14.5	13.9	13.4	13.8
12. Part-time employment (% total employment)	11.2	11.7	11.3	11.2	11.3	12.1	11.9	11.6	11.6	13.3	14.3
13. Fixed term contracts (% total employees)	21.5	20.6	19.8	19.5	20.6	22.4	22.8	22.0	23.0	22.2	20.7
14. Employment in Services (% total employment)	56.5	57.1	58.2	59.3	59.9	60.3	61.2	62.4	63.3	63.8	64.8
15. Employment in Industry (% total employment)	31.6	30.8	30.2	29.3	28.7	28.5	27.8	26.5	25.9	25.5	24.2
16. Employment in Agriculture (% total employment)	11.9	12.1	11.6	11.4	11.4	11.2	11.0	11.1	10.8	10.6	11.0
17. Activity rate (% population aged 15-64)	72.7	72.9	73.0	73.4	73.9	74.1	74.2	73.7	74.0	74.1	73.9
18. Activity rate (% population aged 15-24)	47.7	45.4	43.8	43.0	42.7	41.9	41.6	39.2	36.7	38.8	37.9
19. Activity rate (% population aged 25-54)	85.3	85.9	86.3	87.1	87.7	87.8	88.0	87.9	88.7	88.4	88.6
20. Activity rate (% population aged 55-64)	53.4	54.0	53.2	53.8	53.5	54.4	54.4	53.9	54.0	53.7	53.4
21. Total unemployment (000)	305	384	408	468	472	491	470	582	658	706	860
22. Unemployment rate (% labour force)	5.7	7.1	7.5	8.6	8.6	8.9	8.5	10.6	12.0	12.9	15.9
23. Youth unemployment rate (% labour force 15-24)	14.3	17.8	18.9	19.8	20.1	20.4	20.2	24.8	27.7	30.1	37.7
24. Long term unemployment rate (% labour force)	2.0	2.5	3.3	4.1	4.3	4.2	4.0	4.7	6.3	6.2	7.7
25. Youth unemployment ratio (% population aged 15-24)	5.5	6.6	6.7	6.9	6.9	6.9	6.8	7.9	8.2	11.7	14.3

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5001	5042	5083	5115	5125	5133	5141	5149	5147	5152	5126
2. Population aged 15-64	3440	3467	3498	3516	3518	3527	3536	3535	3522	3518	3492
3. Total employment (000)	2824	2789	2781	2753	2772	2765	2770	2666	2623	2587	2455
4. Population in employment aged 15-64	2632	2599	2595	2581	2601	2605	2617	2514	2468	2397	2267
5. Employment rate (% population aged 20-64)	81.8	80.2	79.3	78.7	79.2	79.1	79.4	76.5	75.4	73.4	69.9
6. Employment rate (% population aged 15-64)	76.5	75.0	74.2	73.4	73.9	73.8	74.0	71.1	70.1	68.1	64.9
7. Employment rate (% population aged 15-24)	47.8	43.1	41.5	40.5	39.8	39.1	38.5	33.2	30.4	29.3	25.5
8. Employment rate (% population aged 25-54)	89.2	87.8	87.4	86.7	87.4	87.2	87.6	84.5	83.9	81.6	78.4
9. Employment rate (% population aged 55-64)	61.9	62.1	59.1	58.1	58.2	58.6	58.5	57.5	55.7	54.2	51.5
10. FTE employment rate (% population aged 15-64)	77.2	75.5	74.4	73.4	73.7	73.4	73.9	70.7	69.3	66.1	62.3
11. Self-employed (% total employment)	17.3	17.5	17.0	16.2	15.6	15.4	15.4	15.8	15.4	15.7	16.2
12. Part-time employment (% total employment)	7.0	7.3	7.1	7.0	7.4	8.0	7.4	7.5	8.2	10.7	12.1
13. Fixed term contracts (% total employees)	19.9	19.0	18.7	18.7	19.5	21.8	21.7	20.9	22.4	22.0	20.9
14. Employment in Services (% total employment)	47.6	48.1	49.2	50.0	50.7	50.6	51.2	52.3	53.2	53.0	53.9
15. Employment in Industry (% total employment)	41.4	40.5	39.7	39.3	38.4	38.6	38.3	36.7	35.7	35.1	33.3
16. Employment in Agriculture (% total employment)	11.0	11.4	11.1	10.6	10.9	10.8	10.6	11.0	11.1	12.0	12.8
17. Activity rate (% population aged 15-64)	80.0	79.6	79.1	79.0	79.5	79.4	79.5	78.5	78.2	78.5	77.9
18. Activity rate (% population aged 15-24)	53.0	49.2	47.9	46.9	46.6	45.3	44.4	40.8	38.6	41.1	40.1
19. Activity rate (% population aged 25-54)	92.5	92.3	92.2	92.4	92.9	92.8	93.2	92.4	92.5	92.3	92.0
20. Activity rate (% population aged 55-64)	64.3	65.2	62.8	62.4	62.7	63.0	63.0	62.7	61.8	61.6	60.3
21. Total unemployment (000)	148	194	208	237	233	234	231	309	340	366	454
22. Unemployment rate (% labour force)	5.1	6.7	7.2	8.1	7.9	8.0	7.9	10.7	11.8	12.7	16.0
23. Youth unemployment rate (% labour force 15-24)	12.7	16.0	17.4	17.6	18.8	17.5	17.2	24.1	27.4	28.7	36.4
24. Long term unemployment rate (% labour force)	1.7	2.2	3.1	3.8	4.1	3.8	3.8	4.4	6.1	6.1	7.8
25. Youth unemployment ratio (% population aged 15-24)	5.2	6.1	6.5	6.4	6.8	6.1	5.9	7.6	8.2	11.8	14.6

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5357	5393	5421	5448	5461	5471	5481	5489	5489	5495	5474
2. Population aged 15-64	3553	3572	3586	3599	3598	3608	3609	3607	3592	3579	3547
3. Total employment (000)	2327	2332	2336	2347	2355	2359	2377	2348	2314	2274	2201
4. Population in employment aged 15-64	2180	2193	2211	2219	2229	2232	2255	2222	2195	2160	2082
5. Employment rate (% population aged 20-64)	65.7	65.9	66.1	66.0	66.3	66.3	67.0	66.1	65.6	64.8	63.1
6. Employment rate (% population aged 15-64)	61.4	61.4	61.7	61.7	62.0	61.9	62.5	61.6	61.1	60.4	58.7
7. Employment rate (% population aged 15-24)	36.5	34.4	32.5	31.4	31.6	30.6	30.8	29.4	26.5	24.9	21.6
8. Employment rate (% population aged 25-54)	74.0	74.3	74.9	74.9	75.3	74.9	75.8	74.9	74.6	74.1	72.5
9. Employment rate (% population aged 55-64)	42.2	42.4	42.5	43.7	42.8	44.0	43.9	42.7	43.5	42.1	42.0
10. FTE employment rate (% population aged 15-64)	58.4	57.9	58.6	58.4	58.7	58.3	58.8	58.3	57.9	56.2	54.3
11. Self-employed (% total employment)	15.4	15.5	14.6	14.4	14.0	13.4	13.6	12.9	12.3	10.8	11.1
12. Part-time employment (% total employment)	16.4	16.9	16.3	16.2	15.8	16.9	17.2	16.4	15.5	16.3	16.8
13. Fixed term contracts (% total employees)	23.4	22.3	21.1	20.4	21.7	23.0	24.1	23.2	23.6	22.4	20.5
14. Employment in Services (% total employment)	67.0	67.8	68.9	70.0	70.6	71.5	72.6	73.6	74.5	75.9	76.7
15. Employment in Industry (% total employment)	20.0	19.4	18.9	17.7	17.5	16.9	15.8	15.1	15.0	14.9	14.2
16. Employment in Agriculture (% total employment)	13.0	12.8	12.1	12.4	11.9	11.6	11.6	11.3	10.5	9.2	9.1
17. Activity rate (% population aged 15-64)	65.6	66.5	67.0	67.9	68.4	68.8	68.9	69.0	69.9	69.8	70.1
18. Activity rate (% population aged 15-24)	42.4	41.5	39.5	38.9	38.7	38.4	38.6	37.5	34.8	36.4	35.6
19. Activity rate (% population aged 25-54)	78.4	79.7	80.6	81.8	82.7	82.8	82.9	83.4	84.9	84.5	85.1
20. Activity rate (% population aged 55-64)	43.8	44.0	44.8	46.1	45.1	46.7	46.6	45.9	47.0	46.5	47.0
21. Total unemployment (000)	157	190	199	231	238	257	239	272	318	340	406
22. Unemployment rate (% labour force)	6.4	7.7	8.0	9.1	9.3	10.0	9.2	10.5	12.2	13.2	15.8
23. Youth unemployment rate (% labour force 15-24)	16.5	20.1	20.8	22.5	21.7	24.0	23.8	25.5	28.0	31.7	39.2
24. Long term unemployment rate (% labour force)	2.3	2.8	3.6	4.4	4.6	4.7	4.3	5.0	6.5	6.4	7.7
25. Youth unemployment ratio (% population aged 15-24)	5.9	7.0	6.9	7.4	7.1	7.8	7.8	8.1	8.2	11.5	13.9

Source: Eurostat.

LFS indicators: Break in series 2011.

Labour market indicators: Romania

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	22309	21686	21638	21609	21575	21551	21517	21484	21447	21384	21336
2. Population aged 15-64	15327	14933	14964	15021	15035	15046	15042	15028	14999	14968	14928
3. Total employment (000)	:	:	:	9267	9331	9365	9366	9181	9156	9058	9198
4. Population in employment aged 15-64	8833	8602	8635	8651	8838	8843	8882	8805	8822	8750	8886
5. Employment rate (% population aged 20-64)	63.3	63.7	63.5	63.6	64.8	64.4	64.4	63.5	63.3	62.8	63.8
6. Employment rate (% population aged 15-64)	57.6	57.6	57.7	57.6	58.8	58.8	59.0	58.6	58.8	58.5	59.5
7. Employment rate (% population aged 15-24)	28.7	26.4	27.9	24.9	24.0	24.4	24.8	24.5	24.3	23.8	23.9
8. Employment rate (% population aged 25-54)	72.7	73.1	72.9	73.3	74.7	74.6	74.4	73.7	74.4	74.1	74.9
9. Employment rate (% population aged 55-64)	37.3	38.1	36.9	39.4	41.7	41.4	43.1	42.6	41.1	40.0	41.4
10. FTE employment rate (% population aged 15-64)	58.4	58.5	58.3	56.7	57.7	57.8	57.9	57.4	57.4	56.9	58.0
11. Self-employed (% total employment)	:	:	:	33.5	31.3	31.3	30.5	32.0	34.2	32.5	32.5
12. Part-time employment (% total employment)	11.8	11.5	10.6	10.2	9.7	9.7	9.9	9.8	11.0	10.5	10.2
13. Fixed term contracts (% total employees)	1.0	2.0	2.5	2.4	1.8	1.6	1.3	1.0	1.1	1.5	1.7
14. Employment in Services (% total employment)	:	:	:	35.1	37.0	37.9	38.9	40.1	39.6	41.0	40.8
15. Employment in Industry (% total employment)	:	:	:	32.0	32.3	31.5	31.5	29.8	28.8	28.9	28.7
16. Employment in Agriculture (% total employment)	:	:	:	32.9	30.7	30.6	29.6	30.1	31.6	30.2	30.6
17. Activity rate (% population aged 15-64)	63.4	62.2	63.0	62.3	63.6	63.0	62.9	63.1	63.6	63.3	64.2
18. Activity rate (% population aged 15-24)	37.4	32.9	35.8	31.2	30.6	30.5	30.4	30.9	31.2	31.1	30.9
19. Activity rate (% population aged 25-54)	78.6	78.0	78.3	78.2	79.9	79.0	78.3	78.5	79.5	79.1	79.8
20. Activity rate (% population aged 55-64)	37.9	38.8	37.9	40.4	42.8	42.4	44.2	43.9	42.5	41.5	42.9
21. Total unemployment (000)	786	686	800	704	728	641	576	681	725	730	701
22. Unemployment rate (% labour force)	7.5	6.8	8.0	7.2	7.3	6.4	5.8	6.9	7.3	7.4	7.0
23. Youth unemployment rate (% labour force 15-24)	21.0	19.5	21.0	19.7	21.0	20.1	18.6	20.8	22.1	23.7	22.7
24. Long term unemployment rate (% labour force)	4.0	4.2	4.7	4.0	4.2	3.2	2.4	2.2	2.5	3.1	3.2
25. Youth unemployment ratio (% population aged 15-24)	8.7	6.5	7.8	6.3	6.6	6.1	5.7	6.4	6.9	7.4	7.0

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	10855	10549	10527	10521	10506	10504	10484	10465	10443	10408	10385
2. Population aged 15-64	7577	7397	7423	7467	7481	7502	7501	7495	7481	7466	7450
3. Total employment (000)	:	:	:	5063	5073	5123	5156	5066	5065	4982	5090
4. Population in employment aged 15-64	4817	4718	4705	4760	4835	4863	4925	4890	4916	4849	4952
5. Employment rate (% population aged 20-64)	70.1	70.5	69.7	70.4	71.2	71.0	71.6	70.7	70.8	69.9	71.4
6. Employment rate (% population aged 15-64)	63.6	63.8	63.4	63.7	64.6	64.8	65.7	65.2	65.7	65.0	66.5
7. Employment rate (% population aged 15-24)	31.4	29.9	30.7	28.2	27.3	28.3	29.1	28.3	28.1	27.0	27.4
8. Employment rate (% population aged 25-54)	79.6	80.1	79.2	80.0	80.8	80.6	80.9	80.5	81.5	80.7	81.7
9. Employment rate (% population aged 55-64)	42.7	43.5	43.1	46.7	50.0	50.3	53.0	52.3	50.3	48.9	51.2
10. FTE employment rate (% population aged 15-64)	65.1	65.2	64.3	63.2	63.9	64.3	65.0	64.4	64.6	63.8	65.3
11. Self-employed (% total employment)	:	:	:	34.0	32.0	31.5	30.6	32.3	34.8	32.6	32.6
12. Part-time employment (% total employment)	10.9	10.9	10.2	10.0	9.5	9.2	9.1	9.1	10.6	9.6	9.5
13. Fixed term contracts (% total employees)	1.1	2.2	2.9	2.8	2.0	1.7	1.3	1.1	1.3	1.8	2.0
14. Employment in Services (% total employment)	:	:	:	31.1	33.2	33.7	34.1	35.0	33.9	35.4	35.2
15. Employment in Industry (% total employment)	:	:	:	36.8	36.9	37.0	37.8	36.3	35.6	35.9	35.2
16. Employment in Agriculture (% total employment)	:	:	:	32.1	29.9	29.3	28.1	28.7	30.5	28.7	29.6
17. Activity rate (% population aged 15-64)	70.4	69.3	70.0	69.4	70.7	70.1	70.6	70.9	71.5	70.7	72.1
18. Activity rate (% population aged 15-24)	41.5	37.5	40.5	35.9	35.1	35.9	35.9	35.9	36.2	35.4	35.3
19. Activity rate (% population aged 25-54)	86.4	85.8	85.7	85.8	87.1	85.9	85.8	86.3	87.5	86.5	87.6
20. Activity rate (% population aged 55-64)	43.9	44.6	44.9	48.4	52.0	52.1	55.1	54.5	52.7	51.6	53.6
21. Total unemployment (000)	441	396	491	420	452	399	369	424	437	431	419
22. Unemployment rate (% labour force)	7.8	7.2	9.0	7.7	8.2	7.2	6.7	7.7	7.9	7.9	7.6
23. Youth unemployment rate (% labour force 15-24)	20.7	19.1	22.4	20.5	21.6	21.1	18.8	21.2	22.3	23.7	22.3
24. Long term unemployment rate (% labour force)	4.1	4.4	5.5	4.6	4.7	3.6	2.9	2.5	2.9	3.4	3.4
25. Youth unemployment ratio (% population aged 15-24)	10.1	7.6	9.8	7.7	7.8	7.6	6.8	7.6	8.0	8.4	7.9

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	11454	11136	11111	11089	11069	11047	11032	11019	11004	10976	10951
2. Population aged 15-64	7750	7536	7541	7554	7554	7545	7541	7533	7518	7502	7479
3. Total employment (000)	:	:	:	4205	4257	4242	4210	4115	4091	4076	4108
4. Population in employment aged 15-64	4016	3884	3930	3891	4003	3980	3958	3915	3906	3901	3934
5. Employment rate (% population aged 20-64)	56.8	57.0	57.4	56.9	58.5	57.9	57.3	56.3	55.9	55.7	56.3
6. Employment rate (% population aged 15-64)	51.8	51.5	52.1	51.5	53.0	52.8	52.5	52.0	52.0	52.0	52.6
7. Employment rate (% population aged 15-24)	26.1	22.9	25.1	21.6	20.6	20.2	20.2	20.6	20.4	20.4	20.2
8. Employment rate (% population aged 25-54)	65.9	66.0	66.6	66.5	68.6	68.5	67.8	66.9	67.2	67.4	67.8
9. Employment rate (% population aged 55-64)	32.6	33.3	31.4	33.1	34.5	33.6	34.4	34.1	33.0	32.2	32.9
10. FTE employment rate (% population aged 15-64)	51.9	51.8	52.4	50.2	51.5	51.3	50.8	50.4	50.2	50.0	50.6
11. Self-employed (% total employment)	:	:	:	33.0	30.4	31.0	30.2	31.7	33.4	32.4	32.4
12. Part-time employment (% total employment)	13.0	12.2	11.2	10.5	9.8	10.4	10.8	10.6	11.4	11.5	11.1
13. Fixed term contracts (% total employees)	0.8	1.7	2.0	1.9	1.6	1.5	1.2	1.0	1.0	1.3	1.2
14. Employment in Services (% total employment)	:	:	:	39.9	41.6	43.1	44.9	46.5	46.7	47.8	47.7
15. Employment in Industry (% total employment)	:	:	:	26.2	26.7	24.7	23.8	21.8	20.3	20.2	20.5
16. Employment in Agriculture (% total employment)	:	:	:	33.9	31.7	32.2	31.3	31.8	33.0	31.9	31.8
17. Activity rate (% population aged 15-64)	56.6	55.3	56.2	55.3	56.6	56.0	55.2	55.4	55.8	56.0	56.4
18. Activity rate (% population aged 15-24)	33.4	28.2	31.0	26.5	25.9	24.9	24.7	25.8	26.1	26.7	26.2
19. Activity rate (% population aged 25-54)	70.8	70.1	70.9	70.7	72.6	72.0	70.7	70.6	71.4	71.7	71.9
20. Activity rate (% population aged 55-64)	32.8	33.6	31.9	33.5	34.8	33.9	34.7	34.7	33.5	32.7	33.5
21. Total unemployment (000)	346	290	309	284	276	242	206	257	288	299	282
22. Unemployment rate (% labour force)	7.1	6.3	6.9	6.4	6.1	5.4	4.7	5.8	6.5	6.8	6.4
23. Youth unemployment rate (% labour force 15-24)	21.3	20.1	18.9	18.4	20.2	18.7	18.3	20.1	21.8	23.8	23.2
24. Long term unemployment rate (% labour force)	4.0	4.0	3.8	3.4	3.6	2.7	1.8	1.8	2.1	2.8	2.9
25. Youth unemployment ratio (% population aged 15-24)	7.3	5.3	5.8	4.9	5.2	4.7	4.5	5.2	5.7	6.4	6.1

Source: Eurostat.

Labour market indicators: Slovenia

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1995	1996	1997	1999	2006	2015	2033	2037	2048	2051	2056
2. Population aged 15-64	1401	1405	1405	1402	1407	1412	1422	1414	1422	1421	1415
3. Total employment (000)	934	931	935	931	945	977	1002	984	963	947	935
4. Population in employment aged 15-64	889	879	917	925	937	957	975	955	942	915	907
5. Employment rate (% population aged 20-64)	69.0	68.1	70.4	71.1	71.5	72.4	73.0	71.9	70.3	68.4	68.3
6. Employment rate (% population aged 15-64)	63.4	62.6	65.3	66.0	66.6	67.8	68.6	67.5	66.2	64.4	64.1
7. Employment rate (% population aged 15-24)	30.6	29.1	33.8	34.1	35.0	37.6	38.4	35.3	34.1	31.5	27.3
8. Employment rate (% population aged 25-54)	83.4	82.5	83.8	83.8	84.2	85.3	86.8	84.8	83.7	83.1	83.3
9. Employment rate (% population aged 55-64)	24.5	23.5	29.0	30.7	32.6	33.5	32.8	35.6	35.0	31.2	32.9
10. FTE employment rate (% population aged 15-64)	62.7	60.9	63.3	63.9	64.5	65.8	66.5	65.0	63.4	61.9	61.9
11. Self-employed (% total employment)	17.9	17.5	17.4	17.2	17.1	16.9	16.8	17.5	17.9	18.3	18.4
12. Part-time employment (% total employment)	6.1	6.2	9.3	9.0	9.2	9.3	9.0	10.6	11.4	10.4	9.8
13. Fixed term contracts (% total employees)	14.3	13.7	17.8	17.4	17.3	18.5	17.4	16.4	17.3	18.2	17.1
14. Employment in Services (% total employment)	53.7	54.5	55.3	55.6	56.6	57.0	57.4	59.0	60.5	61.1	61.7
15. Employment in Industry (% total employment)	35.7	35.2	34.7	34.6	34.1	34.2	34.2	32.6	31.0	30.6	30.0
16. Employment in Agriculture (% total employment)	10.7	10.3	10.0	9.8	9.3	8.8	8.4	8.4	8.4	8.3	8.3
17. Activity rate (% population aged 15-64)	67.8	67.1	69.8	70.7	70.9	71.3	71.8	71.8	71.5	70.3	70.4
18. Activity rate (% population aged 15-24)	36.6	35.2	40.3	40.5	40.6	41.8	42.9	40.9	39.9	37.4	34.4
19. Activity rate (% population aged 25-54)	88.1	87.5	88.6	88.8	89.0	89.3	90.1	89.6	90.0	90.1	90.8
20. Activity rate (% population aged 55-64)	25.2	24.3	29.9	32.1	33.4	34.6	34.2	36.9	36.5	33.3	35.1
21. Total unemployment (000)	61	64	63	66	61	50	46	61	75	83	90
22. Unemployment rate (% labour force)	6.3	6.7	6.3	6.5	6.0	4.9	4.4	5.9	7.3	8.2	8.9
23. Youth unemployment rate (% labour force 15-24)	16.5	17.3	16.1	15.9	13.9	10.1	10.4	13.6	14.7	15.7	20.6
24. Long term unemployment rate (% labour force)	3.5	3.5	3.2	3.1	2.9	2.2	1.9	1.8	3.2	3.6	4.3
25. Youth unemployment ratio (% population aged 15-24)	6.1	6.1	6.5	6.5	5.6	4.2	4.5	5.6	5.9	5.9	7.1

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	976	976	977	979	984	991	1007	1008	1014	1015	1017
2. Population aged 15-64	710	712	712	713	716	721	732	727	732	731	727
3. Total employment (000)	508	509	509	506	515	535	546	532	522	512	506
4. Population in employment aged 15-64	484	479	499	502	510	525	532	516	509	495	490
5. Employment rate (% population aged 20-64)	74.1	73.2	75.4	75.8	76.3	77.5	77.4	75.6	74.0	71.8	71.8
6. Employment rate (% population aged 15-64)	68.2	67.4	70.0	70.4	71.1	72.7	72.7	71.0	69.6	67.7	67.4
7. Employment rate (% population aged 15-24)	34.4	33.7	38.8	38.1	39.2	43.2	43.0	39.1	37.6	35.7	30.4
8. Employment rate (% population aged 25-54)	86.7	85.7	86.4	86.4	87.1	88.1	88.6	86.4	85.2	84.8	85.4
9. Employment rate (% population aged 55-64)	35.4	33.2	40.9	43.1	44.5	45.3	44.7	46.4	45.5	39.5	40.7
10. FTE employment rate (% population aged 15-64)	67.7	66.1	68.3	69.0	69.8	71.5	71.5	69.4	68.0	66.1	66.3
11. Self-employed (% total employment)	20.9	20.7	19.8	19.6	19.7	19.2	19.6	20.6	20.8	21.5	21.7
12. Part-time employment (% total employment)	4.9	5.2	7.9	7.2	7.2	7.7	7.1	8.4	8.6	7.9	7.0
13. Fixed term contracts (% total employees)	12.6	12.6	16.7	15.7	15.5	16.5	15.3	15.1	15.4	16.5	15.7
14. Employment in Services (% total employment)	45.2	45.3	45.8	45.9	46.4	47.1	46.8	49.2	50.2	49.3	50.6
15. Employment in Industry (% total employment)	43.8	43.9	44.0	44.2	43.9	44.3	44.6	42.3	41.1	41.7	40.6
16. Employment in Agriculture (% total employment)	10.9	10.8	10.2	9.9	9.7	8.6	8.6	8.5	8.7	8.9	8.8
17. Activity rate (% population aged 15-64)	72.5	72.0	74.5	75.1	74.9	75.8	75.8	75.6	75.4	73.9	73.7
18. Activity rate (% population aged 15-24)	40.4	39.9	45.1	44.5	44.4	47.6	47.7	45.4	44.4	42.0	38.1
19. Activity rate (% population aged 25-54)	91.2	90.6	91.0	91.1	91.0	91.3	91.6	91.3	91.7	91.8	92.4
20. Activity rate (% population aged 55-64)	36.7	34.5	42.5	45.4	45.8	46.7	46.4	48.2	47.5	42.7	43.6
21. Total unemployment (000)	31	33	32	33	27	22	23	33	42	45	46
22. Unemployment rate (% labour force)	5.9	6.3	5.9	6.1	4.9	4.0	4.0	5.9	7.5	8.2	8.4
23. Youth unemployment rate (% labour force 15-24)	15.0	15.6	13.9	14.5	11.6	9.4	9.9	13.8	15.2	15.0	20.3
24. Long term unemployment rate (% labour force)	3.5	3.4	3.1	2.9	2.5	1.8	1.6	1.7	3.4	3.7	4.1
25. Youth unemployment ratio (% population aged 15-24)	6.1	6.2	6.2	6.5	5.2	4.5	4.7	6.2	6.8	6.3	7.7

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	1019	1020	1020	1021	1022	1024	1026	1030	1034	1036	1039
2. Population aged 15-64	691	693	693	690	691	691	691	687	691	690	688
3. Total employment (000)	427	423	426	425	430	442	456	451	441	435	429
4. Population in employment aged 15-64	405	400	419	423	427	432	443	439	432	420	416
5. Employment rate (% population aged 20-64)	63.8	62.8	65.4	66.2	66.5	67.1	68.5	67.9	66.5	64.8	64.6
6. Employment rate (% population aged 15-64)	58.6	57.6	60.5	61.3	61.8	62.6	64.2	63.8	62.6	60.9	60.5
7. Employment rate (% population aged 15-24)	26.5	24.3	28.6	29.8	30.3	31.4	33.2	31.0	30.0	26.9	23.7
8. Employment rate (% population aged 25-54)	80.0	79.3	81.2	81.1	81.2	82.4	84.8	83.2	82.1	81.3	81.0
9. Employment rate (% population aged 55-64)	14.2	14.6	17.8	18.5	21.0	22.2	21.1	24.8	24.5	22.7	25.0
10. FTE employment rate (% population aged 15-64)	57.6	55.5	58.1	58.6	58.9	59.8	61.2	60.4	58.5	57.6	57.4
11. Self-employed (% total employment)	14.3	13.7	14.6	14.4	14.1	14.1	13.4	13.9	14.6	14.6	14.5
12. Part-time employment (% total employment)	7.5	7.5	11.0	11.1	11.6	11.3	11.4	13.2	14.7	13.3	13.1
13. Fixed term contracts (% total employees)	16.1	14.9	19.1	19.3	19.3	20.8	19.7	17.8	19.3	19.9	18.7
14. Employment in Services (% total employment)	63.5	65.4	66.3	67.0	68.6	68.9	69.9	70.5	72.6	74.8	74.7
15. Employment in Industry (% total employment)	26.1	24.8	23.9	23.4	22.6	22.1	21.9	21.2	19.4	17.6	17.6
16. Employment in Agriculture (% total employment)	10.3	9.8	9.8	9.6	8.9	9.0	8.1	8.2	8.0	7.6	7.7
17. Activity rate (% population aged 15-64)	63.0	62.1	65.0	66.1	66.7	66.6	67.5	67.9	67.4	66.5	66.9
18. Activity rate (% population aged 15-24)	32.5	30.3	35.4	36.3	36.4	35.4	37.4	35.8	34.8	32.3	30.0
19. Activity rate (% population aged 25-54)	84.9	84.3	86.1	86.4	87.0	87.3	88.5	87.9	88.1	88.4	89.1
20. Activity rate (% population aged 55-64)	14.4	14.9	18.1	18.9	21.4	23.1	22.2	25.6	25.5	23.7	26.5
21. Total unemployment (000)	30	31	31	33	34	28	23	28	33	38	44
22. Unemployment rate (% labour force)	6.8	7.1	6.9	7.1	7.2	5.9	4.8	5.8	7.1	8.2	9.4
23. Youth unemployment rate (% labour force 15-24)	18.6	19.8	19.2	17.8	16.8	11.2	11.3	13.4	13.8	16.8	21.0
24. Long term unemployment rate (% labour force)	3.6	3.6	3.4	3.3	3.5	2.7	2.1	1.9	2.9	3.5	4.4
25. Youth unemployment ratio (% population aged 15-24)	6.0	6.0	6.8	6.4	6.1	4.0	4.2	4.8	4.8	5.4	6.3

Source: Eurostat.

Labour market indicators: Slovakia

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5384	5389	5370	5379	5389	5391	5396	5409	5422	5392	5404
2. Population aged 15-64	3728	3733	3792	3824	3862	3873	3892	3917	3926	3882	3881
3. Total employment (000)	2038	2061	2056	2089	2132	2177	2247	2203	2170	2208	2209
4. Population in employment aged 15-64	2118	2155	2160	2207	2295	2351	2423	2357	2307	2303	2317
5. Employment rate (% population aged 20-64)	63.6	64.8	63.7	64.5	66.0	67.2	68.8	66.4	64.6	65.0	65.1
6. Employment rate (% population aged 15-64)	56.8	57.7	57.0	57.7	59.4	60.7	62.3	60.2	58.8	59.3	59.7
7. Employment rate (% population aged 15-24)	27.0	27.4	26.3	25.6	25.9	27.6	26.2	22.8	20.6	20.0	20.1
8. Employment rate (% population aged 25-54)	75.0	76.0	74.7	75.3	77.2	78.0	80.1	77.8	75.8	76.5	76.4
9. Employment rate (% population aged 55-64)	22.8	24.6	26.8	30.3	33.1	35.6	39.2	39.5	40.5	41.3	43.1
10. FTE employment rate (% population aged 15-64)	55.8	57.0	55.7	56.9	58.5	59.8	61.3	59.1	57.4	57.8	58.1
11. Self-employed (% total employment)	10.7	11.4	13.3	13.7	14.0	14.5	15.5	16.6	16.6	16.0	15.6
12. Part-time employment (% total employment)	1.9	2.4	2.7	2.5	2.8	2.6	2.7	3.6	3.9	4.2	4.1
13. Fixed term contracts (% total employees)	4.9	4.9	5.5	5.0	5.1	5.1	4.7	4.4	5.8	6.7	6.8
14. Employment in Services (% total employment)	60.9	60.9	61.5	61.5	62.0	62.3	62.0	63.9	64.6	64.6	65.2
15. Employment in Industry (% total employment)	33.7	34.2	33.8	33.9	34.0	33.9	34.4	32.6	32.1	32.1	31.6
16. Employment in Agriculture (% total employment)	5.4	4.9	4.7	4.5	4.0	3.8	3.6	3.5	3.4	3.3	3.1
17. Activity rate (% population aged 15-64)	69.9	70.0	69.7	68.9	68.6	68.3	68.8	68.4	68.7	68.7	69.4
18. Activity rate (% population aged 15-24)	43.4	41.1	39.3	36.6	35.3	34.6	32.4	31.4	31.1	30.1	30.5
19. Activity rate (% population aged 25-54)	88.6	89.5	88.9	88.0	87.6	86.9	87.8	87.2	86.9	87.0	87.1
20. Activity rate (% population aged 55-64)	26.9	28.5	31.7	35.0	36.7	38.8	41.9	42.8	45.1	46.0	48.5
21. Total unemployment (000)	484	457	480	427	353	293	254	321	386	363	378
22. Unemployment rate (% labour force)	18.8	17.7	18.4	16.4	13.5	11.2	9.6	12.1	14.5	13.7	14.0
23. Youth unemployment rate (% labour force 15-24)	38.1	33.8	33.4	30.4	27.0	20.6	19.3	27.6	33.9	33.7	34.0
24. Long term unemployment rate (% labour force)	12.3	11.5	11.9	11.8	10.3	8.3	6.7	6.5	9.3	9.3	9.4
25. Youth unemployment ratio (% population aged 15-24)	16.3	13.7	13.0	11.0	9.4	7.0	6.2	8.6	10.4	10.1	10.4

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	2608	2613	2601	2609	2616	2617	2621	2628	2635	2625	2632
2. Population aged 15-64	1842	1847	1878	1899	1922	1928	1940	1954	1961	1944	1945
3. Total employment (000)	1107	1119	1130	1162	1197	1221	1259	1235	1203	1233	1237
4. Population in employment aged 15-64	1149	1170	1186	1227	1288	1319	1357	1320	1279	1285	1296
5. Employment rate (% population aged 20-64)	70.2	71.4	70.9	72.5	74.6	76.0	77.4	74.6	71.9	72.5	72.8
6. Employment rate (% population aged 15-64)	62.4	63.3	63.2	64.6	67.0	68.4	70.0	67.6	65.2	66.1	66.7
7. Employment rate (% population aged 15-24)	28.7	29.3	28.0	28.1	29.2	30.9	30.8	26.8	23.8	24.8	24.1
8. Employment rate (% population aged 25-54)	79.5	80.5	80.0	81.4	84.1	85.0	86.4	84.2	81.4	82.5	83.0
9. Employment rate (% population aged 55-64)	39.1	41.0	43.8	47.8	49.8	52.5	56.7	54.9	54.0	52.5	53.6
10. FTE employment rate (% population aged 15-64)	61.7	63.2	62.5	64.3	66.6	68.1	69.5	66.7	64.2	65.1	65.5
11. Self-employed (% total employment)	14.7	15.2	17.8	18.6	18.5	19.4	20.7	21.5	22.2	21.0	20.0
12. Part-time employment (% total employment)	1.1	1.3	1.4	1.3	1.3	1.1	1.4	2.7	2.8	2.8	2.9
13. Fixed term contracts (% total employees)	5.2	5.3	6.0	5.1	5.0	4.9	4.6	4.6	5.6	6.4	6.4
14. Employment in Services (% total employment)	49.0	48.5	49.1	49.1	49.6	49.1	48.4	50.6	50.8	50.8	51.3
15. Employment in Industry (% total employment)	43.9	44.9	44.3	44.5	44.8	45.6	46.5	44.6	44.5	44.3	44.3
16. Employment in Agriculture (% total employment)	7.1	6.7	6.6	6.3	5.6	5.4	5.1	4.9	4.7	4.9	4.5
17. Activity rate (% population aged 15-64)	76.7	76.7	76.5	76.5	76.4	75.9	76.4	76.3	76.1	76.6	77.1
18. Activity rate (% population aged 15-24)	47.5	44.9	42.9	40.7	39.7	38.9	37.8	37.1	36.4	37.2	37.1
19. Activity rate (% population aged 25-54)	93.4	94.1	93.8	93.8	94.0	93.1	93.4	93.6	92.9	93.5	93.8
20. Activity rate (% population aged 55-64)	46.3	48.1	51.9	55.1	55.2	57.0	59.9	58.7	59.7	58.8	60.3
21. Total unemployment (000)	263	246	250	224	180	144	124	169	211	203	204
22. Unemployment rate (% labour force)	18.8	17.5	17.5	15.6	12.4	10.0	8.4	11.5	14.3	13.7	13.5
23. Youth unemployment rate (% labour force 15-24)	39.7	35.0	34.9	31.2	26.6	20.6	18.6	27.9	34.8	33.3	35.0
24. Long term unemployment rate (% labour force)	12.0	11.3	11.4	11.3	9.5	7.5	5.8	5.9	9.0	9.5	9.3
25. Youth unemployment ratio (% population aged 15-24)	18.7	15.6	14.9	12.6	10.5	7.9	7.0	10.3	12.6	12.3	13.0

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	2776	2777	2768	2770	2773	2774	2775	2781	2787	2767	2773
2. Population aged 15-64	1886	1886	1914	1926	1940	1946	1952	1963	1966	1939	1937
3. Total employment (000)	931	941	926	927	936	956	988	968	967	976	973
4. Population in employment aged 15-64	969	985	974	980	1008	1032	1066	1036	1029	1018	1021
5. Employment rate (% population aged 20-64)	57.2	58.4	56.7	56.7	57.5	58.7	60.3	58.2	57.4	57.4	57.3
6. Employment rate (% population aged 15-64)	51.4	52.2	50.9	50.9	51.9	53.0	54.6	52.8	52.3	52.5	52.7
7. Employment rate (% population aged 15-24)	25.3	25.4	24.6	23.1	22.5	24.1	21.5	18.7	17.4	15.0	15.9
8. Employment rate (% population aged 25-54)	70.6	71.5	69.3	69.2	70.2	71.0	73.7	71.2	70.1	70.4	69.6
9. Employment rate (% population aged 55-64)	9.5	11.2	12.6	15.6	18.9	21.2	24.2	26.1	28.7	31.4	33.6
10. FTE employment rate (% population aged 15-64)	50.0	50.9	49.1	49.6	50.6	51.6	53.2	51.4	50.6	50.5	50.7
11. Self-employed (% total employment)	5.8	6.9	7.8	7.5	8.1	8.2	8.8	10.4	9.8	9.8	10.0
12. Part-time employment (% total employment)	2.7	3.8	4.2	4.1	4.7	4.5	4.2	4.7	5.4	5.9	5.7
13. Fixed term contracts (% total employees)	4.5	4.6	5.1	4.9	5.2	5.3	4.8	4.1	5.9	7.0	7.3
14. Employment in Services (% total employment)	74.3	74.9	75.6	76.2	76.9	77.9	78.0	79.7	80.6	81.0	81.6
15. Employment in Industry (% total employment)	22.3	22.3	21.9	21.4	21.0	20.1	20.1	18.4	17.6	17.6	16.8
16. Employment in Agriculture (% total employment)	3.4	2.9	2.5	2.4	2.1	2.0	1.9	1.9	1.8	1.5	1.5
17. Activity rate (% population aged 15-64)	63.2	63.5	63.0	61.5	60.9	60.8	61.3	60.6	61.3	60.8	61.7
18. Activity rate (% population aged 15-24)	39.2	37.2	35.7	32.4	30.9	30.2	26.7	25.4	25.5	22.7	23.6
19. Activity rate (% population aged 25-54)	83.9	84.8	84.1	82.1	81.2	80.7	82.1	80.7	80.9	80.4	80.4
20. Activity rate (% population aged 55-64)	11.1	12.4	14.8	18.1	20.9	23.3	26.4	29.0	32.3	34.6	38.0
21. Total unemployment (000)	222	212	230	203	173	149	130	152	175	160	174
22. Unemployment rate (% labour force)	18.9	17.9	19.3	17.4	14.8	12.8	11.0	12.9	14.7	13.7	14.5
23. Youth unemployment rate (% labour force 15-24)	36.2	32.3	31.7	29.4	27.5	20.7	20.3	27.1	32.6	34.3	32.5
24. Long term unemployment rate (% labour force)	12.6	11.8	12.5	12.4	11.3	9.4	7.7	7.4	9.6	9.1	9.5
25. Youth unemployment ratio (% population aged 15-24)	13.9	11.8	11.1	9.3	8.3	6.1	5.3	6.7	8.1	7.7	7.7

Source: Eurostat.

LFS indicators: Break in series 2011.

Labour market indicators: Finland

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	5180	5193	5205	5225	5242	5266	5289	5317	5343	5365	5392
2. Population aged 15-64	3458	3464	3467	3476	3484	3497	3514	3527	3537	3518	3505
3. Total employment (000)	2346	2348	2357	2389	2433	2486	2550	2484	2482	2520	2520
4. Population in employment aged 15-64	2354	2345	2345	2378	2416	2459	2497	2423	2410	2429	2431
5. Employment rate (% population aged 20-64)	72.6	72.2	72.2	73.0	73.9	74.8	75.8	73.5	73.0	73.8	74.0
6. Employment rate (% population aged 15-64)	68.1	67.7	67.6	68.4	69.3	70.3	71.1	68.7	68.1	69.0	69.4
7. Employment rate (% population aged 15-24)	40.7	39.7	39.4	40.5	42.1	44.6	44.7	39.6	38.8	40.4	41.8
8. Employment rate (% population aged 25-54)	81.6	81.1	81.0	81.7	82.4	83.4	84.3	82.4	81.6	82.3	82.0
9. Employment rate (% population aged 55-64)	47.8	49.6	50.9	52.7	54.5	55.0	56.5	55.5	56.2	57.0	58.2
10. FTE employment rate (% population aged 15-64)	65.8	65.2	64.8	64.6	65.4	66.3	67.2	64.7	64.1	64.9	65.2
11. Self-employed (% total employment)	11.5	11.4	11.4	11.3	11.5	11.5	11.4	12.0	12.0	11.9	12.1
12. Part-time employment (% total employment)	12.8	13.0	13.5	13.7	14.0	14.1	13.3	14.0	14.6	14.9	15.1
13. Fixed term contracts (% total employees)	16.0	16.3	16.1	16.5	16.4	15.9	15.0	14.6	15.5	15.6	15.6
14. Employment in Services (% total employment)	68.2	68.8	69.3	69.4	69.5	69.5	69.6	70.5	71.0	71.2	71.6
15. Employment in Industry (% total employment)	26.4	25.9	25.4	25.4	25.5	25.6	25.6	24.6	24.1	24.1	23.9
16. Employment in Agriculture (% total employment)	5.4	5.3	5.2	5.2	5.0	4.9	4.8	4.9	4.9	4.7	4.6
17. Activity rate (% population aged 15-64)	74.9	74.5	74.2	74.7	75.2	75.6	76.0	75.0	74.5	74.9	75.2
18. Activity rate (% population aged 15-24)	51.5	50.7	49.7	50.7	51.8	53.4	53.5	50.4	49.4	50.5	51.6
19. Activity rate (% population aged 25-54)	88.0	87.5	87.4	87.7	87.8	88.0	88.6	88.2	87.5	87.7	87.3
20. Activity rate (% population aged 55-64)	52.1	53.7	54.9	56.6	58.5	58.8	59.7	59.1	60.2	60.9	62.3
21. Total unemployment (000)	237	235	229	220	204	183	172	221	224	209	207
22. Unemployment rate (% labour force)	9.1	9.0	8.8	8.4	7.7	6.9	6.4	8.2	8.4	7.8	7.7
23. Youth unemployment rate (% labour force 15-24)	21.0	21.8	20.7	20.1	18.7	16.5	16.5	21.5	21.4	20.1	19.0
24. Long term unemployment rate (% labour force)	2.3	2.3	2.1	2.2	1.9	1.6	1.2	1.4	2.0	1.7	1.6
25. Youth unemployment ratio (% population aged 15-24)	10.8	11.0	10.3	10.2	9.7	8.8	8.8	10.9	10.6	10.1	9.8

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	2521	2529	2536	2547	2555	2569	2581	2598	2613	2624	2639
2. Population aged 15-64	1738	1741	1742	1747	1750	1758	1766	1774	1779	1770	1764
3. Total employment (000)	1215	1218	1225	1237	1261	1287	1325	1269	1277	1302	1296
4. Population in employment aged 15-64	1216	1213	1214	1228	1249	1268	1291	1233	1234	1249	1244
5. Employment rate (% population aged 20-64)	74.8	74.4	74.5	75.1	76.3	77.2	78.4	74.7	74.5	75.6	75.5
6. Employment rate (% population aged 15-64)	70.0	69.7	69.7	70.3	71.4	72.1	73.1	69.5	69.4	70.6	70.5
7. Employment rate (% population aged 15-24)	41.1	40.1	39.4	40.4	42.6	44.5	44.3	37.7	37.7	39.5	41.0
8. Employment rate (% population aged 25-54)	83.8	83.3	83.8	84.4	85.2	86.0	87.3	84.3	83.9	84.8	84.4
9. Employment rate (% population aged 55-64)	48.5	51.0	51.4	52.8	54.8	55.1	57.1	54.6	55.6	56.8	56.6
10. FTE employment rate (% population aged 15-64)	69.3	68.4	68.3	67.9	69.0	69.8	70.8	67.1	66.9	67.8	67.9
11. Self-employed (% total employment)	14.8	14.7	14.8	14.8	15.2	15.1	14.9	15.9	15.8	15.8	16.1
12. Part-time employment (% total employment)	8.3	8.7	9.0	9.2	9.3	9.3	8.9	9.2	10.0	10.6	10.3
13. Fixed term contracts (% total employees)	12.5	12.6	12.6	12.9	12.6	12.4	11.2	10.6	12.4	12.7	12.7
14. Employment in Services (% total employment)	54.1	54.4	55.2	55.1	54.9	54.4	54.2	55.2	56.5	56.4	56.6
15. Employment in Industry (% total employment)	38.9	38.5	37.6	37.8	38.1	38.7	39.3	38.1	36.9	37.1	37.0
16. Employment in Agriculture (% total employment)	7.0	7.0	7.2	7.1	6.9	6.9	6.5	6.6	6.6	6.5	6.4
17. Activity rate (% population aged 15-64)	77.0	76.8	76.4	76.6	77.1	77.2	77.9	76.4	76.4	77.2	77.1
18. Activity rate (% population aged 15-24)	52.1	51.4	50.5	50.9	52.6	53.3	53.4	49.7	49.4	50.5	51.2
19. Activity rate (% population aged 25-54)	90.5	90.1	90.1	90.3	90.3	90.4	91.2	90.6	90.5	90.9	90.4
20. Activity rate (% population aged 55-64)	53.0	55.3	55.6	56.9	58.9	59.1	60.6	58.7	60.1	61.4	61.6
21. Total unemployment (000)	123	124	118	111	101	90	85	122	126	117	115
22. Unemployment rate (% labour force)	9.1	9.2	8.7	8.2	7.4	6.5	6.1	8.9	9.1	8.4	8.3
23. Youth unemployment rate (% labour force 15-24)	21.2	21.9	22.0	20.6	19.0	16.4	17.1	24.1	23.8	21.8	19.9
24. Long term unemployment rate (% labour force)	2.5	2.6	2.3	2.4	2.1	1.7	1.3	1.6	2.5	2.2	2.1
25. Youth unemployment ratio (% population aged 15-24)	11.0	11.3	11.1	10.5	10.0	8.8	9.2	12.0	11.8	11.0	10.2

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	2659	2664	2669	2678	2687	2697	2708	2719	2731	2741	2753
2. Population aged 15-64	1720	1723	1725	1728	1734	1739	1748	1753	1758	1749	1741
3. Total employment (000)	1131	1129	1132	1152	1173	1200	1226	1215	1205	1218	1224
4. Population in employment aged 15-64	1138	1132	1131	1150	1167	1191	1206	1191	1176	1179	1187
5. Employment rate (% population aged 20-64)	70.4	70.0	69.7	70.8	71.5	72.5	73.1	72.4	71.5	71.9	72.5
6. Employment rate (% population aged 15-64)	66.2	65.7	65.6	66.5	67.3	68.5	69.0	67.9	66.9	67.4	68.2
7. Employment rate (% population aged 15-24)	40.3	39.2	39.4	40.6	41.6	44.7	45.1	41.5	39.9	41.2	42.7
8. Employment rate (% population aged 25-54)	79.2	78.9	78.2	79.0	79.6	80.6	81.2	80.5	79.2	79.6	79.4
9. Employment rate (% population aged 55-64)	47.2	48.3	50.4	52.7	54.3	55.0	55.8	56.3	56.9	57.2	59.7
10. FTE employment rate (% population aged 15-64)	62.4	62.0	61.3	61.3	61.9	62.9	63.8	62.5	61.5	62.1	62.6
11. Self-employed (% total employment)	7.9	7.8	7.7	7.6	7.6	7.5	7.6	8.0	8.1	7.9	7.9
12. Part-time employment (% total employment)	17.5	17.7	18.4	18.6	19.2	19.3	18.2	19.0	19.6	19.6	20.1
13. Fixed term contracts (% total employees)	19.5	20.0	19.5	20.0	20.0	19.4	18.7	18.3	18.4	18.4	18.3
14. Employment in Services (% total employment)	83.3	84.2	84.5	84.7	85.2	85.7	86.4	86.6	86.5	87.4	87.8
15. Employment in Industry (% total employment)	13.1	12.3	12.3	12.1	11.8	11.5	10.7	10.3	10.4	9.9	9.6
16. Employment in Agriculture (% total employment)	3.6	3.5	3.2	3.1	3.0	2.8	2.9	3.0	3.1	2.7	2.6
17. Activity rate (% population aged 15-64)	72.8	72.2	72.0	72.8	73.3	73.8	73.9	73.5	72.5	72.7	73.4
18. Activity rate (% population aged 15-24)	50.9	50.0	48.9	50.4	51.0	53.6	53.5	51.2	49.3	50.5	52.0
19. Activity rate (% population aged 25-54)	85.5	84.8	84.5	85.1	85.3	85.6	85.9	85.7	84.4	84.3	84.1
20. Activity rate (% population aged 55-64)	51.2	52.2	54.3	56.4	58.2	58.4	58.8	59.5	60.3	60.4	62.9
21. Total unemployment (000)	114	111	111	109	104	93	87	99	98	91	92
22. Unemployment rate (% labour force)	9.1	8.9	8.9	8.6	8.1	7.2	6.7	7.6	7.6	7.1	7.1
23. Youth unemployment rate (% labour force 15-24)	20.9	21.6	19.4	19.5	18.4	16.6	15.8	19.0	19.0	18.4	18.0
24. Long term unemployment rate (% labour force)	2.0	2.0	2.0	2.0	1.8	1.4	1.1	1.1	1.5	1.2	1.2
25. Youth unemployment ratio (% population aged 15-24)	10.6	10.8	9.5	9.8	9.4	8.9	8.4	9.7	9.4	9.3	9.4

Source: Eurostat.

Labour market indicators: Sweden

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	8930	8969	9006	9039	9084	9147	9203	9297	9364	9419	9460
2. Population aged 15-64	5776	5821	5855	5896	5951	6002	6046	6080	6103	6115	6114
3. Total employment (000)	4393	4368	4337	4349	4423	4525	4565	4455	4498	4600	4633
4. Population in employment aged 15-64	4252	4242	4220	4272	4352	4453	4494	4391	4403	4498	4510
5. Employment rate (% population aged 20-64)	78.5	77.9	77.4	78.1	78.8	80.1	80.4	78.3	78.1	79.4	79.4
6. Employment rate (% population aged 15-64)	73.6	72.9	72.1	72.5	73.1	74.2	74.3	72.2	72.1	73.6	73.8
7. Employment rate (% population aged 15-24)	42.8	41.2	39.2	38.7	40.3	42.2	42.2	38.3	38.8	40.9	40.2
8. Employment rate (% population aged 25-54)	84.1	83.5	82.9	83.9	84.7	86.1	86.5	84.5	84.0	85.1	85.2
9. Employment rate (% population aged 55-64)	68.0	68.6	69.1	69.4	69.6	70.0	70.1	70.0	70.4	72.0	73.0
10. FTE employment rate (% population aged 15-64)	68.1	67.6	66.2	65.9	66.5	67.6	67.8	65.7	65.8	67.3	67.6
11. Self-employed (% total employment)	5.9	5.5	5.7	5.7	5.7	5.7	5.4	5.6	5.6	5.3	5.2
12. Part-time employment (% total employment)	21.5	22.9	23.6	24.7	25.1	25.0	26.6	27.0	27.0	26.5	26.5
13. Fixed term contracts (% total employees)	15.2	15.1	15.5	16.0	17.3	17.5	16.1	15.3	16.4	17.0	16.4
14. Employment in Services (% total employment)	74.3	74.8	75.4	75.5	75.8	75.5	75.2	76.2	76.3	76.4	76.7
15. Employment in Industry (% total employment)	23.2	22.9	22.4	22.3	22.1	22.4	22.8	21.8	21.5	21.6	21.3
16. Employment in Agriculture (% total employment)	2.5	2.4	2.3	2.2	2.1	2.0	2.0	2.1	2.2	2.0	2.1
17. Activity rate (% population aged 15-64)	77.6	77.3	77.2	78.7	78.8	79.1	79.3	78.9	79.1	79.9	80.3
18. Activity rate (% population aged 15-24)	49.1	47.7	47.2	50.2	51.3	52.2	52.8	51.0	51.6	53.0	52.6
19. Activity rate (% population aged 25-54)	87.7	87.7	87.7	89.5	89.4	90.0	90.4	90.0	89.8	90.3	90.6
20. Activity rate (% population aged 55-64)	71.2	71.9	72.7	72.6	72.8	72.8	72.8	73.9	74.8	76.0	77.0
21. Total unemployment (000)	277	306	346	361	336	298	305	408	425	390	403
22. Unemployment rate (% labour force)	6.0	6.6	7.4	7.7	7.1	6.1	6.2	8.3	8.6	7.8	8.0
23. Youth unemployment rate (% labour force 15-24)	16.4	17.4	20.4	22.6	21.5	19.2	20.2	25.0	24.8	22.8	23.7
24. Long term unemployment rate (% labour force)	1.2	1.2	1.4	1.0	1.0	0.9	0.8	1.1	1.6	1.5	1.5
25. Youth unemployment ratio (% population aged 15-24)	6.3	6.5	8.0	11.5	11.0	10.1	10.7	12.8	12.8	12.1	12.4

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	4421	4443	4463	4479	4504	4540	4567	4628	4664	4694	4715
2. Population aged 15-64	2935	2957	2974	2993	3020	3048	3071	3088	3100	3108	3107
3. Total employment (000)	2286	2272	2259	2282	2327	2382	2407	2336	2380	2425	2430
4. Population in employment aged 15-64	2200	2195	2189	2228	2280	2333	2357	2291	2312	2355	2350
5. Employment rate (% population aged 20-64)	80.3	79.8	79.4	80.7	81.7	83.1	83.5	80.9	81.1	82.1	81.9
6. Employment rate (% population aged 15-64)	74.9	74.2	73.6	74.4	75.5	76.5	76.7	74.2	74.6	75.8	75.6
7. Employment rate (% population aged 15-24)	41.8	40.4	38.6	37.7	40.2	42.0	42.2	37.7	38.5	40.8	38.8
8. Employment rate (% population aged 25-54)	85.9	85.3	85.0	86.6	87.8	89.1	89.4	86.9	87.0	87.9	87.8
9. Employment rate (% population aged 55-64)	70.4	70.8	71.2	72.0	72.3	72.9	73.4	73.2	74.0	75.2	76.3
10. FTE employment rate (% population aged 15-64)	72.9	72.3	70.9	71.3	72.1	73.3	73.5	70.9	71.3	72.6	72.4
11. Self-employed (% total employment)	8.4	7.9	8.2	8.0	8.1	8.0	7.4	7.7	7.7	7.3	7.2
12. Part-time employment (% total employment)	11.1	11.2	12.0	11.5	11.8	11.8	13.3	14.2	14.5	14.2	14.6
13. Fixed term contracts (% total employees)	12.8	12.8	13.5	14.2	15.4	15.0	13.4	13.0	14.5	15.0	14.3
14. Employment in Services (% total employment)	61.3	61.7	62.4	62.9	63.2	62.9	62.0	63.3	63.9	63.8	64.4
15. Employment in Industry (% total employment)	35.0	34.7	34.1	33.9	33.6	34.0	34.9	33.6	32.9	33.2	32.6
16. Employment in Agriculture (% total employment)	3.7	3.6	3.5	3.3	3.2	3.1	3.1	3.1	3.2	3.0	3.0
17. Activity rate (% population aged 15-64)	79.4	79.2	79.1	80.9	81.2	81.4	81.7	81.4	81.9	82.4	82.6
18. Activity rate (% population aged 15-24)	48.5	47.3	47.1	49.1	50.8	51.8	52.6	51.1	52.0	53.2	51.8
19. Activity rate (% population aged 25-54)	89.8	89.9	90.0	92.4	92.5	92.9	93.1	92.8	92.9	93.2	93.5
20. Activity rate (% population aged 55-64)	74.2	74.9	75.6	76.2	76.0	76.2	76.5	77.8	79.3	79.9	80.9
21. Total unemployment (000)	153	169	186	191	173	149	152	222	227	207	218
22. Unemployment rate (% labour force)	6.3	6.9	7.6	7.7	6.9	5.9	5.9	8.6	8.7	7.8	8.2
23. Youth unemployment rate (% labour force 15-24)	17.3	18.2	21.3	22.6	21.0	18.7	19.7	26.3	25.9	23.3	25.0
24. Long term unemployment rate (% labour force)	1.4	1.4	1.6	1.2	1.2	0.9	0.8	1.2	1.8	1.7	1.7
25. Youth unemployment ratio (% population aged 15-24)	6.7	6.9	8.4	11.4	10.7	9.7	10.4	13.4	13.4	12.4	13.0

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	4510	4527	4543	4559	4580	4607	4637	4668	4700	4725	4745
2. Population aged 15-64	2841	2864	2881	2903	2931	2954	2975	2992	3003	3007	3007
3. Total employment (000)	2107	2096	2078	2067	2096	2143	2158	2119	2118	2176	2203
4. Population in employment aged 15-64	2053	2047	2031	2044	2072	2121	2137	2101	2092	2143	2160
5. Employment rate (% population aged 20-64)	76.6	76.0	75.3	75.5	75.8	77.1	77.2	75.7	75.0	76.5	76.8
6. Employment rate (% population aged 15-64)	72.2	71.5	70.5	70.4	70.7	71.8	71.8	70.2	69.6	71.3	71.8
7. Employment rate (% population aged 15-24)	43.8	42.1	39.7	39.8	40.4	42.3	42.1	38.9	39.2	41.0	41.6
8. Employment rate (% population aged 25-54)	82.4	81.7	80.9	81.1	81.5	83.0	83.5	81.9	80.9	82.2	82.5
9. Employment rate (% population aged 55-64)	65.6	66.3	67.0	66.7	66.9	67.0	66.7	66.7	66.9	68.9	69.6
10. FTE employment rate (% population aged 15-64)	63.4	63.0	61.6	60.6	61.0	62.0	62.1	60.7	60.3	62.1	62.9
11. Self-employed (% total employment)	3.1	2.9	3.0	3.1	3.1	3.1	3.0	3.2	3.3	3.1	2.9
12. Part-time employment (% total employment)	33.1	35.5	36.3	39.6	40.2	40.0	41.4	41.2	41.0	40.1	39.6
13. Fixed term contracts (% total employees)	17.6	17.4	17.5	17.7	19.1	19.9	18.7	17.6	18.3	19.0	18.5
14. Employment in Services (% total employment)	88.4	89.0	89.4	89.5	89.7	89.7	90.2	90.7	90.7	90.8	90.5
15. Employment in Industry (% total employment)	10.4	10.0	9.7	9.5	9.4	9.5	8.9	8.4	8.3	8.3	8.5
16. Employment in Agriculture (% total employment)	1.2	1.0	1.0	1.0	0.9	0.9	0.8	0.9	1.0	0.9	1.0
17. Activity rate (% population aged 15-64)	75.8	75.4	75.2	76.3	76.3	76.8	76.9	76.4	76.2	77.3	77.9
18. Activity rate (% population aged 15-24)	49.7	48.3	47.3	51.3	51.9	52.7	53.1	51.0	51.3	52.8	53.4
19. Activity rate (% population aged 25-54)	85.5	85.4	85.3	86.5	86.3	87.1	87.6	87.1	86.6	87.3	87.6
20. Activity rate (% population aged 55-64)	68.2	68.9	69.7	69.0	69.6	69.4	69.0	69.9	70.2	72.1	73.0
21. Total unemployment (000)	124	137	160	170	164	148	152	186	198	184	185
22. Unemployment rate (% labour force)	5.6	6.2	7.1	7.6	7.2	6.5	6.6	8.0	8.5	7.7	7.7
23. Youth unemployment rate (% labour force 15-24)	15.4	16.5	19.5	22.5	22.0	19.8	20.8	23.7	23.6	22.2	22.3
24. Long term unemployment rate (% labour force)	0.9	0.9	1.2	0.8	0.9	0.8	0.7	1.0	1.4	1.3	1.3
25. Youth unemployment ratio (% population aged 15-24)	5.9	6.2	7.6	11.5	11.4	10.4	11.0	12.1	12.1	11.8	11.9

Source: Eurostat.

LFS indicators: Break in series 2005.

Labour market indicators: United Kingdom

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	58299	58542	58815	59156	59518	59862	60305	60734	61099	61515	61906
2. Population aged 15-64	38289	38534	38821	39153	39540	39845	40094	40318	40441	40599	40632
3. Total employment (000)	30265	30593	30913	31326	31662	31890	31993	31435	31213	31363	:
4. Population in employment aged 15-64	27332	27553	27835	28090	28307	28478	28671	28184	28110	28207	28496
5. Employment rate (% population aged 20-64)	74.5	74.7	75.0	75.2	75.2	75.2	75.2	73.9	73.6	73.6	74.2
6. Employment rate (% population aged 15-64)	71.4	71.5	71.7	71.7	71.6	71.5	71.5	69.9	69.5	69.5	70.1
7. Employment rate (% population aged 15-24)	56.2	55.4	55.6	54.4	53.8	52.9	52.4	48.4	47.6	46.4	46.9
8. Employment rate (% population aged 25-54)	80.4	80.6	80.9	81.2	81.2	81.3	81.4	80.2	79.8	80.1	80.5
9. Employment rate (% population aged 55-64)	53.4	55.4	56.2	56.8	57.3	57.4	58.0	57.5	57.1	56.7	58.1
10. FTE employment rate (% population aged 15-64)	61.7	61.6	61.8	62.4	62.2	62.2	62.2	60.6	60.0	60.0	60.4
11. Self-employed (% total employment)	12.2	12.8	12.8	12.8	12.9	13.1	13.0	13.4	13.9	14.1	:
12. Part-time employment (% total employment)	25.3	25.6	25.7	25.2	25.3	25.2	25.3	26.1	26.9	26.8	27.2
13. Fixed term contracts (% total employees)	6.4	6.1	6.0	5.8	5.8	5.9	5.4	5.7	6.1	6.2	6.3
14. Employment in Services (% total employment)	79.1	79.8	80.3	80.7	81.0	81.2	81.6	82.1	82.4	82.9	:
15. Employment in Industry (% total employment)	19.7	19.0	18.5	18.0	17.7	17.6	17.1	16.6	16.2	15.8	:
16. Employment in Agriculture (% total employment)	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.3	1.5	1.3	:
17. Activity rate (% population aged 15-64)	75.3	75.3	75.3	75.4	75.7	75.5	75.8	75.7	75.5	75.7	76.3
18. Activity rate (% population aged 15-24)	63.8	63.2	63.2	62.3	62.5	61.7	61.7	59.7	59.2	58.8	59.3
19. Activity rate (% population aged 25-54)	83.8	83.8	83.8	84.1	84.5	84.5	84.9	85.1	85.0	85.3	85.6
20. Activity rate (% population aged 55-64)	55.3	57.2	57.8	58.4	59.1	59.3	59.9	60.3	59.9	59.7	61.1
21. Total unemployment (000)	1503	1465	1399	1444	1642	1623	1753	2363	2440	2534	2511
22. Unemployment rate (% labour force)	5.1	5.0	4.7	4.8	5.4	5.3	5.6	7.6	7.8	8.0	7.9
23. Youth unemployment rate (% labour force 15-24)	12.0	12.2	12.1	12.8	14.0	14.3	15.0	19.1	19.6	21.1	21.0
24. Long term unemployment rate (% labour force)	1.1	1.1	1.0	1.0	1.2	1.3	1.4	1.9	2.5	2.7	2.7
25. Youth unemployment ratio (% population aged 15-24)	7.7	7.8	7.6	8.0	8.7	8.8	9.2	11.4	11.6	12.4	12.4

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	28499	28645	28801	28995	29199	29381	29624	29862	30082	30312	30527
2. Population aged 15-64	18996	19127	19278	19448	19644	19789	19918	20047	20123	20210	20240
3. Total employment (000)	16375	16573	16723	16910	17082	17246	17256	16790	16707	16800	:
4. Population in employment aged 15-64	14751	14878	15012	15116	15219	15341	15395	15005	14994	15052	15227
5. Employment rate (% population aged 20-64)	81.6	81.9	82.1	82.0	82.0	82.2	81.8	79.6	79.3	79.4	80.0
6. Employment rate (% population aged 15-64)	77.7	77.8	77.9	77.7	77.5	77.5	77.3	74.8	74.5	74.5	75.2
7. Employment rate (% population aged 15-24)	57.7	57.0	57.0	56.0	54.9	54.4	53.8	48.5	48.5	47.0	47.1
8. Employment rate (% population aged 25-54)	87.4	87.5	87.7	87.8	87.9	88.2	87.7	85.7	85.4	85.9	86.6
9. Employment rate (% population aged 55-64)	62.6	64.8	65.7	65.9	66.0	66.3	67.3	66.2	65.0	64.2	65.5
10. FTE employment rate (% population aged 15-64)	73.7	73.6	73.7	73.8	73.5	73.5	73.1	70.6	70.0	70.0	70.5
11. Self-employed (% total employment)	16.3	17.1	17.3	17.1	17.1	17.3	17.3	17.7	18.2	18.3	:
12. Part-time employment (% total employment)	9.6	10.1	10.3	10.4	10.6	10.8	11.3	11.8	12.6	12.7	13.3
13. Fixed term contracts (% total employees)	5.7	5.4	5.5	5.3	5.2	5.3	4.9	5.3	5.8	5.9	5.9
14. Employment in Services (% total employment)	68.5	69.4	69.9	70.5	71.0	71.3	72.0	72.2	72.6	73.5	:
15. Employment in Industry (% total employment)	29.7	28.8	28.3	27.7	27.1	27.0	26.3	25.9	25.2	24.6	:
16. Employment in Agriculture (% total employment)	1.8	1.8	1.8	1.8	1.8	1.7	1.7	1.9	2.1	1.9	:
17. Activity rate (% population aged 15-64)	82.4	82.4	82.1	82.0	82.3	82.2	82.4	82.0	81.7	81.7	82.2
18. Activity rate (% population aged 15-24)	66.9	66.2	65.7	65.3	65.1	64.5	64.8	62.0	61.8	61.5	61.7
19. Activity rate (% population aged 25-54)	91.3	91.3	91.0	91.1	91.6	91.6	91.6	91.7	91.4	91.7	92.0
20. Activity rate (% population aged 55-64)	65.3	67.4	68.1	68.3	68.4	69.0	69.9	70.3	69.1	68.5	69.5
21. Total unemployment (000)	901	886	821	847	950	927	1032	1444	1455	1472	1430
22. Unemployment rate (% labour force)	5.7	5.5	5.1	5.2	5.8	5.6	6.1	8.6	8.6	8.7	8.3
23. Youth unemployment rate (% labour force 15-24)	13.7	13.8	13.3	14.4	15.7	15.8	17.0	21.8	21.5	23.5	23.6
24. Long term unemployment rate (% labour force)	1.4	1.4	1.2	1.3	1.5	1.6	1.7	2.3	3.2	3.3	3.2
25. Youth unemployment ratio (% population aged 15-24)	9.1	9.2	8.7	9.3	10.2	10.2	11.0	13.5	13.3	14.4	14.6

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	29800	29897	30014	30161	30318	30480	30681	30872	31017	31204	31379
2. Population aged 15-64	19293	19407	19543	19705	19896	20056	20176	20270	20318	20389	20392
3. Total employment (000)	13890	14020	14190	14416	14580	14644	14737	14645	14506	14563	:
4. Population in employment aged 15-64	12581	12675	12823	12974	13088	13137	13276	13179	13116	13155	13269
5. Employment rate (% population aged 20-64)	67.5	67.7	68.0	68.5	68.6	68.4	68.8	68.2	67.9	67.9	68.4
6. Employment rate (% population aged 15-64)	65.2	65.3	65.6	65.8	65.8	65.5	65.8	65.0	64.6	64.5	65.1
7. Employment rate (% population aged 15-24)	54.6	53.7	54.1	52.7	52.6	51.4	51.0	48.2	46.6	45.7	46.6
8. Employment rate (% population aged 25-54)	73.6	73.8	74.2	74.8	74.6	74.6	75.2	74.7	74.3	74.5	74.5
9. Employment rate (% population aged 55-64)	44.5	46.3	47.0	48.0	49.0	48.9	49.0	49.2	49.5	49.6	51.0
10. FTE employment rate (% population aged 15-64)	50.7	50.7	50.8	51.8	51.7	51.7	52.2	51.3	50.8	50.8	51.1
11. Self-employed (% total employment)	7.4	7.8	7.6	7.7	7.9	8.1	8.0	8.4	9.0	9.2	:
12. Part-time employment (% total employment)	43.8	43.9	43.8	42.6	42.5	42.2	41.8	42.5	43.3	43.1	43.3
13. Fixed term contracts (% total employees)	7.2	6.9	6.6	6.3	6.5	6.4	6.0	6.1	6.5	6.5	6.8
14. Employment in Services (% total employment)	90.9	91.4	91.8	91.9	92.1	92.1	92.1	93.0	93.2	93.3	:
15. Employment in Industry (% total employment)	8.6	8.1	7.7	7.4	7.3	7.2	7.1	6.4	6.1	6.0	:
16. Employment in Agriculture (% total employment)	0.6	0.5	0.6	0.7	0.6	0.7	0.8	0.6	0.7	0.7	:
17. Activity rate (% population aged 15-64)	68.3	68.3	68.5	68.8	69.2	69.0	69.4	69.5	69.4	69.7	70.3
18. Activity rate (% population aged 15-24)	60.7	60.0	60.5	59.2	59.7	58.7	58.4	57.4	56.4	56.0	56.8
19. Activity rate (% population aged 25-54)	76.4	76.4	76.7	77.3	77.6	77.6	78.2	78.7	78.6	79.1	79.3
20. Activity rate (% population aged 55-64)	45.6	47.2	47.9	48.9	50.1	50.0	50.2	50.6	51.1	51.3	52.9
21. Total unemployment (000)	602	578	577	597	692	696	721	919	985	1061	1081
22. Unemployment rate (% labour force)	4.5	4.3	4.2	4.3	4.9	5.0	5.1	6.4	6.8	7.3	7.4
23. Youth unemployment rate (% labour force 15-24)	10.2	10.5	10.7	11.1	12.0	12.5	12.7	16.0	17.3	18.4	18.0
24. Long term unemployment rate (% labour force)	0.7	0.7	0.6	0.7	0.8	0.9	0.9	1.4	1.8	2.0	2.2
25. Youth unemployment ratio (% population aged 15-24)	6.2	6.3	6.4	6.5	7.2	7.4	7.4	9.2	9.8	10.3	10.2

Source: Eurostat.

Labour market indicators: Iceland

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	197	199	202	210	217	223	223	223	224	224
2. Population aged 15-64	:	179	181	184	192	199	204	204	203	203	202
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	149	149	154	162	170	171	160	159	159	161
5. Employment rate (% population aged 20-64)	:	85.1	84.4	85.5	86.3	86.7	85.3	80.6	80.4	80.6	81.8
6. Employment rate (% population aged 15-64)	:	83.3	82.3	83.8	84.6	85.1	83.6	78.3	78.2	78.5	79.7
7. Employment rate (% population aged 15-24)	:	67.4	66.0	70.5	72.1	74.3	71.7	61.5	61.7	62.5	65.4
8. Employment rate (% population aged 25-54)	:	88.2	87.4	87.7	88.4	88.5	87.3	83.0	82.9	83.4	84.5
9. Employment rate (% population aged 55-64)	:	83.0	81.8	84.3	84.3	84.7	82.9	80.2	79.8	79.2	79.1
10. FTE employment rate (% population aged 15-64)	75.3	78.3	77.3	76.0	76.9	77.3	76.2	70.4	70.3	71.6	72.3
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	22.1	22.2	22.2	17.1	21.7	20.5	23.6	22.9	20.8	21.2
13. Fixed term contracts (% total employees)	:	7.9	6.7	6.9	11.5	12.3	9.5	9.7	12.4	12.2	13.1
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	86.2	84.9	86.0	87.1	87.1	86.2	84.6	84.7	84.5	84.9
18. Activity rate (% population aged 15-24)	:	73.5	71.9	76.1	78.6	79.9	78.1	73.1	73.7	73.1	75.7
19. Activity rate (% population aged 25-54)	:	90.4	89.0	89.1	90.0	89.7	89.1	88.4	88.5	88.4	88.5
20. Activity rate (% population aged 55-64)	:	84.8	84.1	85.5	85.6	85.4	84.3	83.3	83.5	83.8	82.6
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	:	0.2	0.3	0.3	0.2	0.2	0.1	0.4	1.3	1.7	1.5
25. Youth unemployment ratio (% population aged 15-24)	:	6.2	5.9	5.6	6.5	5.6	6.4	11.6	12.0	10.6	10.2

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	99	100	102	108	112	115	114	112	113	113
2. Population aged 15-64	:	91	91	93	99	104	106	105	103	102	102
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	78	78	81	87	92	93	84	82	82	83
5. Employment rate (% population aged 20-64)	:	88.6	88.8	89.6	90.6	91.5	89.9	83.2	83.1	83.3	84.4
6. Employment rate (% population aged 15-64)	:	86.3	85.8	86.9	88.1	89.1	87.3	80.0	80.1	80.3	81.5
7. Employment rate (% population aged 15-24)	:	68.3	65.1	67.8	70.2	74.0	70.1	56.9	58.2	58.7	62.7
8. Employment rate (% population aged 25-54)	:	91.9	91.9	92.3	93.3	93.6	92.3	86.1	86.2	86.9	87.3
9. Employment rate (% population aged 55-64)	:	87.0	86.9	88.9	88.7	89.3	88.4	84.3	83.2	82.0	83.1
10. FTE employment rate (% population aged 15-64)	84.6	86.3	85.3	84.9	85.4	86.2	84.1	76.1	76.1	77.0	77.6
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	9.4	9.2	8.7	7.0	9.3	9.5	12.2	11.9	10.4	11.3
13. Fixed term contracts (% total employees)	:	7.4	5.5	6.0	10.4	11.0	9.1	8.9	12.0	12.2	13.2
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	89.6	88.5	89.3	90.5	91.2	90.3	87.7	87.6	87.2	87.1
18. Activity rate (% population aged 15-24)	:	75.5	71.8	74.3	77.1	80.2	77.0	70.9	71.3	71.7	73.5
19. Activity rate (% population aged 25-54)	:	94.1	93.5	93.8	94.8	94.6	94.3	92.8	92.7	92.1	91.6
20. Activity rate (% population aged 55-64)	:	89.6	89.5	89.7	89.7	90.1	90.6	88.6	87.8	88.3	87.1
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	:	0.3	0.2	0.3	0.2	0.2	0.1	0.5	1.6	1.7	1.6
25. Youth unemployment ratio (% population aged 15-24)	:	7.1	6.7	6.4	6.9	6.2	6.9	14.0	13.1	13.0	10.8

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	98	99	100	102	105	108	109	111	111	111
2. Population aged 15-64	:	89	90	90	92	95	98	99	100	101	100
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	71	71	73	75	77	78	76	77	77	78
5. Employment rate (% population aged 20-64)	:	81.5	79.9	81.2	81.8	81.4	80.4	77.8	77.6	77.9	79.1
6. Employment rate (% population aged 15-64)	:	80.1	78.8	80.5	80.8	80.8	79.6	76.5	76.2	76.6	77.8
7. Employment rate (% population aged 15-24)	:	66.4	67.1	73.3	74.2	74.6	73.5	66.4	65.3	66.6	68.4
8. Employment rate (% population aged 25-54)	:	84.6	82.8	82.9	83.1	82.9	82.0	79.8	79.6	79.9	81.6
9. Employment rate (% population aged 55-64)	:	78.9	76.7	79.6	79.8	79.8	77.2	76.0	76.4	76.3	75.0
10. FTE employment rate (% population aged 15-64)	67.7	71.4	70.3	68.2	69.1	69.1	68.7	65.2	65.2	66.9	67.6
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	36.2	36.8	37.5	30.1	36.7	33.7	36.4	34.9	32.2	32.0
13. Fixed term contracts (% total employees)	:	8.3	7.9	7.8	12.7	13.6	9.9	10.5	12.8	12.2	13.1
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	82.7	81.2	82.6	83.4	82.7	81.7	81.3	81.8	81.7	82.6
18. Activity rate (% population aged 15-24)	:	71.5	72.1	78.1	80.3	79.5	79.4	75.5	76.1	74.6	78.0
19. Activity rate (% population aged 25-54)	:	86.7	84.5	84.3	84.8	84.2	83.4	83.9	84.3	84.7	85.4
20. Activity rate (% population aged 55-64)	:	79.9	78.6	81.3	81.2	80.5	77.6	77.7	79.1	79.1	78.0
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	:	0.2	0.4	0.3	0.3	0.3	0.1	0.4	1.1	1.6	1.5
25. Youth unemployment ratio (% population aged 15-24)	:	5.1	5.0	4.7	6.1	5.0	5.9	9.0	10.8	8.0	9.6

Source: Eurostat.

Indicator 1: Population aged 16-74.

Labour market indicators: Macedonia FYR

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	:	:	:	2038	2042	2044	2046	2051	2055	2062
2. Population aged 15-64	:	:	:	:	1421	1433	1435	1439	1448	1455	1464
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	:	:	:	563	583	602	623	630	639	644
5. Employment rate (% population aged 20-64)	:	:	:	:	43.9	45.0	46.3	47.9	48.1	48.4	48.2
6. Employment rate (% population aged 15-64)	:	:	:	:	39.6	40.7	41.9	43.3	43.5	43.9	44.0
7. Employment rate (% population aged 15-24)	:	:	:	:	14.4	15.2	15.7	15.7	15.4	14.4	15.5
8. Employment rate (% population aged 25-54)	:	:	:	:	51.6	52.8	53.9	55.3	55.8	56.4	55.8
9. Employment rate (% population aged 55-64)	:	:	:	:	27.9	28.8	31.7	34.6	34.2	35.4	35.4
10. FTE employment rate (% population aged 15-64)	:	:	:	:	38.9	39.8	41.1	42.4	42.6	42.9	42.9
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	:	:	:	6.6	6.7	5.8	5.6	5.9	6.3	6.4
13. Fixed term contracts (% total employees)	:	:	:	:	11.9	12.6	14.7	15.5	16.4	14.9	14.4
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	:	:	:	62.2	62.8	63.5	64.0	64.2	64.2	63.9
18. Activity rate (% population aged 15-24)	:	:	:	:	35.8	35.9	35.9	35.0	33.3	32.1	33.6
19. Activity rate (% population aged 25-54)	:	:	:	:	77.3	77.9	78.1	78.5	79.4	79.2	78.5
20. Activity rate (% population aged 55-64)	:	:	:	:	39.0	40.0	44.3	46.9	47.4	49.2	47.2
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
25. Youth unemployment ratio (% population aged 15-24)	:	:	:	:	21.4	20.7	20.2	19.3	17.9	17.7	18.1

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	:	:	:	1020	1024	1025	1026	1028	1030	1033
2. Population aged 15-64	:	:	:	:	718	726	727	729	733	737	742
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	:	:	:	347	354	369	385	387	385	389
5. Employment rate (% population aged 20-64)	:	:	:	:	53.6	54.0	56.2	58.4	58.4	57.8	57.5
6. Employment rate (% population aged 15-64)	:	:	:	:	48.3	48.8	50.7	52.8	52.8	52.3	52.4
7. Employment rate (% population aged 15-24)	:	:	:	:	17.2	18.6	19.2	20.6	19.5	17.7	18.1
8. Employment rate (% population aged 25-54)	:	:	:	:	61.8	62.1	64.0	65.7	66.1	65.7	65.4
9. Employment rate (% population aged 55-64)	:	:	:	:	39.0	38.6	43.0	47.6	46.7	47.3	46.6
10. FTE employment rate (% population aged 15-64)	:	:	:	:	47.7	48.0	50.1	52.1	52.0	51.2	51.3
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	:	:	:	6.0	6.5	4.7	4.7	5.0	5.8	5.9
13. Fixed term contracts (% total employees)	:	:	:	:	13.2	14.1	16.2	17.4	18.6	16.7	15.5
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	:	:	:	75.0	74.8	76.6	77.6	77.7	76.8	76.6
18. Activity rate (% population aged 15-24)	:	:	:	:	42.0	43.8	43.3	43.4	42.2	39.9	40.5
19. Activity rate (% population aged 25-54)	:	:	:	:	91.1	90.4	91.8	92.7	93.3	92.0	92.2
20. Activity rate (% population aged 55-64)	:	:	:	:	56.9	56.4	62.9	66.0	65.6	67.7	63.9
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
25. Youth unemployment ratio (% population aged 15-24)	:	:	:	:	24.7	25.1	24.1	22.9	22.7	22.2	22.3

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	:	:	:	1018	1019	1020	1020	1023	1025	1029
2. Population aged 15-64	:	:	:	:	702	707	708	711	715	718	722
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	:	:	:	216	229	233	238	243	254	255
5. Employment rate (% population aged 20-64)	:	:	:	:	34.0	35.8	36.2	37.1	37.5	38.8	38.7
6. Employment rate (% population aged 15-64)	:	:	:	:	30.7	32.3	32.9	33.5	34.0	35.3	35.3
7. Employment rate (% population aged 15-24)	:	:	:	:	11.4	11.5	12.0	10.6	11.2	10.8	12.6
8. Employment rate (% population aged 25-54)	:	:	:	:	41.0	43.0	43.4	44.5	45.1	46.8	45.8
9. Employment rate (% population aged 55-64)	:	:	:	:	17.5	19.6	21.1	22.4	22.4	24.0	24.5
10. FTE employment rate (% population aged 15-64)	:	:	:	:	30.0	31.5	31.9	32.5	33.0	34.3	34.2
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	:	:	:	7.6	7.2	7.6	7.0	7.4	7.1	7.2
13. Fixed term contracts (% total employees)	:	:	:	:	10.1	10.5	12.4	12.6	13.3	12.3	12.9
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	:	:	:	49.2	50.4	50.2	50.0	50.4	51.2	50.8
18. Activity rate (% population aged 15-24)	:	:	:	:	29.3	27.5	28.1	26.2	24.0	23.9	26.2
19. Activity rate (% population aged 25-54)	:	:	:	:	63.0	65.0	63.9	63.9	65.0	65.8	64.4
20. Activity rate (% population aged 55-64)	:	:	:	:	22.3	24.6	26.9	29.0	30.2	31.7	31.2
21. Total unemployment (000)	:	:	:	:	:	:	:	:	:	:	:
22. Unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
23. Youth unemployment rate (% labour force 15-24)	:	:	:	:	:	:	:	:	:	:	:
24. Long term unemployment rate (% labour force)	:	:	:	:	:	:	:	:	:	:	:
25. Youth unemployment ratio (% population aged 15-24)	:	:	:	:	17.8	16.0	16.1	15.6	12.8	13.1	13.6

Source: Eurostat.

Labour market indicators: Turkey

All	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	:	:	:	68063	68897	69721	70537	71340	72371	73600
2. Population aged 15-64	:	:	:	:	44584	45303	45988	46771	47533	48431	49433
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	:	:	:	19885	20219	20633	20698	22003	23450	24171
5. Employment rate (% population aged 20-64)	:	:	:	:	48.2	48.2	48.4	47.8	50.0	52.2	52.8
6. Employment rate (% population aged 15-64)	:	:	:	:	44.6	44.6	44.9	44.3	46.3	48.4	48.9
7. Employment rate (% population aged 15-24)	:	:	:	:	30.3	30.2	30.3	28.9	30.0	32.0	31.5
8. Employment rate (% population aged 25-54)	:	:	:	:	53.2	53.2	53.4	52.8	55.4	57.5	58.3
9. Employment rate (% population aged 55-64)	:	:	:	:	27.7	27.2	27.5	28.2	29.6	31.4	31.9
10. FTE employment rate (% population aged 15-64)	:	:	:	:	42.8	42.7	42.7	41.5	43.3	45.3	45.7
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	:	:	:	7.6	8.4	9.3	11.3	11.7	12.0	12.0
13. Fixed term contracts (% total employees)	:	:	:	:	12.5	11.9	11.2	10.7	11.5	12.2	12.0
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	:	:	:	49.0	49.1	49.8	50.8	51.9	53.2	53.3
18. Activity rate (% population aged 15-24)	:	:	:	:	36.3	36.5	37.1	37.4	37.4	38.5	37.4
19. Activity rate (% population aged 25-54)	:	:	:	:	57.4	57.5	58.2	59.4	61.1	62.3	62.8
20. Activity rate (% population aged 55-64)	:	:	:	:	28.7	28.1	28.7	29.9	31.1	32.8	33.2
21. Total unemployment (000)	:	:	:	2030	1953	2013	2275	3047	2697	2328	2201
22. Unemployment rate (% labour force)	:	:	:	9.2	8.7	8.8	9.7	12.5	10.7	8.8	8.1
23. Youth unemployment rate (% labour force 15-24)	:	:	:	17.4	16.4	17.2	18.4	22.7	19.7	16.8	15.7
24. Long term unemployment rate (% labour force)	:	:	:	:	2.7	2.3	2.3	2.8	2.8	2.1	1.8
25. Youth unemployment ratio (% population aged 15-24)	:	:	:	:	6.0	6.3	6.9	8.5	7.4	6.4	5.9

Male	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	:	:	:	33754	34176	34587	34998	35400	35907	36585
2. Population aged 15-64	:	:	:	:	22088	22464	22821	23226	23620	24078	24654
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	:	:	:	14772	15012	15192	14992	15744	16671	17054
5. Employment rate (% population aged 20-64)	:	:	:	:	73.2	73.0	72.7	70.4	72.7	75.1	75.0
6. Employment rate (% population aged 15-64)	:	:	:	:	66.9	66.8	66.6	64.5	66.7	69.2	69.2
7. Employment rate (% population aged 15-24)	:	:	:	:	41.9	41.6	41.3	39.0	40.2	43.3	42.5
8. Employment rate (% population aged 25-54)	:	:	:	:	80.7	80.7	80.2	77.9	80.5	82.7	82.8
9. Employment rate (% population aged 55-64)	:	:	:	:	41.6	40.6	41.0	41.1	42.7	45.4	46.3
10. FTE employment rate (% population aged 15-64)	:	:	:	:	65.7	65.5	65.1	62.6	64.5	67.1	67.0
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	:	:	:	4.3	4.7	5.3	6.5	6.9	6.8	6.9
13. Fixed term contracts (% total employees)	:	:	:	:	12.6	12.0	11.1	10.5	11.1	12.4	12.5
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	:	:	:	73.3	73.4	73.8	74.0	74.5	75.6	75.0
18. Activity rate (% population aged 15-24)	:	:	:	:	49.8	50.2	50.5	50.6	49.8	51.3	49.8
19. Activity rate (% population aged 25-54)	:	:	:	:	87.2	87.2	87.5	87.6	88.6	89.2	88.8
20. Activity rate (% population aged 55-64)	:	:	:	:	43.7	42.5	43.4	44.3	45.7	48.1	48.7
21. Total unemployment (000)	:	:	:	1504	1428	1474	1653	2200	1873	1548	1443
22. Unemployment rate (% labour force)	:	:	:	9.1	8.6	8.7	9.6	12.5	10.4	8.3	7.6
23. Youth unemployment rate (% labour force 15-24)	:	:	:	17.2	15.9	17.0	18.2	22.8	19.3	15.6	14.5
24. Long term unemployment rate (% labour force)	:	:	:	:	2.3	2.0	2.0	2.5	2.3	1.6	1.4
25. Youth unemployment ratio (% population aged 15-24)	:	:	:	:	7.9	8.6	9.2	11.6	9.6	8.0	7.2

Female	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1. Total population (000)	:	:	:	:	34309	34721	35133	35540	35940	36464	37015
2. Population aged 15-64	:	:	:	:	22496	22839	23167	23545	23912	24353	24779
3. Total employment (000)	:	:	:	:	:	:	:	:	:	:	:
4. Population in employment aged 15-64	:	:	:	:	5112	5207	5442	5706	6258	6779	7117
5. Employment rate (% population aged 20-64)	:	:	:	:	24.0	24.2	24.9	25.8	28.0	29.7	30.9
6. Employment rate (% population aged 15-64)	:	:	:	:	22.7	22.8	23.5	24.2	26.2	27.8	28.7
7. Employment rate (% population aged 15-24)	:	:	:	:	19.3	19.4	19.8	19.3	20.2	21.2	20.7
8. Employment rate (% population aged 25-54)	:	:	:	:	25.5	25.6	26.5	27.6	30.1	32.2	33.7
9. Employment rate (% population aged 55-64)	:	:	:	:	14.8	14.7	14.8	16.0	17.1	17.9	18.0
10. FTE employment rate (% population aged 15-64)	:	:	:	:	20.5	20.3	20.8	20.9	22.5	23.8	24.6
11. Self-employed (% total employment)	:	:	:	:	:	:	:	:	:	:	:
12. Part-time employment (% total employment)	:	:	:	:	17.3	19.1	20.2	23.7	23.8	24.7	24.4
13. Fixed term contracts (% total employees)	:	:	:	:	12.1	11.5	11.6	11.5	12.5	11.8	10.8
14. Employment in Services (% total employment)	:	:	:	:	:	:	:	:	:	:	:
15. Employment in Industry (% total employment)	:	:	:	:	:	:	:	:	:	:	:
16. Employment in Agriculture (% total employment)	:	:	:	:	:	:	:	:	:	:	:
17. Activity rate (% population aged 15-64)	:	:	:	:	25.1	25.2	26.2	27.8	29.6	31.0	31.8
18. Activity rate (% population aged 15-24)	:	:	:	:	23.4	23.5	24.4	24.9	25.5	26.2	25.2
19. Activity rate (% population aged 25-54)	:	:	:	:	27.5	27.6	28.8	31.0	33.4	35.2	36.7
20. Activity rate (% population aged 55-64)	:	:	:	:	14.9	14.8	15.0	16.3	17.3	18.1	18.3
21. Total unemployment (000)	:	:	:	527	525	539	622	847	824	780	758
22. Unemployment rate (% labour force)	:	:	:	9.3	9.1	9.1	10.0	12.6	11.4	10.1	9.4
23. Youth unemployment rate (% labour force 15-24)	:	:	:	17.9	17.4	17.5	18.9	22.4	20.6	19.0	17.9
24. Long term unemployment rate (% labour force)	:	:	:	:	3.6	3.1	3.1	3.8	3.9	3.2	2.7
25. Youth unemployment ratio (% population aged 15-24)	:	:	:	:	4.1	4.1	4.6	5.6	5.3	5.0	4.5

Source: Eurostat.

Data sources and definitions

Main data sources

Most of the data used in this report originates from Eurostat, the Statistical Office of the European Union. The main data sources used are:

- European Union Labour Force Survey
- ESA95 National Accounts

The **European Union Labour Force Survey** (EU LFS) is the EU's harmonised household survey on labour market participation. While in the early years, it was carried out as an annual survey conducted in the spring quarter in many Member States, it is now a continuous quarterly survey in all EU Member States. If not mentioned otherwise, the results based on the LFS for years before the introduction of the quarterly survey refer to the spring quarter of each year. LFS data covers the population living in private households only (collective households are excluded) and refers to the place of residence (household residence concept). They are broken down by various socio-demographic categories, in particular gender and age. The EU LFS covers all EU Member States as well as Croatia, Iceland, Macedonia and Turkey plus Norway and Switzerland.

A particular data collection connected to the EU LFS is Eurostat's 'LFS main indicators' which present a selection of the main statistics on the labour market. They encompass annual and quarterly indicators of population, activity and inactivity; employment; unemployment; education and training. Those indicators are mainly but not only based on the results of the EU LFS, in few cases integrated with data sources like national accounts employment or registered unemployment. National accounts employment data covers all people employed in resident producer units (domestic concept), including people living in collective households. In the main indicators, these national accounts figures are broken down by sex, working-time status (full-time/part-time) and contract status (permanent/temporary) using LFS distributions. Where available, all key employment indicators in this report are based on the 'LFS main indicators'.

For the unemployment-related indicators, Eurostat's series on unemployment comprises yearly averages, quarterly and monthly data. It is based on the (annual and quarterly) EU LFS data and monthly data on unemployment, either from the national LFS or other national sources, mainly unemployment register data. For the compilation of monthly unemployment estimates, these monthly figures from national sources are benchmarked against the quarterly EU LFS data, and they are used to produce provisional unemployment figures for recent months which are not yet covered by quarterly EU LFS results. Unemployment by skills or duration is not available from this data collection.

Most macro-economic indicators are based on Eurostat's collection of national accounts data according to the European System of National Accounts (**ESA95 National Accounts**). Data is compiled by the Member States and collected by Eurostat. The collection comprises aggregates such as GDP, from which derived measures such as productivity and real unit labour costs are calculated. In addition, national accounts also cover population and employment data, the latter expressed in persons and in hours worked and also broken down by economic activity, but not by socio-demographic categories.

Forecasts for central economic indicators are produced by the Commission's Directorate-General for Economic and Financial Affairs (DG ECFIN) in spring and autumn, covering two years ahead.

Physically, data is generally obtained from Eurobase, Eurostat's online dissemination database, or in specific cases from AMECO, DG ECFIN's annual macro-economic database. Both databases are open to public access.

Data shown here represents availability and revision status of mid-July 2012.

Definitions and data sources of macro-economic indicators

Some figures for 2011 are forecasts and bound to change as real data becomes available. The same holds for earlier years where actual data are not available yet.

1. Real GDP: Gross Domestic Product (GDP), volume, annual change (Source: Eurostat, ESA95 National Accounts).

2. Total employment: Employment, total economy, annual change (Source: Eurostat, ESA95 National Accounts, except for IE, LU, PL, RO, HR, MK, TR, IS, US, JP: DG ECFIN, AMECO).

3. Labour productivity: GDP volume per person employed, annual change (Source: Eurostat, ESA95 National Accounts).

4. Annual average hours worked per person employed, annual change (Source: DG ECFIN, AMECO: Average annual hours worked per person employed).

5. Productivity per hour worked: GDP volume per hour worked, annual change (Source: DG ECFIN, AMECO: Gross domestic product at 2005 market prices per hour worked).

6. Harmonised CPI: harmonised consumer price index, annual change (Source: DG ECFIN, AMECO: Harmonised consumer price index) (Note: Figures for US and Japan are national consumer price indices and not fully comparable with those for European countries.).

7. Price deflator GDP: Implicit price deflator of GDP, annual change (Source: Eurostat, ESA95 National Accounts).

8. Nominal compensation per employee, total economy, annual change (Source: Eurostat, ESA95 National Accounts, except for US, JP, TR, IS: DG ECFIN, AMECO).

9. Real compensation per employee (GDP deflator): nominal compensation deflated with the implicit deflator of GDP, per employee, annual change (Source: Eurostat, ESA95 National Accounts, except for US, JP, TR, IS: DG ECFIN, AMECO).

10. Real compensation per employee (private consumption deflator): nominal compensation deflated with the implicit deflator of private consumption expenditure, per employee, annual change (Source: Eurostat, ESA95 National Accounts, except for US, JP, TR, IS: DG ECFIN, AMECO).

11. Nominal unit labour costs: Nominal compensation per employee divided by labour productivity, annual change (Source: Eurostat, ESA95 National Accounts, except for US, JP, TR, IS: DG ECFIN, AMECO).

12. Real unit labour costs: Real compensation per employee divided by labour productivity, annual change (Source: Eurostat, ESA95 National Accounts, except for US, JP, TR, IS: DG ECFIN, AMECO).

13. Definitions and data sources of key employment indicators

Certain figures in particular but not only for 2011 for a number of countries and indicators may still be based on forecasts and bound to change as real data becomes available.

1. Total population in 1 000s, excluding population living in institutional households (Source: Eurostat, EU LFS. Note: Population living in institutional households is not covered. For Iceland, the LFS covers only the population from 16 to 74 years of age.).

2. Total population aged 15-64 (the 'working age population') in 1 000s (Source: Eurostat, EU LFS).

3. Total employment in 1 000s (Source: Eurostat, ESA95 National Accounts).

4. Population in employment aged 15-64 in 1 000s (Source: Eurostat, EU LFS).

5-8. Employment rates: calculated by the number of employed divided by the population in the corresponding age bracket (Source: Eurostat, EU LFS).

9. Full-time equivalent employment rate: calculated by dividing the full-time equivalent employment by the total population in the 15-64 age group. Full-time equivalent employment is defined as total hours worked on both main and second job divided by the average annual number of hours worked in full-time jobs (Source: Eurostat, EU LFS).

10. Self-employed in total employment: number of self-employed as a share of total employment (Source: Eurostat, ESA95 National Accounts).

11. Part-time employment in total employment: number of part-time employed as a share of total employment (Source: Eurostat, EU LFS).

12. Fixed-term contracts in total employees: number of employees with contracts of limited duration as a share of total employees (Source: Eurostat, EU LFS).

13. Employment in services: employed in services (NACE Rev. 2 sections G-U) as a share of total employment (Source: Eurostat, ESA95 National Accounts).

14. Employment in industry: employed in industry, including construction (NACE Rev. 2 sections B-F) as a share of total employment (Source: Eurostat, ESA95 National Accounts).

15. Employment in agriculture: employed in agriculture, forestry and fishing (NACE Rev. 2 section A) as a share of total employment (Source: Eurostat, ESA95 National Accounts).

16-19. Activity rates: labour force (employed and unemployed) as a share of total population in the corresponding age bracket (Source: Eurostat, EU LFS).

20. Total unemployment in 1 000s (Source: Eurostat, EU LFS).

21-22. Unemployment rates: unemployed as a share of the labour force (employed and unemployed persons) in the corresponding age bracket (Source: Eurostat, EU LFS).

23. Long-term unemployment rate: persons unemployed for a duration of 12 months or more as a share of the labour force (Source: Eurostat, EU LFS).

24. Youth unemployment ratio: young unemployed (aged 15-24) as a share of the total population in the same age bracket (Source: Eurostat, EU LFS).

Note: For indicators for which the ESA95 National Accounts are the main source, the split into male and female indicators is done using additionally EU LFS data.

3. Social indicators

Social Inclusion Indicators: European Union 28

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)					23.7	24.3	24.8
At-risk-of-poverty (% of total population)					16.5	16.9	17.0
At-risk-of-poverty threshold (PPS single person)							
Poverty gap (%)					23.5	23.4	23.5
Persistent at-risk-of-poverty (% of total population)						10.0	
At-risk-of-poverty before social transfers excl. pensions (% of total population)					26.0	26.3	25.9
Impact of social transfers (excl. pensions) in reducing poverty (%)					36.5	35.7	34.4
Severe Material Deprivation (% of total population)					8.4	8.9	9.9
Share of people living in low work intensity households (% of people aged 0-59)					10.1	10.3	10.4
Gross Household Disposable income adjusted for consumer prices (growth %)							
Income quintile share ratio S80/S20					5.0	5.1	5.1
GINI coefficient					30.5	30.8	30.6
Early leavers from education and training (% of population aged 18-24)	15.4	14.9	14.7	14.2	13.9	13.4	12.7
NEET: Young people not in employment, education or training (% of total population aged 15-24)	11.7	10.9	10.9	12.4	12.8	12.9	13.1

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)					22.6	23.2	23.8
At-risk-of-poverty (% of male population)					15.7	16.2	16.3
Poverty gap (%)					24.3	24.5	24.5
Persistent at-risk-of-poverty (% of male population)						9.6	
Severe Material Deprivation (% of male population)					8.2	8.6	9.6
Share of people living in low work intensity households (% of males aged 0-59)					9.4	9.7	9.8
Life expectancy at birth (years)							
Healthy life years at birth (years)							
Early leavers from education and training (% of males aged 18-24)	17.4	16.9	16.7	16.1	15.8	15.3	14.4
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.5	9.7	9.7	12.0	12.3	12.5	12.9

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)					24.8	25.4	25.8
At-risk-of-poverty (% of female population)					17.2	17.7	17.5
Poverty gap (%)					22.5	22.5	22.7
Persistent at-risk-of-poverty (% of female population)						10.4	
Severe Material Deprivation (% of female population)					8.6	9.1	10.2
Share of people living in low work intensity households (% of females aged 0-59)					10.8	11.0	10.9
Life expectancy at birth (years)							
Healthy life years at birth (years)							
Early leavers from education and training (% of females aged 18-24)	13.3	12.8	12.7	12.3	12.0	11.5	10.9
NEET: Young people not in employment, education or training (% of females aged 15-24)	12.9	12.2	12.1	12.9	13.2	13.3	13.4

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)					27.3	27.3	28.1
At-risk-of-poverty (% of Children population)					20.7	20.8	20.8
Severe Material Deprivation (% of Children population)					9.9	10.1	11.8
Share of children living in low work intensity households (% of Children population)					9.3	9.2	9.0
Risk of poverty of children in households at work (Working Intensity > 0.2)					15.6	15.7	16.0
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)					41.2	40.6	39.4

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)					23.6	24.5	25.4
At-risk-of-poverty (% of Working age population)					15.3	16.1	16.5
Severe Material Deprivation (% of Working age population)					8.4	9.0	10.0
Very low work intensity (18-59)					10.4	10.7	10.8
In-work at-risk-of poverty rate (% of persons employed)					8.3	8.9	9.1
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)					38.6	37.1	35.0

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)					20.1	20.4	19.3
At-risk-of-poverty (% of Elderly population)					16.0	15.9	14.5
Severe Material Deprivation (% of Elderly population)					6.7	7.2	7.6
Relative median income of elderly (ratio with median income of people younger than 65)					0.88	0.89	0.9
Aggregate replacement ratio (ratio)					0.53	0.54	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care			7.6	8.4	8.3	8.2	
Disability			2.1	2.2	2.2	2.1	
Old age and survivors			11.8	12.8	12.8	12.8	
Family/Children			2.1	2.3	2.3	2.2	
Unemployment			1.3	1.7	1.7	1.6	
Housing and Social exclusion n.e.c.			0.9	1.0	1.0	1.0	
Total (including Admin and Other expenditures)			26.8	29.7	29.4	29.1	
of which: Means tested benefits			2.7	3.1	3.0	3.0	

Social Inclusion Indicators: European Union 27

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	25.3	24.4	23.7	23.2	23.7	24.3	24.8
At-risk-of-poverty (% of total population)	16.5	16.5	16.5	16.4	16.4	16.9	16.9
At-risk-of-poverty threshold (PPS single person)							
Poverty gap (%)	23.4	23.2	21.8	22.6	23.5	23.3	23.4
Persistent at-risk-of-poverty (% of total population)			8.7	8.8	9.6	10.0	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	26.2	25.8	25.3	25.2	25.9	26.3	25.9
Impact of social transfers (excl. pensions) in reducing poverty (%)	37.0	36.1	34.8	34.9	36.7	35.7	34.8
Severe Material Deprivation (% of total population)	9.9	9.1	8.5	8.2	8.4	8.8	9.9
Share of people living in low work intensity households (% of people aged 0-59)	10.5	9.7	9.0	9.1	10.1	10.3	10.3
Gross Household Disposable income adjusted for consumer prices (growth %)	2.3	2.1	-2.1	-2.9	0.7	-0.6	-0.5
Income quintile share ratio S80/S20	5.0	5.0	5.0	5.0	5.0	5.1	5.1
GINI coefficient	30.3	30.6	30.9	30.5	30.5	30.8	30.6
Early leavers from education and training (% of population aged 18-24)	15.5	15.0	14.8	14.3	14.0	13.5	12.8
NEET: Young people not in employment, education or training (% of total population aged 15-24)	11.7	10.9	10.9	12.4	12.8	12.9	13.1

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	23.9	22.9	22.3	22.0	22.5	23.2	23.8
At-risk-of-poverty (% of male population)	15.7	15.7	15.6	15.5	15.7	16.1	16.3
Poverty gap (%)	24.2	24.1	22.4	23.4	24.3	24.5	24.4
Persistent at-risk-of-poverty (% of male population)			8.2	8.2	9.0	9.6	
Severe Material Deprivation (% of male population)	9.6	8.7	8.2	7.9	8.1	8.5	9.6
Share of people living in low work intensity households (% of males aged 0-59)	9.5	8.8	8.2	8.3	9.4	9.7	9.7
Life expectancy at birth (years)	75.8	76.1	76.4	76.7	77.0	77.5	
Healthy life years at birth (years)	61.8	61.7	61.1	61.3	61.9	61.8	
Early leavers from education and training (% of males aged 18-24)	17.5	17.0	16.8	16.2	15.9	15.4	14.5
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.5	9.7	9.7	12.0	12.3	12.5	12.8

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	26.6	25.9	25.1	24.4	24.7	25.3	25.7
At-risk-of-poverty (% of female population)	17.3	17.3	17.5	17.2	17.1	17.6	17.5
Poverty gap (%)	22.8	22.6	21.3	22.0	22.4	22.5	22.6
Persistent at-risk-of-poverty (% of female population)			9.2	9.4	10.2	10.4	
Severe Material Deprivation (% of female population)	10.2	9.5	8.9	8.4	8.6	9.1	10.1
Share of people living in low work intensity households (% of females aged 0-59)	11.5	10.6	9.9	9.8	10.8	10.9	10.9
Life expectancy at birth (years)	82.0	82.2	82.4	82.6	82.9	83.2	
Healthy life years at birth (years)	62.5	62.6	62.2	62.0	62.7	62.2	
Early leavers from education and training (% of females aged 18-24)	13.4	12.9	12.8	12.4	12.1	11.6	11.0
NEET: Young people not in employment, education or training (% of females aged 15-24)	12.9	12.2	12.1	12.9	13.2	13.3	13.4

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	27.5	26.4	26.6	26.3	27.3	27.3	28.0
At-risk-of-poverty (% of Children population)	20.0	19.7	20.4	20.1	20.7	20.8	20.8
Severe Material Deprivation (% of Children population)	11.0	10.1	9.9	9.5	9.8	10.1	11.7
Share of children living in low work intensity households (% of Children population)	9.0	8.3	7.7	8.0	9.2	9.2	8.9
Risk of poverty of children in households at work (Working Intensity > 0.2)	15.2	15.3	16.1	15.6	15.6	15.7	16.0
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	41.2	41.9	39.1	40.2	41.2	40.6	39.4

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	24.8	23.8	23.0	22.7	23.6	24.4	25.3
At-risk-of-poverty (% of Working age population)	14.8	15.1	14.8	14.8	15.3	16.0	16.5
Severe Material Deprivation (% of Working age population)	9.8	9.0	8.4	8.2	8.4	8.9	10.0
Very low work intensity (18-59)	11.0	10.2	9.5	9.4	10.4	10.7	10.8
In-work at-risk-of poverty rate (% of persons employed)	8.1	8.4	8.5	8.3	8.3	8.9	9.1
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	39.6	37.1	36.8	37.3	38.6	37.3	35.0

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	24.7	24.4	23.3	21.6	19.9	20.3	19.2
At-risk-of-poverty (% of Elderly population)	18.9	18.2	18.9	17.8	15.9	15.8	14.4
Severe Material Deprivation (% of Elderly population)	9.1	8.6	7.5	6.7	6.6	7.2	7.5
Relative median income of elderly (ratio with median income of people younger than 65)	0.85	0.84	0.85	0.86	0.88	0.89	0.9
Aggregate replacement ratio (ratio)	0.51	0.49	0.50	0.51	0.53	0.54	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	7.5	7.3	7.6	8.4	8.3	8.2	
Disability	2.1	2.0	2.1	2.2	2.2	2.1	
Old age and survivors	11.7	11.5	11.8	12.8	12.8	12.7	
Family/Children	2.0	2.0	2.1	2.3	2.3	2.2	
Unemployment	1.4	1.3	1.3	1.7	1.7	1.6	
Housing and Social exclusion n.e.c.	0.9	0.9	0.9	1.0	1.0	1.0	
Total (including Admin and Other expenditures)	26.6	26.1	26.8	29.6	29.3	29.0	
of which: Means tested benefits	2.8	2.7	2.7	3.1	3.0	3.0	

Social Inclusion Indicators: European Union 15

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	21.9	21.6	21.6	21.3	21.8	22.6	23.2
At-risk-of-poverty (% of total population)	16.0	16.0	16.4	16.2	16.3	16.7	16.8
At-risk-of-poverty threshold (PPS single person)							
Poverty gap (%)	22.2	22.1	21.0	21.9	23.0	22.9	23.0
Persistent at-risk-of-poverty (% of total population)			8.7	8.8	9.2	9.6	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	25.8	25.7	25.0	25.3	26.2	26.6	26.3
Impact of social transfers (excl. pensions) in reducing poverty (%)	38.0	37.7	34.4	36.0	37.8	37.2	36.1
Severe Material Deprivation (% of total population)	5.1	4.9	5.4	5.1	5.3	6.2	7.3
Share of people living in low work intensity households (% of people aged 0-59)	10.5	9.7	9.4	9.6	10.7	10.9	10.9
Gross Household Disposable income adjusted for consumer prices (growth %)							
Income quintile share ratio S80/S20	4.7	4.9	4.9	4.9	5.0	5.1	5.1
GINI coefficient	29.6	30.3	30.8	30.4	30.6	30.9	30.7
Early leavers from education and training (% of population aged 18-24)	17.2	16.8	16.5	15.8	15.4	14.7	13.8
NEET: Young people not in employment, education or training (% of total population aged 15-24)	11.2	10.8	11.0	12.5	12.6	12.7	13.0

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	20.4	20.1	20.2	20.0	20.6	21.5	22.2
At-risk-of-poverty (% of male population)	15.0	15.1	15.3	15.2	15.5	15.9	16.1
Poverty gap (%)	22.8	22.8	21.6	22.7	23.7	23.9	23.9
Persistent at-risk-of-poverty (% of male population)			8.1	8.1	8.6	9.1	
Severe Material Deprivation (% of male population)	4.9	4.6	5.1	5.0	5.2	5.9	7.1
Share of people living in low work intensity households (% of males aged 0-59)	9.4	8.8	8.5	8.8	10.0	10.2	10.3
Life expectancy at birth (years)							
Healthy life years at birth (years)							
Early leavers from education and training (% of males aged 18-24)	19.7	19.2	18.9	18.0	17.6	16.8	15.6
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.0	9.7	10.1	12.2	12.3	12.3	12.8

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	23.3	23.2	23.1	22.5	22.9	23.7	24.2
At-risk-of-poverty (% of female population)	16.9	16.9	17.4	17.0	17.1	17.6	17.5
Poverty gap (%)	21.6	21.5	20.6	21.4	21.9	22.2	22.1
Persistent at-risk-of-poverty (% of female population)			9.3	9.5	9.8	10.1	
Severe Material Deprivation (% of female population)	5.3	5.3	5.6	5.3	5.5	6.4	7.5
Share of people living in low work intensity households (% of females aged 0-59)	11.6	10.7	10.2	10.3	11.4	11.6	11.5
Life expectancy at birth (years)							
Healthy life years at birth (years)							
Early leavers from education and training (% of females aged 18-24)	14.8	14.4	14.1	13.6	13.1	12.6	11.8
NEET: Young people not in employment, education or training (% of females aged 15-24)	12.4	11.9	12.0	12.8	13.0	13.1	13.2

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	23.8	23.4	24.4	24.1	25.4	25.3	26.2
At-risk-of-poverty (% of Children population)	18.5	18.2	19.7	19.3	20.1	19.9	20.0
Severe Material Deprivation (% of Children population)	6.1	5.8	6.7	6.3	6.6	7.2	9.0
Share of children living in low work intensity households (% of Children population)	9.1	8.4	8.0	8.6	9.9	9.8	9.4
Risk of poverty of children in households at work (Working Intensity > 0.2)	13.8	14.2	15.2	14.5	14.7	14.6	15.0
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	44.4	45.5	40.3	42.6	43.2	43.1	42.0

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	21.4	21.1	21.0	21.0	21.8	22.9	24.1
At-risk-of-poverty (% of Working age population)	14.2	14.6	14.6	14.7	15.2	15.9	16.5
Severe Material Deprivation (% of Working age population)	5.1	5.0	5.4	5.3	5.5	6.4	7.6
Very low work intensity (18-59)	11.0	10.2	9.8	9.9	11.0	11.3	11.4
In-work at-risk-of poverty rate (% of persons employed)	7.4	7.9	8.0	7.9	7.8	8.4	8.8
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	41.1	38.7	37.1	38.2	39.4	38.4	36.3

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	21.5	21.7	20.9	19.4	17.9	18.7	17.2
At-risk-of-poverty (% of Elderly population)	19.6	18.6	19.1	17.8	16.1	16.2	14.5
Severe Material Deprivation (% of Elderly population)	3.7	3.8	3.6	3.3	3.3	4.3	4.6
Relative median income of elderly (ratio with median income of people younger than 65)	0.84	0.83	0.85	0.86	0.88	0.89	0.9
Aggregate replacement ratio (ratio)	0.50	0.49	0.50	0.51	0.53	0.53	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	7.7	7.5	7.8	8.6	8.5	8.4	
Disability	2.1	2.1	2.1	2.3	2.2	2.2	
Old age and survivors	11.9	11.7	12.0	13.0	13.0	13.0	
Family/Children	2.1	2.1	2.1	2.4	2.3	2.3	
Unemployment	1.5	1.3	1.4	1.8	1.8	1.6	
Housing and Social exclusion n.e.c.	1.0	0.9	0.9	1.1	1.1	1.1	
Total (including Admin and Other expenditures)	27.2	26.7	27.5	30.4	30.1	29.8	
of which: Means tested benefits	2.9	2.8	2.9	3.2	3.2	3.2	

Social Inclusion Indicators: European area 17

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	21.8	21.7	21.6	21.3	21.8	22.8	23.2
At-risk-of-poverty (% of total population)	15.5	16.3	16.0	16.0	16.2	16.9	17.0
At-risk-of-poverty threshold (PPS single person)							
Poverty gap (%)	22.0	22.1	21.0	22.2	23.4	23.3	23.4
Persistent at-risk-of-poverty (% of total population)			8.9	9.1	9.6	10.5	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	24.8	24.7	24.0	24.0	25.1	25.6	25.0
Impact of social transfers (excl. pensions) in reducing poverty (%)	37.5	34.0	33.3	33.3	35.5	34.0	32.0
Severe Material Deprivation (% of total population)	5.6	5.4	5.8	5.8	5.7	6.7	7.5
Share of people living in low work intensity households (% of people aged 0-59)	10.2	9.6	9.2	9.0	10.3	10.8	10.4
Gross Household Disposable income adjusted for consumer prices (growth %)	1.9	2.2	0.0	-0.7	-0.5	-0.6	-2.1
Income quintile share ratio S80/S20	4.7	4.8	4.8	4.9	5.0	5.1	5.0
GINI coefficient	29.2	30.0	30.3	30.2	30.2	30.5	30.4
Early leavers from education and training (% of population aged 18-24)	17.4	16.8	16.5	15.9	15.5	14.8	13.9
NEET: Young people not in employment, education or training (% of total population aged 15-24)	11.3	10.8	11.0	12.5	12.7	12.6	13.0

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	20.3	20.1	20.1	20.0	20.6	21.7	22.1
At-risk-of-poverty (% of male population)	14.5	15.3	15.0	15.0	15.4	16.1	16.3
Poverty gap (%)	22.7	22.8	21.8	23.0	23.9	24.3	24.3
Persistent at-risk-of-poverty (% of male population)			8.2	8.4	8.9	10.0	
Severe Material Deprivation (% of male population)	5.3	5.0	5.6	5.6	5.6	6.4	7.4
Share of people living in low work intensity households (% of males aged 0-59)	9.1	8.6	8.3	8.2	9.6	10.2	9.7
Life expectancy at birth (years)							
Healthy life years at birth (years)							
Early leavers from education and training (% of males aged 18-24)	20.1	19.5	19.1	18.3	18.0	17.0	15.9
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.2	9.7	10.2	12.5	12.6	12.4	13.0

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	23.3	23.3	23.0	22.6	22.9	23.9	24.2
At-risk-of-poverty (% of female population)	16.4	17.2	17.0	16.9	17.0	17.6	17.7
Poverty gap (%)	21.4	21.5	20.6	21.7	22.6	22.6	22.7
Persistent at-risk-of-poverty (% of female population)			9.5	9.9	10.3	11.0	
Severe Material Deprivation (% of female population)	5.8	5.7	6.0	5.9	5.9	6.9	7.7
Share of people living in low work intensity households (% of females aged 0-59)	11.3	10.6	10.1	9.8	11.0	11.5	11.0
Life expectancy at birth (years)							
Healthy life years at birth (years)							
Early leavers from education and training (% of females aged 18-24)	14.6	14.1	13.8	13.4	13.0	12.5	11.7
NEET: Young people not in employment, education or training (% of females aged 15-24)	12.4	11.8	11.8	12.6	12.8	12.9	13.0

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	22.9	22.9	23.8	23.8	25.0	25.5	25.5
At-risk-of-poverty (% of Children population)	17.7	18.6	19.1	19.2	20.4	20.7	20.7
Severe Material Deprivation (% of Children population)	6.3	6.0	7.1	7.0	6.9	7.6	8.8
Share of children living in low work intensity households (% of Children population)	7.8	7.4	6.9	7.1	8.5	8.9	7.9
Risk of poverty of children in households at work (Working Intensity > 0.2)	13.7	14.4	15.3	15.1	15.3	15.3	15.7
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	43.8	41.7	39.6	39.4	39.3	38.4	36.3

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	21.8	21.6	21.4	21.3	22.1	23.4	24.2
At-risk-of-poverty (% of Working age population)	14.0	14.8	14.6	14.7	15.2	16.3	16.8
Severe Material Deprivation (% of Working age population)	5.6	5.4	5.9	5.9	5.9	6.8	7.8
Very low work intensity (18-59)	11.0	10.4	9.9	9.6	10.8	11.4	11.2
In-work at-risk-of poverty rate (% of persons employed)	7.3	7.9	8.0	8.1	8.0	8.6	8.9
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	40.7	36.5	35.7	35.8	38.0	35.6	33.3

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	20.9	21.1	20.0	19.0	17.3	18.0	17.4
At-risk-of-poverty (% of Elderly population)	18.6	19.0	17.9	17.0	15.2	15.1	14.1
Severe Material Deprivation (% of Elderly population)	4.4	4.5	4.2	4.0	3.9	5.1	5.5
Relative median income of elderly (ratio with median income of people younger than 65)	0.86	0.85	0.87	0.88	0.90	0.90	0.9
Aggregate replacement ratio (ratio)	0.51	0.49	0.51	0.52	0.54	0.54	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	7.6	7.5	7.8	8.7	8.6	8.5	
Disability	1.9	1.9	1.9	2.0	2.0	2.0	
Old age and survivors	12.0	11.9	12.2	13.1	13.2	13.2	
Family/Children	2.1	2.1	2.1	2.4	2.3	2.3	
Unemployment	1.7	1.5	1.5	2.0	2.0	1.8	
Housing and Social exclusion n.e.c.	0.8	0.8	0.8	0.9	0.9	0.9	
Total (including Admin and Other expenditures)	27.3	26.9	27.6	30.4	30.4	30.0	
of which: Means tested benefits	2.8	2.7	2.8	3.2	3.2	3.2	

Social Inclusion Indicators: Belgium

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	21.5	21.6	20.8	20.2	20.8	21.0	21.6
At-risk-of-poverty (% of total population)	14.7	15.2	14.7	14.6	14.6	15.3	14.8
At-risk-of-poverty threshold (PPS single person)	9707	9787	10046	10501	10412	10797	10835
Poverty gap (%)	19.4	17.8	17.2	18.1	18.0	18.6	18.1
Persistent at-risk-of-poverty (% of total population)		7.8	9.0	9.2	9.3	8.0	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	26.8	27.5	27.0	26.7	26.7	27.8	27.5
Impact of social transfers (excl. pensions) in reducing poverty (%)	45.2	44.7	45.6	45.3	45.3	45.0	46.2
Severe Material Deprivation (% of total population)	6.4	5.7	5.6	5.2	5.9	5.7	6.5
Share of people living in low work intensity households (% of people aged 0-59)	14.3	13.8	11.7	12.3	12.6	13.7	14.0
Gross Household Disposable income adjusted for consumer prices (growth %)	3.3	3.5	1.0	1.9	-1.5	-1.2	1.0
Income quintile share ratio S80/S20	4.2	3.9	4.1	3.9	3.9	3.9	3.9
GINI coefficient	27.8	26.3	27.5	26.4	26.6	26.3	26.5
Early leavers from education and training (% of population aged 18-24)	12.6	12.1	12.0	11.1	11.9	12.3	12.0
NEET: Young people not in employment, education or training (% of total population aged 15-24)	11.2	11.2	10.1	11.1	10.9	11.8	12.3

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	20.0	19.9	19.1	18.5	20.0	20.4	21.0
At-risk-of-poverty (% of male population)	13.7	14.4	13.6	13.4	13.9	14.6	14.2
Poverty gap (%)	20.7	19.2	18.2	18.9	18.0	19.9	18.3
Persistent at-risk-of-poverty (% of male population)		7.3	8.3	7.8	8.5	8.2	
Severe Material Deprivation (% of male population)	6.2	5.2	5.2	4.9	5.7	5.9	6.5
Share of people living in low work intensity households (% of males aged 0-59)	12.7	12.6	10.2	11.0	11.8	13.2	13.5
Life expectancy at birth (years)	76.6	77.1	76.9	77.3	77.6	77.8	
Healthy life years at birth (years)	63.0	63.5	63.3	63.9	64.0	63.3	
Early leavers from education and training (% of males aged 18-24)	15.1	13.9	13.4	12.8	13.8	14.9	14.4
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.2	10.2	9.2	10.5	10.8	11.6	12.5

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	23.1	23.1	22.4	21.8	21.7	21.5	22.2
At-risk-of-poverty (% of female population)	15.6	15.9	15.9	15.7	15.2	16.0	15.4
Poverty gap (%)	18.5	16.9	16.6	17.7	18.0	17.4	18.1
Persistent at-risk-of-poverty (% of female population)		8.3	9.7	10.4	10.0	7.8	
Severe Material Deprivation (% of female population)	6.7	6.2	6.0	5.5	6.0	5.4	6.5
Share of people living in low work intensity households (% of females aged 0-59)	15.9	15.0	13.2	13.6	13.5	14.3	14.5
Life expectancy at birth (years)	82.3	82.6	82.6	82.8	83.0	83.2	
Healthy life years at birth (years)	63.2	63.9	64.2	63.7	62.6	63.5	
Early leavers from education and training (% of females aged 18-24)	10.0	10.3	10.6	9.3	10.0	9.7	9.5
NEET: Young people not in employment, education or training (% of females aged 15-24)	12.3	12.2	11.1	11.7	10.9	12.0	12.2

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	21.4	21.6	21.3	20.5	23.2	23.3	23.4
At-risk-of-poverty (% of Children population)	15.3	16.9	17.2	16.6	18.3	18.7	16.9
Severe Material Deprivation (% of Children population)	9.4	7.0	7.3	6.5	7.7	8.2	8.6
Share of children living in low work intensity households (% of Children population)	13.0	12.2	8.9	11.0	12.0	13.9	12.9
Risk of poverty of children in households at work (Working Intensity > 0.2)	6.7	9.2	11.1	8.8	10.3	8.5	8.9
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	47.2	46.2	45.6	48.6	42.5	44.7	47.5

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	20.7	20.7	20.1	19.3	20.0	20.0	21.5
At-risk-of-poverty (% of Working age population)	12.2	12.6	12.2	12.1	12.1	12.9	13.4
Severe Material Deprivation (% of Working age population)	6.2	5.9	5.7	5.3	6.0	5.6	6.7
Very low work intensity (18-59)	14.8	14.4	12.7	12.8	12.9	13.6	14.4
In-work at-risk-of poverty rate (% of persons employed)	4.0	4.3	4.7	4.5	4.4	4.1	4.5
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	53.1	52.3	53.1	51.8	52.9	51.1	51.1

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	25.2	25.0	22.9	23.1	21.0	21.6	19.5
At-risk-of-poverty (% of Elderly population)	23.2	23.0	21.2	21.6	19.4	20.2	17.6
Severe Material Deprivation (% of Elderly population)	3.3	3.6	3.2	3.1	2.8	2.6	3.0
Relative median income of elderly (ratio with median income of people younger than 65)	0.71	0.74	0.74	0.74	0.75	0.74	0.7
Aggregate replacement ratio (ratio)	0.42	0.44	0.45	0.45	0.46	0.44	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	7.2	7.2	7.6	8.3	8.2	8.3	
Disability	1.9	1.8	1.9	2.1	2.1	2.2	
Old age and survivors	10.6	10.2	10.8	11.6	11.3	11.5	
Family/Children	2.0	2.1	2.1	2.2	2.2	2.3	
Unemployment	3.4	3.3	3.3	3.8	3.8	3.7	
Housing and Social exclusion n.e.c.	0.6	0.9	0.9	1.0	1.0	1.0	
Total (including Admin and Other expenditures)	27.0	26.9	28.3	30.6	30.1	30.4	
of which: Means tested benefits	1.1	1.2	1.4	1.4	1.5	1.4	

Social Inclusion Indicators: Bulgaria

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	61.3	60.7	44.8	46.2	49.2	49.1	49.3
At-risk-of-poverty (% of total population)	18.4	22.0	21.4	21.8	20.7	22.2	21.2
At-risk-of-poverty threshold (PPS single person)	1920	1979	2859	3436	3535	3436	3476
Poverty gap (%)	28.1	33.5	27.0	27.4	29.6	29.4	31.4
Persistent at-risk-of-poverty (% of total population)				10.7	16.4	16.9	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	24.7	25.5	27.1	26.4	27.1	27.4	25.9
Impact of social transfers (excl. pensions) in reducing poverty (%)	25.5	13.7	21.0	17.4	23.6	19.0	18.2
Severe Material Deprivation (% of total population)	57.7	57.6	41.2	41.9	45.7	43.6	44.1
Share of people living in low work intensity households (% of people aged 0-59)	14.7	15.9	8.1	6.9	7.9	11.0	12.4
Gross Household Disposable income adjusted for consumer prices (growth %)	3.1	4.7	10.1	-4.0	-1.5	3.8	1.0
Income quintile share ratio S80/S20	5.1	7.0	6.5	5.9	5.9	6.5	6.1
GINI coefficient	31.2	35.3	35.9	33.4	33.2	35.0	33.6
Early leavers from education and training (% of population aged 18-24)	17.3	14.9	14.8	14.7	13.9	11.8	12.5
NEET: Young people not in employment, education or training (% of total population aged 15-24)	22.2	19.1	17.4	19.5	21.8	21.8	21.5

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	60.5	59.4	43.0	44.1	47.3	47.7	47.6
At-risk-of-poverty (% of male population)	17.3	20.9	19.8	19.8	19.0	20.8	19.5
Poverty gap (%)	30.8	37.1	26.8	27.3	29.0	31.0	32.6
Persistent at-risk-of-poverty (% of male population)				9.8	13.7	15.9	
Severe Material Deprivation (% of male population)	57.1	56.6	39.6	40.1	44.2	42.5	42.9
Share of people living in low work intensity households (% of males aged 0-59)	14.4	15.5	7.8	7.0	7.7	11.1	12.5
Life expectancy at birth (years)	69.2	69.5	69.8	70.1	70.3	70.7	
Healthy life years at birth (years)	66.2	67.1	62.1	62.1	63.0	62.1	
Early leavers from education and training (% of males aged 18-24)	17.7	15.2	14.1	13.7	13.2	11.2	12.1
NEET: Young people not in employment, education or training (% of males aged 15-24)	19.9	17.7	15.6	18.1	20.7	21.8	21.6

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	62.1	61.9	46.4	48.1	50.9	50.5	50.9
At-risk-of-poverty (% of female population)	19.3	23.0	22.9	23.7	22.3	23.6	22.8
Poverty gap (%)	26.6	31.6	27.0	27.5	30.2	29.0	30.5
Persistent at-risk-of-poverty (% of female population)				11.5	18.9	17.8	
Severe Material Deprivation (% of female population)	58.2	58.6	42.8	43.5	47.2	44.6	45.3
Share of people living in low work intensity households (% of females aged 0-59)	14.9	16.3	8.3	6.8	8.1	10.9	12.4
Life expectancy at birth (years)	76.3	76.7	77.0	77.4	77.4	77.8	
Healthy life years at birth (years)	71.9	73.9	65.7	65.9	67.1	65.9	
Early leavers from education and training (% of females aged 18-24)	17.0	14.7	15.5	15.8	14.5	12.6	13.0
NEET: Young people not in employment, education or training (% of females aged 15-24)	24.7	20.6	19.3	20.9	23.0	21.9	21.5

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	61.0	60.8	44.2	47.3	49.8	51.8	52.3
At-risk-of-poverty (% of Children population)	25.0	29.9	25.5	24.9	26.7	28.4	28.2
Severe Material Deprivation (% of Children population)	57.6	58.3	40.8	43.6	46.5	45.6	46.6
Share of children living in low work intensity households (% of Children population)	16.7	18.7	9.4	7.5	10.3	14.0	16.6
Risk of poverty of children in households at work (Working Intensity > 0.2)	13.4	16.6	18.2	19.3	19.3	19.0	17.0
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	23.1	11.8	18.0	17.3	21.7	19.3	21.5

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	58.1	57.9	39.5	40.6	45.0	45.2	45.6
At-risk-of-poverty (% of Working age population)	16.2	19.4	17.0	16.4	16.0	18.2	17.4
Severe Material Deprivation (% of Working age population)	54.2	54.9	36.2	37.1	42.2	40.3	40.8
Very low work intensity (18-59)	14.1	15.1	7.7	6.7	7.3	10.1	11.2
In-work at-risk-of poverty rate (% of persons employed)	5.5	5.9	7.6	7.5	7.7	8.2	7.4
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	24.3	14.5	24.1	21.2	28.9	21.9	21.3

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	73.7	71.1	65.5	66.0	63.9	61.1	59.1
At-risk-of-poverty (% of Elderly population)	19.9	23.9	33.8	39.3	32.2	31.2	28.2
Severe Material Deprivation (% of Elderly population)	70.7	67.2	61.0	58.4	58.1	53.7	53.2
Relative median income of elderly (ratio with median income of people younger than 65)	0.79	0.78	0.66	0.63	0.74	0.72	0.7
Aggregate replacement ratio (ratio)	0.37	0.37	0.34	0.34	0.43	0.41	0.4

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	3.6	3.7	4.4	3.9	4.2	4.5	
Disability	1.3	1.1	1.2	1.4	1.4	1.4	
Old age and survivors	7.3	7.0	7.4	8.6	9.0	8.6	
Family/Children	1.0	1.2	1.3	2.0	2.0	1.9	
Unemployment	0.3	0.3	0.3	0.5	0.6	0.6	
Housing and Social exclusion n.e.c.	0.3	0.3	0.3	0.2	0.3	0.3	
Total (including Admin and Other expenditures)	14.2	14.1	15.5	17.2	18.1	17.7	
of which: Means tested benefits	0.8	0.7	0.7	0.7	0.8	0.7	

Social Inclusion Indicators: Czech Republic

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	18.0	15.8	15.3	14.0	14.4	15.3	15.4
At-risk-of-poverty (% of total population)	9.9	9.6	9.0	8.6	9.0	9.8	9.6
At-risk-of-poverty threshold (PPS single person)	4956	5305	5835	5666	5803	5915	6109
Poverty gap (%)	16.8	18.1	18.5	18.8	21.1	17.2	19.1
Persistent at-risk-of-poverty (% of total population)			3.9	3.7	5.5	4.2	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	21.6	20.1	20.0	17.9	18.1	18.0	17.6
Impact of social transfers (excl. pensions) in reducing poverty (%)	54.2	52.2	55.0	52.0	50.3	45.6	45.5
Severe Material Deprivation (% of total population)	9.6	7.4	6.8	6.1	6.2	6.1	6.6
Share of people living in low work intensity households (% of people aged 0-59)	8.9	8.6	7.2	6.0	6.4	6.6	6.8
Gross Household Disposable income adjusted for consumer prices (growth %)	4.9	3.7	0.6	2.8	-0.8	-2.2	-2.1
Income quintile share ratio S80/S20	3.5	3.5	3.4	3.5	3.5	3.5	3.5
GINI coefficient	25.3	25.3	24.7	25.1	24.9	25.2	24.9
Early leavers from education and training (% of population aged 18-24)	5.1	5.2	5.6	5.4	4.9	4.9	5.5
NEET: Young people not in employment, education or training (% of total population aged 15-24)	9.2	6.9	6.7	8.5	8.8	8.3	8.9

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	16.6	14.2	13.3	12.3	12.7	13.7	13.7
At-risk-of-poverty (% of male population)	8.9	8.7	8.0	7.5	8.0	8.9	8.7
Poverty gap (%)	18.6	19.0	21.4	22.0	23.6	19.1	20.2
Persistent at-risk-of-poverty (% of male population)			3.5	3.1	5.1	3.8	
Severe Material Deprivation (% of male population)	9.4	7.0	6.3	5.8	5.8	5.6	6.0
Share of people living in low work intensity households (% of males aged 0-59)	8.2	7.4	6.2	4.8	5.2	5.8	6.1
Life expectancy at birth (years)	73.5	73.8	74.1	74.2	74.5	74.8	
Healthy life years at birth (years)	57.9	61.4	61.2	61.1	62.2	62.2	
Early leavers from education and training (% of males aged 18-24)	5.4	5.7	5.8	5.5	4.9	5.4	6.1
NEET: Young people not in employment, education or training (% of males aged 15-24)	7.3	4.9	4.8	7.2	7.5	7.1	8.1

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	19.4	17.4	17.2	15.7	16.0	16.9	16.9
At-risk-of-poverty (% of female population)	10.8	10.5	10.1	9.5	10.0	10.6	10.5
Poverty gap (%)	15.6	17.2	15.1	16.3	18.9	16.5	17.7
Persistent at-risk-of-poverty (% of female population)			4.3	4.2	5.9	4.5	
Severe Material Deprivation (% of female population)	9.9	7.7	7.3	6.5	6.5	6.7	7.2
Share of people living in low work intensity households (% of females aged 0-59)	9.6	9.9	8.2	7.1	7.6	7.4	7.5
Life expectancy at birth (years)	79.9	80.2	80.5	80.5	80.9	81.1	
Healthy life years at birth (years)	59.9	63.3	63.4	62.7	64.5	63.6	
Early leavers from education and training (% of females aged 18-24)	4.9	4.7	5.4	5.2	4.8	4.4	4.9
NEET: Young people not in employment, education or training (% of females aged 15-24)	11.1	9.1	8.7	9.9	10.3	9.5	9.8

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	22.7	21.5	18.6	17.2	18.9	20.0	18.8
At-risk-of-poverty (% of Children population)	16.5	16.6	13.2	13.3	14.3	15.2	13.9
Severe Material Deprivation (% of Children population)	12.2	10.0	8.3	7.4	8.6	8.0	8.5
Share of children living in low work intensity households (% of Children population)	8.6	10.0	7.6	6.1	7.0	6.9	6.6
Risk of poverty of children in households at work (Working Intensity > 0.2)	10.3	9.0	8.1	8.6	9.2	10.5	9.6
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	48.4	46.1	55.6	47.4	45.0	43.7	46.5

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	17.8	15.3	15.0	13.7	14.1	15.1	15.5
At-risk-of-poverty (% of Working age population)	8.8	8.6	8.3	7.6	8.1	9.1	9.3
Severe Material Deprivation (% of Working age population)	9.3	6.8	6.5	5.9	6.0	5.8	6.3
Very low work intensity (18-59)	8.9	8.2	7.1	5.9	6.2	6.4	6.8
In-work at-risk-of poverty rate (% of persons employed)	3.5	3.3	3.6	3.2	3.7	4.1	4.6
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	56.9	54.3	55.4	54.5	52.6	47.7	47.2

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	12.7	10.9	12.5	11.7	10.1	10.7	10.8
At-risk-of-poverty (% of Elderly population)	5.9	5.5	7.4	7.2	6.8	6.6	6.0
Severe Material Deprivation (% of Elderly population)	8.0	6.5	6.4	5.7	4.3	5.4	6.0
Relative median income of elderly (ratio with median income of people younger than 65)	0.82	0.81	0.79	0.78	0.82	0.82	0.8
Aggregate replacement ratio (ratio)	0.52	0.51	0.51	0.51	0.54	0.53	0.6

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.0	5.9	5.8	6.4	6.3	6.3	
Disability	1.5	1.4	1.4	1.5	1.5	1.5	
Old age and survivors	7.5	7.7	8.0	9.0	9.2	9.7	
Family/Children	1.3	1.6	1.4	1.4	1.3	1.2	
Unemployment	0.6	0.6	0.6	1.0	0.8	0.7	
Housing and Social exclusion n.e.c.	0.6	0.3	0.2	0.3	0.3	0.4	
Total (including Admin and Other expenditures)	18.0	18.0	18.0	20.3	20.2	20.4	
of which: Means tested benefits	0.9	0.6	0.4	0.4	0.4	0.4	

Social Inclusion Indicators: Denmark

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	16.7	16.8	16.3	17.6	18.3	18.9	19.0
At-risk-of-poverty (% of total population)	11.7	11.7	11.8	13.1	13.3	13.0	13.1
At-risk-of-poverty threshold (PPS single person)	9688	10121	10561	10751	10783	11208	11117
Poverty gap (%)	16.5	17.0	18.0	18.4	21.6	21.4	22.8
Persistent at-risk-of-poverty (% of total population)		4.7	4.9	2.7	6.3	6.4	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	28.0	27.1	27.8	31.2	29.1	28.4	28.3
Impact of social transfers (excl. pensions) in reducing poverty (%)	58.2	56.8	57.6	58.0	54.3	54.2	53.7
Severe Material Deprivation (% of total population)	3.1	3.3	2.0	2.3	2.7	2.6	2.8
Share of people living in low work intensity households (% of people aged 0-59)	9.3	9.9	8.3	8.5	10.3	11.4	10.9
Gross Household Disposable income adjusted for consumer prices (growth %)	2.2	0.2	-0.4	1.6	2.2	0.2	
Income quintile share ratio S80/S20	3.4	3.7	3.6	4.6	4.4	4.4	4.5
GINI coefficient	23.7	25.2	25.1	26.9	26.9	27.8	28.1
Early leavers from education and training (% of population aged 18-24)	9.1	12.9	12.5	11.3	11.0	9.6	9.1
NEET: Young people not in employment, education or training (% of total population aged 15-24)	3.6	4.3	4.3	5.4	6.0	6.3	6.6

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	15.5	15.9	15.7	17.0	17.7	18.2	19.1
At-risk-of-poverty (% of male population)	11.4	11.3	11.7	12.8	13.1	13.0	13.3
Poverty gap (%)	18.8	18.8	19.3	21.9	23.3	25.1	23.5
Persistent at-risk-of-poverty (% of male population)		4.5	5.2	4.0	5.5	6.7	
Severe Material Deprivation (% of male population)	2.8	2.9	1.5	2.2	2.8	2.0	2.7
Share of people living in low work intensity households (% of males aged 0-59)	8.1	8.9	8.2	8.0	9.4	10.7	11.3
Life expectancy at birth (years)	76.1	76.2	76.5	76.9	77.2	77.8	
Healthy life years at birth (years)	67.7	67.4	62.1	61.8	62.3	63.6	
Early leavers from education and training (% of males aged 18-24)	10.5	16.2	15.0	14.3	14.1	12.1	10.8
NEET: Young people not in employment, education or training (% of males aged 15-24)	3.4	4.7	4.4	5.9	6.7	6.4	6.6

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	17.9	17.7	17.0	18.2	19.0	19.5	18.9
At-risk-of-poverty (% of female population)	12.0	12.0	12.0	13.4	13.4	13.0	12.9
Poverty gap (%)	15.2	16.4	17.2	17.1	20.9	17.1	19.1
Persistent at-risk-of-poverty (% of female population)		4.9	4.6	1.5	7.0	6.1	
Severe Material Deprivation (% of female population)	3.5	3.6	2.4	2.4	2.5	3.3	3.0
Share of people living in low work intensity households (% of females aged 0-59)	10.7	10.9	8.3	9.1	11.1	12.0	10.5
Life expectancy at birth (years)	80.7	80.6	81.0	81.1	81.4	81.9	
Healthy life years at birth (years)	67.2	67.4	61.0	60.4	61.4	59.4	
Early leavers from education and training (% of females aged 18-24)	7.7	9.5	10.0	8.1	7.7	7.0	7.4
NEET: Young people not in employment, education or training (% of females aged 15-24)	3.8	3.8	4.2	4.9	5.4	6.1	6.7

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	14.5	14.2	12.7	14.0	15.1	16.0	15.3
At-risk-of-poverty (% of Children population)	9.9	9.6	9.1	10.6	10.9	10.2	10.2
Severe Material Deprivation (% of Children population)	4.3	4.8	2.5	2.1	3.1	3.3	3.6
Share of children living in low work intensity households (% of Children population)	7.1	6.8	4.3	5.4	7.3	8.9	5.7
Risk of poverty of children in households at work (Working Intensity > 0.2)	6.7	6.2	7.6	7.9	6.8	7.1	7.5
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	59.3	59.8	58.8	56.4	54.6	60.3	58.4

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	17.1	17.4	17.1	18.1	19.5	20.5	21.5
At-risk-of-poverty (% of Working age population)	11.0	10.9	11.3	12.2	12.9	13.1	13.9
Severe Material Deprivation (% of Working age population)	3.2	3.3	2.0	2.7	2.9	2.9	3.2
Very low work intensity (18-59)	10.3	11.1	9.8	9.8	11.4	12.3	12.9
In-work at-risk-of poverty rate (% of persons employed)	4.5	4.2	5.0	5.9	6.3	6.3	5.7
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	60.2	58.9	59.4	58.9	56.1	56.5	55.5

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	18.3	18.3	18.6	20.6	18.4	16.6	14.6
At-risk-of-poverty (% of Elderly population)	17.4	17.7	18.1	20.1	17.7	16.0	14.1
Severe Material Deprivation (% of Elderly population)	1.1	0.8	0.9	0.9	0.9	1.1	0.6
Relative median income of elderly (ratio with median income of people younger than 65)	0.71	0.70	0.70	0.71	0.71	0.72	0.8
Aggregate replacement ratio (ratio)	0.37	0.39	0.41	0.42	0.44	0.42	0.4

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.1	6.3	6.5	7.3	7.0	6.9	
Disability	4.2	3.8	3.7	4.1	4.2	4.1	
Old age and survivors	10.8	12.6	12.7	14.0	13.8	14.2	
Family/Children	3.7	4.0	4.0	4.5	4.3	4.1	
Unemployment	2.1	1.2	0.9	1.6	1.8	1.8	
Housing and Social exclusion n.e.c.	1.5	1.5	1.4	1.6	1.7	1.7	
Total (including Admin and Other expenditures)	29.2	30.7	30.7	34.7	34.3	34.3	
of which: Means tested benefits	0.8	1.5	1.4	1.6	1.6	1.7	

Social Inclusion Indicators: Germany

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	20.2	20.6	20.1	20.0	19.7	19.9	19.6
At-risk-of-poverty (% of total population)	12.5	15.2	15.2	15.5	15.6	15.8	16.1
At-risk-of-poverty threshold (PPS single person)	9100	10395	10804	10770	10557	10945	11398
Poverty gap (%)	20.4	23.2	22.2	21.5	20.7	21.4	21.1
Persistent at-risk-of-poverty (% of total population)			7.2	8.1	9.1	10.4	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	25.7	24.8	24.2	24.1	24.2	25.1	24.3
Impact of social transfers (excl. pensions) in reducing poverty (%)	51.4	38.7	37.2	35.7	35.5	37.1	33.7
Severe Material Deprivation (% of total population)	5.1	4.8	5.5	5.4	4.5	5.3	4.9
Share of people living in low work intensity households (% of people aged 0-59)	13.5	11.4	11.6	10.8	11.1	11.1	9.8
Gross Household Disposable income adjusted for consumer prices (growth %)	0.5	-0.5	-0.1	-0.5	1.8	1.3	0.3
Income quintile share ratio S80/S20	4.1	4.9	4.8	4.5	4.5	4.5	4.3
GINI coefficient	26.8	30.4	30.2	29.1	29.3	29.0	28.3
Early leavers from education and training (% of population aged 18-24)	13.7	12.5	11.8	11.1	11.9	11.7	10.6
NEET: Young people not in employment, education or training (% of total population aged 15-24)	9.6	8.9	8.4	8.8	8.3	7.5	7.1

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	18.9	18.8	18.5	18.8	18.6	18.5	18.1
At-risk-of-poverty (% of male population)	12.1	14.1	14.2	14.7	14.9	14.9	14.9
Poverty gap (%)	21.4	24.4	23.7	22.3	21.5	22.6	21.8
Persistent at-risk-of-poverty (% of male population)			6.6	7.0	9.0	10.0	
Severe Material Deprivation (% of male population)	5.0	4.3	5.3	5.3	4.4	5.0	4.5
Share of people living in low work intensity households (% of males aged 0-59)	12.2	10.4	10.8	10.4	10.7	10.4	9.1
Life expectancy at birth (years)	77.2	77.4	77.6	77.8	78.0	78.4	
Healthy life years at birth (years)	58.7	59.0	56.3	57.1	57.9	57.9	
Early leavers from education and training (% of males aged 18-24)	14.0	13.1	12.4	11.5	12.7	12.7	11.3
NEET: Young people not in employment, education or training (% of males aged 15-24)	8.9	8.0	7.5	8.2	7.7	6.7	6.4

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	21.3	22.3	21.6	21.2	20.9	21.3	21.1
At-risk-of-poverty (% of female population)	13.0	16.3	16.2	16.3	16.4	16.8	17.2
Poverty gap (%)	19.2	22.4	21.1	20.8	19.6	20.6	20.6
Persistent at-risk-of-poverty (% of female population)			7.7	9.0	9.2	10.8	
Severe Material Deprivation (% of female population)	5.1	5.3	5.6	5.4	4.7	5.7	5.2
Share of people living in low work intensity households (% of females aged 0-59)	14.8	12.5	12.3	11.2	11.6	11.8	10.6
Life expectancy at birth (years)	82.4	82.7	82.7	82.8	83.0	83.2	
Healthy life years at birth (years)	58.3	58.6	57.7	58.1	58.7	58.7	
Early leavers from education and training (% of females aged 18-24)	13.4	11.9	11.2	10.7	11.0	10.8	9.9
NEET: Young people not in employment, education or training (% of females aged 15-24)	10.4	9.8	9.5	9.4	9.0	8.3	7.9

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	20.9	19.7	20.1	20.4	21.7	19.9	18.4
At-risk-of-poverty (% of Children population)	12.4	14.1	15.2	15.0	17.5	15.6	15.2
Severe Material Deprivation (% of Children population)	5.9	5.4	6.9	7.1	5.2	5.4	4.8
Share of children living in low work intensity households (% of Children population)	10.9	9.1	9.0	9.0	8.9	8.6	6.7
Risk of poverty of children in households at work (Working Intensity > 0.2)	8.2	9.2	9.6	9.7	11.7	10.5	10.8
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	63.3	53.6	50.3	50.8	46.7	52.7	50.7

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	21.9	21.9	21.5	21.1	20.8	21.3	21.2
At-risk-of-poverty (% of Working age population)	12.6	15.2	15.4	15.8	15.6	16.4	16.6
Severe Material Deprivation (% of Working age population)	5.7	5.5	6.1	5.8	5.2	6.0	5.5
Very low work intensity (18-59)	14.4	12.1	12.3	11.3	11.8	11.8	10.7
In-work at-risk-of poverty rate (% of persons employed)	5.5	7.4	7.1	6.8	7.1	7.7	7.7
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	53.0	40.4	38.2	36.3	37.4	37.2	34.1

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	13.5	16.8	15.5	16.0	14.8	15.3	15.8
At-risk-of-poverty (% of Elderly population)	12.5	16.2	14.9	15.0	14.1	14.2	15.0
Severe Material Deprivation (% of Elderly population)	2.1	2.2	2.1	2.5	2.1	3.2	2.8
Relative median income of elderly (ratio with median income of people younger than 65)	0.93	0.87	0.87	0.88	0.89	0.90	0.9
Aggregate replacement ratio (ratio)	0.46	0.46	0.44	0.47	0.49	0.51	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	8.2	8.1	8.3	9.8	9.6	9.4	
Disability	2.2	2.1	2.2	2.3	2.3	2.2	
Old age and survivors	11.9	11.4	11.4	12.2	11.8	11.4	
Family/Children	2.9	2.8	2.8	3.2	3.2	3.1	
Unemployment	1.8	1.5	1.4	1.9	1.7	1.3	
Housing and Social exclusion n.e.c.	0.8	0.8	0.8	0.8	0.8	0.8	
Total (including Admin and Other expenditures)	29.0	27.8	28.0	31.5	30.6	29.4	
of which: Means tested benefits	3.5	3.3	3.3	3.6	3.5	3.4	

Social Inclusion Indicators: Estonia

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	22.0	22.0	21.8	23.4	21.7	23.1	23.4
At-risk-of-poverty (% of total population)	18.3	19.4	19.5	19.7	15.8	17.5	17.5
At-risk-of-poverty threshold (PPS single person)	3377	3895	4538	4860	4453	4403	4612
Poverty gap (%)	22.0	20.2	20.3	17.0	23.2	26.0	23.8
Persistent at-risk-of-poverty (% of total population)		11.1	13.6	12.9	9.9	10.5	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	24.6	25.2	24.7	25.9	24.9	24.9	24.8
Impact of social transfers (excl. pensions) in reducing poverty (%)	25.6	23.0	21.1	23.9	36.6	29.7	29.4
Severe Material Deprivation (% of total population)	7.0	5.6	4.9	6.2	9.0	8.7	9.4
Share of people living in low work intensity households (% of people aged 0-59)	7.0	6.2	5.3	5.6	8.9	9.9	9.0
Gross Household Disposable income adjusted for consumer prices (growth %)	11.8	13.0	-2.8	-6.0	-2.4	4.1	-4.1
Income quintile share ratio S80/S20	5.5	5.5	5.0	5.0	5.0	5.3	5.4
GINI coefficient	33.1	33.4	30.9	31.4	31.3	31.9	32.5
Early leavers from education and training (% of population aged 18-24)	13.5	14.4	14.0	13.9	11.6	10.9	10.5
NEET: Young people not in employment, education or training (% of total population aged 15-24)	8.8	8.9	8.8	14.9	14.5	11.8	12.5

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	20.0	19.4	18.9	21.1	21.5	23.2	22.3
At-risk-of-poverty (% of male population)	16.3	16.7	16.5	17.5	15.4	17.6	16.8
Poverty gap (%)	26.5	24.2	23.8	20.7	25.9	27.9	27.6
Persistent at-risk-of-poverty (% of male population)		9.5	10.1	11.5	7.8	9.9	
Severe Material Deprivation (% of male population)	6.8	5.4	4.8	6.2	9.3	8.8	9.5
Share of people living in low work intensity households (% of males aged 0-59)	7.7	6.6	5.9	6.4	9.6	10.8	9.5
Life expectancy at birth (years)	67.4	67.2	68.7	69.8	70.6	71.2	
Healthy life years at birth (years)	49.6	49.7	53.0	55.0	54.1	54.2	
Early leavers from education and training (% of males aged 18-24)	19.8	21.7	19.8	18.4	15.2	13.1	14.0
NEET: Young people not in employment, education or training (% of males aged 15-24)	6.6	8.6	8.2	14.9	15.0	11.9	11.7

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	23.7	24.2	24.3	25.5	22.0	22.9	24.4
At-risk-of-poverty (% of female population)	19.9	21.7	22.0	21.6	16.2	17.4	18.1
Poverty gap (%)	19.9	18.4	19.3	15.5	20.0	24.0	21.8
Persistent at-risk-of-poverty (% of female population)		12.5	16.5	13.9	11.7	11.0	
Severe Material Deprivation (% of female population)	7.2	5.8	4.9	6.3	8.7	8.6	9.3
Share of people living in low work intensity households (% of females aged 0-59)	6.4	5.8	4.7	4.7	8.2	9.1	8.6
Life expectancy at birth (years)	78.6	78.8	79.5	80.2	80.8	81.3	
Healthy life years at birth (years)	53.9	54.9	57.5	59.2	58.2	57.9	
Early leavers from education and training (% of females aged 18-24)	7.1	7.1	8.2	9.3	7.8	8.6	7.1
NEET: Young people not in employment, education or training (% of females aged 15-24)	11.1	9.2	9.4	14.8	14.0	11.7	13.3

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	24.1	20.1	19.4	24.5	24.0	24.8	22.4
At-risk-of-poverty (% of Children population)	20.1	18.2	17.1	20.6	17.3	19.5	17.0
Severe Material Deprivation (% of Children population)	7.6	4.1	5.3	7.0	10.7	9.1	9.2
Share of children living in low work intensity households (% of Children population)	6.5	4.5	3.8	4.5	8.4	9.1	6.8
Risk of poverty of children in households at work (Working Intensity > 0.2)	15.3	14.4	14.3	17.8	12.1	13.7	12.8
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	34.3	35.5	35.0	30.6	44.4	35.9	40.6

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	19.8	19.1	17.5	19.9	21.8	24.2	24.2
At-risk-of-poverty (% of Working age population)	15.9	16.1	15.0	15.8	15.6	18.0	17.7
Severe Material Deprivation (% of Working age population)	6.8	5.5	4.5	6.1	9.1	9.3	10.0
Very low work intensity (18-59)	7.2	6.7	5.8	5.9	9.0	10.2	9.7
In-work at-risk-of poverty rate (% of persons employed)	7.8	7.9	7.4	8.3	6.7	8.2	8.5
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	27.4	25.1	24.6	28.2	37.6	30.2	28.9

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	27.8	35.4	40.9	35.6	19.0	17.0	21.8
At-risk-of-poverty (% of Elderly population)	25.1	33.2	39.0	33.9	15.1	13.1	17.2
Severe Material Deprivation (% of Elderly population)	7.4	7.9	5.8	5.6	6.6	5.8	7.1
Relative median income of elderly (ratio with median income of people younger than 65)	0.69	0.65	0.62	0.66	0.73	0.75	0.7
Aggregate replacement ratio (ratio)	0.49	0.47	0.45	0.52	0.55	0.54	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	3.7	4.0	4.8	5.3	4.8	4.4	
Disability	1.1	1.1	1.5	1.9	1.9	1.8	
Old age and survivors	5.4	5.2	6.4	8.0	7.9	7.0	
Family/Children	1.5	1.4	1.8	2.2	2.3	2.0	
Unemployment	0.1	0.1	0.3	1.2	0.8	0.5	
Housing and Social exclusion n.e.c.	0.1	0.1	0.1	0.1	0.2	0.2	
Total (including Admin and Other expenditures)	12.1	12.1	14.9	19.0	18.0	16.1	
of which: Means tested benefits	0.1	0.1	0.1	0.1	0.2	0.2	

Social Inclusion Indicators: Ireland

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	23.3	23.1	23.7	25.7	27.3	29.4	
At-risk-of-poverty (% of total population)	18.5	17.2	15.5	15.0	15.2	15.2	
At-risk-of-poverty threshold (PPS single person)	9563	10633	10901	10386	9649	10097	
Poverty gap (%)	16.6	17.6	17.7	16.2	15.5	17.5	
Persistent at-risk-of-poverty (% of total population)		11.6					
At-risk-of-poverty before social transfers excl. pensions (% of total population)	32.8	33.1	34.0	37.5	39.9	39.6	
Impact of social transfers (excl. pensions) in reducing poverty (%)	43.6	48.0	54.4	60.0	61.9	61.6	
Severe Material Deprivation (% of total population)	4.8	4.5	5.5	6.1	5.7	7.8	
Share of people living in low work intensity households (% of people aged 0-59)	12.8	14.2	13.6	19.8	22.8	24.1	
Gross Household Disposable income adjusted for consumer prices (growth %)	4.8	5.3	3.4	-5.2	-3.4	-3.2	-3.1
Income quintile share ratio S80/S20	4.9	4.8	4.4	4.2	4.7	4.6	
GINI coefficient	31.9	31.3	29.9	28.8	30.7	29.8	
Early leavers from education and training (% of population aged 18-24)	12.1	11.6	11.3	11.7	11.5	10.8	9.7
NEET: Young people not in employment, education or training (% of total population aged 15-24)	10.1	10.7	14.9	18.6	19.2	18.8	18.7

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	22.0	21.6	22.7	25.0	26.5	29.0	
At-risk-of-poverty (% of male population)	17.5	16.0	14.5	14.9	14.6	15.4	
Poverty gap (%)	17.6	17.7	18.9	17.1	15.5	18.7	
Persistent at-risk-of-poverty (% of male population)		11.6					
Severe Material Deprivation (% of male population)	4.6	4.0	5.3	5.5	5.5	7.4	
Share of people living in low work intensity households (% of males aged 0-59)	12.0	13.6	13.0	18.6	21.3	23.3	
Life expectancy at birth (years)	77.3	77.3	77.8	77.7	78.7	78.3	
Healthy life years at birth (years)	63.2	62.9	63.5	63.9	65.9	65.8	
Early leavers from education and training (% of males aged 18-24)	15.2	14.6	14.5	14.7	13.4	12.8	11.2
NEET: Young people not in employment, education or training (% of males aged 15-24)	9.0	10.0	15.4	20.4	20.4	20.0	20.1

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	24.6	24.6	24.7	26.4	28.1	29.8	
At-risk-of-poverty (% of female population)	19.5	18.5	16.4	15.1	15.8	14.9	
Poverty gap (%)	15.0	17.1	17.4	14.9	15.5	16.6	
Persistent at-risk-of-poverty (% of female population)		11.7					
Severe Material Deprivation (% of female population)	5.0	4.9	5.8	6.8	5.9	8.3	
Share of people living in low work intensity households (% of females aged 0-59)	13.6	14.9	14.3	21.0	24.4	24.9	
Life expectancy at birth (years)	82.1	82.1	82.4	82.7	83.2	82.8	
Healthy life years at birth (years)	64.9	65.6	65.0	65.2	67.0	68.2	
Early leavers from education and training (% of females aged 18-24)	9.0	8.4	8.0	8.6	9.6	8.8	8.2
NEET: Young people not in employment, education or training (% of females aged 15-24)	11.2	11.4	14.3	16.9	18.0	17.5	17.3

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	28.0	26.2	26.6	31.4	34.1	34.1	
At-risk-of-poverty (% of Children population)	22.5	19.2	18.0	18.8	18.9	17.1	
Severe Material Deprivation (% of Children population)	7.4	7.6	6.8	8.4	8.2	10.0	
Share of children living in low work intensity households (% of Children population)	15.4	15.7	15.0	23.4	25.6	25.9	
Risk of poverty of children in households at work (Working Intensity > 0.2)	13.4	10.1	11.0	7.5	9.3	6.3	
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	44.9	50.6	55.2	59.7	62.9	65.2	

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	20.5	20.7	22.6	24.8	27.2	30.5	
At-risk-of-poverty (% of Working age population)	15.3	14.4	13.4	13.2	14.6	15.1	
Severe Material Deprivation (% of Working age population)	4.3	3.7	5.6	5.8	5.4	7.9	
Very low work intensity (18-59)	11.6	13.6	13.0	18.2	21.5	23.2	
In-work at-risk-of poverty rate (% of persons employed)	6.2	5.5	6.3	4.9	5.5	5.3	
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	45.9	50.3	56.6	61.4	61.8	61.4	

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	27.7	28.7	22.5	17.9	11.3	13.8	
At-risk-of-poverty (% of Elderly population)	26.9	28.3	21.1	16.2	9.9	11.0	
Severe Material Deprivation (% of Elderly population)	1.7	1.2	2.2	2.6	1.5	3.0	
Relative median income of elderly (ratio with median income of people younger than 65)	0.70	0.69	0.74	0.78	0.85	0.86	
Aggregate replacement ratio (ratio)	0.38	0.49	0.49	0.48	0.47	0.43	

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.5	6.7	7.9	9.8	11.4	12.8	
Disability	0.9	1.0	1.1	1.3	1.3	1.2	
Old age and survivors	4.7	4.7	5.5	6.4	6.6	6.6	
Family/Children	2.5	2.6	3.1	3.6	3.6	3.4	
Unemployment	1.3	1.4	1.8	3.0	3.5	3.3	
Housing and Social exclusion n.e.c.	0.7	0.7	0.9	1.0	1.0	1.0	
Total (including Admin and Other expenditures)	17.8	18.3	21.5	26.5	28.5	29.6	
of which: Means tested benefits	4.2	4.4	5.3	6.7	7.6	7.8	

Social Inclusion Indicators: Greece

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	29.3	28.3	28.1	27.6	27.7	31.0	34.6
At-risk-of-poverty (% of total population)	20.5	20.3	20.1	19.7	20.1	21.4	23.1
At-risk-of-poverty threshold (PPS single person)	6697	6873	7219	7521	7568	6889	5969
Poverty gap (%)	25.8	26.0	24.7	24.1	23.4	26.1	29.9
Persistent at-risk-of-poverty (% of total population)		13.1	13.0	16.1	17.6	10.5	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	23.4	23.7	23.3	22.7	23.8	24.8	26.8
Impact of social transfers (excl. pensions) in reducing poverty (%)	12.4	14.4	13.7	13.2	15.6	13.7	13.8
Severe Material Deprivation (% of total population)	11.5	11.5	11.2	11.0	11.6	15.2	19.5
Share of people living in low work intensity households (% of people aged 0-59)	8.0	8.0	7.4	6.5	7.5	11.8	14.1
Gross Household Disposable income adjusted for consumer prices (growth %)	5.1	7.0	-2.3	-0.8	-11.4	-9.9	-10.0
Income quintile share ratio S80/S20	6.1	6.0	5.9	5.8	5.6	6.0	6.6
GINI coefficient	34.3	34.3	33.4	33.1	32.9	33.5	34.3
Early leavers from education and training (% of population aged 18-24)	15.5	14.6	14.8	14.5	13.7	13.1	11.4
NEET: Young people not in employment, education or training (% of total population aged 15-24)	12.2	11.5	11.7	12.6	14.9	17.4	20.3

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	27.5	26.8	26.3	26.1	26.0	29.6	33.9
At-risk-of-poverty (% of male population)	19.5	19.6	19.6	19.1	19.3	20.9	22.5
Poverty gap (%)	25.8	25.6	24.4	24.4	23.4	27.2	29.9
Persistent at-risk-of-poverty (% of male population)		12.4	11.3	15.6	16.3	10.4	
Severe Material Deprivation (% of male population)	11.0	10.6	10.1	10.2	10.9	14.9	19.9
Share of people living in low work intensity households (% of males aged 0-59)	6.5	6.4	6.0	5.2	6.4	10.9	12.8
Life expectancy at birth (years)	77.2	77.1	77.7	77.8	78.4	78.5	
Healthy life years at birth (years)	66.5	66.1	65.8	66.1	66.3	66.4	
Early leavers from education and training (% of males aged 18-24)	20.2	18.6	18.5	18.3	16.5	16.1	13.7
NEET: Young people not in employment, education or training (% of males aged 15-24)	8.9	8.3	8.9	9.6	12.7	16.0	19.0

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	31.1	29.9	29.8	29.0	29.3	32.3	35.2
At-risk-of-poverty (% of female population)	21.4	20.9	20.7	20.2	20.9	21.9	23.6
Poverty gap (%)	25.7	26.3	25.0	24.1	23.4	25.6	29.1
Persistent at-risk-of-poverty (% of female population)		13.8	14.7	16.6	18.7	10.6	
Severe Material Deprivation (% of female population)	11.9	12.3	12.2	11.7	12.2	15.4	19.1
Share of people living in low work intensity households (% of females aged 0-59)	9.6	9.6	8.8	7.8	8.5	12.8	15.4
Life expectancy at birth (years)	81.9	81.8	82.3	82.7	82.8	83.1	
Healthy life years at birth (years)	68.1	67.4	66.1	66.8	67.7	66.9	
Early leavers from education and training (% of females aged 18-24)	10.8	10.6	10.9	10.6	10.8	10.1	9.1
NEET: Young people not in employment, education or training (% of females aged 15-24)	15.5	14.8	14.4	15.5	17.2	18.8	21.6

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	27.9	28.2	28.7	30.0	28.7	30.4	35.4
At-risk-of-poverty (% of Children population)	22.6	23.3	23.0	23.7	23.0	23.7	26.9
Severe Material Deprivation (% of Children population)	9.5	9.7	10.4	12.2	12.2	16.4	20.9
Share of children living in low work intensity households (% of Children population)	4.3	4.6	3.9	2.7	3.9	7.2	7.6
Risk of poverty of children in households at work (Working Intensity > 0.2)	20.5	21.3	21.4	22.8	21.6	19.2	22.1
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	9.2	14.0	10.9	6.0	10.9	10.6	9.7

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	28.4	27.8	27.9	27.1	27.7	31.6	37.7
At-risk-of-poverty (% of Working age population)	18.4	18.7	18.7	18.1	19.0	20.0	23.8
Severe Material Deprivation (% of Working age population)	10.6	10.2	10.4	10.3	11.2	15.4	20.7
Very low work intensity (18-59)	9.2	9.1	8.4	7.7	8.5	13.2	16.1
In-work at-risk-of poverty rate (% of persons employed)	13.7	14.1	14.2	13.7	13.9	11.9	15.1
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	12.8	13.4	13.8	13.0	14.4	13.0	14.4

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	33.8	30.6	28.1	26.8	26.7	29.3	23.5
At-risk-of-poverty (% of Elderly population)	25.6	22.9	22.3	21.4	21.3	23.6	17.2
Severe Material Deprivation (% of Elderly population)	16.4	17.4	14.8	12.1	12.4	13.1	14.3
Relative median income of elderly (ratio with median income of people younger than 65)	0.82	0.83	0.86	0.86	0.84	0.81	1.0
Aggregate replacement ratio (ratio)	0.49	0.40	0.41	0.41	0.42	0.45	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.9	6.8	7.4	8.0	8.2	7.5	
Disability	1.1	1.2	1.2	1.3	1.3	1.4	
Old age and survivors	12.4	12.5	12.9	13.6	14.1	15.0	
Family/Children	1.5	1.5	1.6	1.8	1.8	1.8	
Unemployment	1.1	1.1	1.3	1.6	1.7	2.1	
Housing and Social exclusion n.e.c.	1.1	1.1	1.1	1.1	1.0	1.0	
Total (including Admin and Other expenditures)	24.8	24.8	26.2	28.0	29.1	30.2	
of which: Means tested benefits	1.8	1.8	1.9	2.0	1.9	1.8	

Social Inclusion Indicators: Spain

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	24.0	23.3	24.5	24.5	26.7	27.7	28.2
At-risk-of-poverty (% of total population)	20.3	19.7	20.8	20.1	21.4	22.2	22.2
At-risk-of-poverty threshold (PPS single person)	7335	7614	8161	8114	7789	7500	7392
Poverty gap (%)	26.4	25.9	24.4	28.9	32.3	30.9	31.4
Persistent at-risk-of-poverty (% of total population)		10.1	11.7	11.4	11.0	11.2	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	24.6	23.7	25.2	25.2	28.8	30.0	29.6
Impact of social transfers (excl. pensions) in reducing poverty (%)	17.5	16.9	17.5	20.2	25.7	26.0	25.0
Severe Material Deprivation (% of total population)	4.1	3.5	3.6	4.5	4.9	4.5	5.8
Share of people living in low work intensity households (% of people aged 0-59)	6.4	6.8	6.6	7.6	10.8	13.3	14.2
Gross Household Disposable income adjusted for consumer prices (growth %)	3.3	3.6	2.6	0.8	-4.5	-3.0	-5.2
Income quintile share ratio S80/S20	5.5	5.5	5.7	6.4	7.2	7.1	7.2
GINI coefficient	31.9	31.9	31.9	33.0	34.4	34.5	35.0
Early leavers from education and training (% of population aged 18-24)	30.5	31.0	31.9	31.2	28.4	26.5	24.9
NEET: Young people not in employment, education or training (% of total population aged 15-24)	12.0	12.2	14.4	18.3	18.0	18.5	18.8

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	22.6	21.9	23.4	23.5	26.0	27.3	28.4
At-risk-of-poverty (% of male population)	18.8	18.6	19.5	19.1	20.8	21.6	22.2
Poverty gap (%)	27.2	26.0	25.5	31.0	33.5	32.0	32.1
Persistent at-risk-of-poverty (% of male population)		9.4	10.8	10.7	10.6	10.5	
Severe Material Deprivation (% of male population)	4.2	3.5	3.7	4.6	4.7	4.5	6.2
Share of people living in low work intensity households (% of males aged 0-59)	5.9	6.5	6.1	7.1	10.6	12.9	13.7
Life expectancy at birth (years)	77.7	77.9	78.2	78.7	79.1	79.4	
Healthy life years at birth (years)	63.9	63.5	64.1	62.9	64.4	65.3	
Early leavers from education and training (% of males aged 18-24)	36.7	36.6	38.0	37.4	33.5	31.0	28.8
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.3	10.4	13.9	19.5	18.9	19.3	19.6

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	25.5	24.6	25.7	25.4	27.5	28.0	28.1
At-risk-of-poverty (% of female population)	21.8	20.8	21.9	21.1	22.1	22.7	22.1
Poverty gap (%)	25.4	25.1	23.3	27.4	30.5	30.4	30.9
Persistent at-risk-of-poverty (% of female population)		10.8	14.0	13.1	12.2	13.1	
Severe Material Deprivation (% of female population)	4.0	3.6	3.5	4.4	5.1	4.6	5.5
Share of people living in low work intensity households (% of females aged 0-59)	6.9	7.1	7.0	8.0	11.0	13.8	14.8
Life expectancy at birth (years)	84.4	84.4	84.5	84.9	85.3	85.4	
Healthy life years at birth (years)	63.5	63.2	63.6	62.2	63.9	65.8	
Early leavers from education and training (% of females aged 18-24)	24.0	25.2	25.7	24.7	23.1	21.9	20.8
NEET: Young people not in employment, education or training (% of females aged 15-24)	13.8	14.0	15.0	17.1	17.1	17.7	17.8

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	29.5	28.6	30.6	30.0	33.1	33.2	33.8
At-risk-of-poverty (% of Children population)	27.1	26.2	28.2	26.8	29.2	29.5	29.9
Severe Material Deprivation (% of Children population)	5.6	4.4	5.5	6.7	7.4	5.2	7.6
Share of children living in low work intensity households (% of Children population)	4.5	5.0	4.2	6.1	9.5	11.6	12.3
Risk of poverty of children in households at work (Working Intensity > 0.2)	24.5	23.7	26.1	23.2	23.9	22.7	22.3
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	14.8	14.1	13.0	16.0	20.0	20.3	18.8

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	20.8	20.8	22.1	23.0	26.3	27.8	29.7
At-risk-of-poverty (% of Working age population)	16.3	16.4	17.3	17.5	19.5	20.8	21.9
Severe Material Deprivation (% of Working age population)	3.8	3.3	3.5	4.5	4.9	4.8	6.1
Very low work intensity (18-59)	6.9	7.3	7.3	8.0	11.2	13.8	14.8
In-work at-risk-of poverty rate (% of persons employed)	10.1	10.2	11.1	11.6	12.6	12.1	12.3
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	21.6	20.8	22.1	24.2	29.9	29.7	28.0

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	31.1	27.8	27.7	24.3	21.4	20.9	16.6
At-risk-of-poverty (% of Elderly population)	29.3	26.1	26.9	23.1	20.5	19.5	14.8
Severe Material Deprivation (% of Elderly population)	3.9	3.6	1.9	2.3	2.2	2.7	2.9
Relative median income of elderly (ratio with median income of people younger than 65)	0.75	0.79	0.79	0.82	0.86	0.86	0.9
Aggregate replacement ratio (ratio)	0.48	0.48	0.49	0.50	0.53	0.56	0.6

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.3	6.4	6.8	7.3	7.2	7.0	
Disability	1.5	1.5	1.6	1.7	1.8	1.8	
Old age and survivors	8.4	8.7	9.1	10.2	10.8	11.2	
Family/Children	1.2	1.3	1.4	1.5	1.5	1.4	
Unemployment	2.1	2.1	2.5	3.7	3.6	3.7	
Housing and Social exclusion n.e.c.	0.4	0.4	0.4	0.4	0.5	0.4	
Total (including Admin and Other expenditures)	20.5	20.8	22.2	25.4	25.8	26.1	
of which: Means tested benefits	2.7	2.7	2.9	3.6	4.0	4.2	

Social Inclusion Indicators: France

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	18.8	19.0	18.6	18.5	19.2	19.3	19.1
At-risk-of-poverty (% of total population)	13.2	13.1	12.7	12.9	13.3	14.0	14.1
At-risk-of-poverty threshold (PPS single person)	8989	9089	10547	10644	10735	10834	11217
Poverty gap (%)	18.5	17.9	14.8	18.2	20.2	17.1	16.2
Persistent at-risk-of-poverty (% of total population)		6.4					
At-risk-of-poverty before social transfers excl. pensions (% of total population)	24.9	26.4	23.5	24.0	25.2	24.7	23.8
Impact of social transfers (excl. pensions) in reducing poverty (%)	47.0	50.4	46.0	46.3	47.2	43.3	40.8
Severe Material Deprivation (% of total population)	5.0	4.7	5.4	5.6	5.8	5.2	5.3
Share of people living in low work intensity households (% of people aged 0-59)	9.1	9.5	8.8	8.3	9.8	9.3	8.4
Gross Household Disposable income adjusted for consumer prices (growth %)	2.6	3.5	0.2	0.5	0.4	0.4	-1.2
Income quintile share ratio S80/S20	4.0	3.9	4.4	4.4	4.5	4.6	4.5
GINI coefficient	27.3	26.6	29.8	29.9	29.8	30.8	30.5
Early leavers from education and training (% of population aged 18-24)	12.4	12.6	11.5	12.2	12.6	12.0	11.6
NEET: Young people not in employment, education or training (% of total population aged 15-24)	11.0	10.3	10.2	12.4	12.4	12.0	12.2

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	17.3	18.0	17.3	17.1	18.3	18.6	18.4
At-risk-of-poverty (% of male population)	12.3	12.8	11.8	11.9	12.6	13.5	13.6
Poverty gap (%)	19.1	18.0	15.0	18.8	20.3	17.8	16.3
Persistent at-risk-of-poverty (% of male population)		5.9					
Severe Material Deprivation (% of male population)	4.6	4.4	5.1	5.2	5.7	5.1	5.1
Share of people living in low work intensity households (% of males aged 0-59)	8.2	8.5	8.0	7.6	9.2	9.0	8.3
Life expectancy at birth (years)	77.3	77.6	77.8	78.0	78.2	78.7	
Healthy life years at birth (years)	62.8	62.8	62.7	62.8	61.8	62.7	
Early leavers from education and training (% of males aged 18-24)	14.3	14.9	13.5	14.3	15.1	13.8	13.4
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.0	9.6	10.0	12.9	12.4	11.6	12.5

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	20.3	20.0	19.8	19.7	20.0	19.9	19.6
At-risk-of-poverty (% of female population)	14.0	13.4	13.4	13.8	13.9	14.5	14.6
Poverty gap (%)	18.4	17.7	14.7	18.0	19.7	16.4	16.2
Persistent at-risk-of-poverty (% of female population)		6.9					
Severe Material Deprivation (% of female population)	5.3	5.0	5.7	5.9	5.8	5.4	5.5
Share of people living in low work intensity households (% of females aged 0-59)	9.9	10.5	9.5	9.1	10.5	9.7	8.5
Life expectancy at birth (years)	84.5	84.8	84.8	85.0	85.3	85.7	
Healthy life years at birth (years)	64.4	64.4	64.6	63.5	63.4	63.6	
Early leavers from education and training (% of females aged 18-24)	10.6	10.3	9.5	10.1	10.0	10.2	9.8
NEET: Young people not in employment, education or training (% of females aged 15-24)	12.0	11.0	10.4	11.9	12.4	12.3	12.0

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	18.1	19.6	21.4	21.2	22.6	23.0	23.2
At-risk-of-poverty (% of Children population)	13.9	15.3	15.9	16.8	17.9	18.8	19.0
Severe Material Deprivation (% of Children population)	5.6	5.4	6.6	6.5	7.0	7.0	7.2
Share of children living in low work intensity households (% of Children population)	6.9	7.7	7.4	6.5	8.8	8.2	7.2
Risk of poverty of children in households at work (Working Intensity > 0.2)	9.2	10.6	11.8	12.8	12.3	13.6	14.3
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	54.9	58.5	54.6	51.5	50.8	47.5	44.3

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	19.4	19.7	18.9	18.9	19.7	20.1	19.8
At-risk-of-poverty (% of Working age population)	12.1	12.3	11.8	11.8	12.4	13.5	13.7
Severe Material Deprivation (% of Working age population)	5.3	4.8	5.5	5.9	6.0	5.2	5.4
Very low work intensity (18-59)	9.9	10.3	9.3	9.0	10.2	9.7	8.8
In-work at-risk-of poverty rate (% of persons employed)	6.0	6.4	6.6	6.6	6.2	7.6	8.0
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	49.6	50.4	46.6	47.8	49.4	43.8	41.0

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	17.5	15.2	13.9	13.4	12.8	11.5	11.1
At-risk-of-poverty (% of Elderly population)	16.1	13.1	11.7	11.9	10.6	9.7	9.4
Severe Material Deprivation (% of Elderly population)	2.9	3.4	3.3	3.2	3.4	2.9	2.4
Relative median income of elderly (ratio with median income of people younger than 65)	0.88	0.91	0.97	0.96	0.99	1.01	1.0
Aggregate replacement ratio (ratio)	0.58	0.60	0.66	0.66	0.67	0.64	0.7

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	8.7	8.6	8.6	9.2	9.2	9.1	
Disability	1.9	1.8	1.8	1.9	2.0	2.0	
Old age and survivors	13.0	13.0	13.4	14.3	14.4	14.5	
Family/Children	2.6	2.6	2.6	2.7	2.7	2.6	
Unemployment	2.1	1.9	1.9	2.1	2.2	2.1	
Housing and Social exclusion n.e.c.	1.4	1.3	1.4	1.6	1.6	1.6	
Total (including Admin and Other expenditures)	31.2	30.9	31.3	33.6	33.8	33.6	
of which: Means tested benefits	3.4	3.3	3.3	3.6	3.6	3.6	

Social Inclusion Indicators: Croatia

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)					30.7	32.3	32.3
At-risk-of-poverty (% of total population)	17.0	18.0	17.3	17.9	20.5	21.3	20.5
At-risk-of-poverty threshold (PPS single person)					4540	4423	4425
Poverty gap (%)	26.0	23.0	25.0	24.4	28.1	27.9	28.8
Persistent at-risk-of-poverty (% of total population)							
At-risk-of-poverty before social transfers excl. pensions (% of total population)	25.0	25.0	25.3	25.5	29.6	30.2	30.4
Impact of social transfers (excl. pensions) in reducing poverty (%)	32.0	28.0	31.6	29.8	30.7	29.5	32.6
Severe Material Deprivation (% of total population)					14.3	14.8	15.4
Share of people living in low work intensity households (% of people aged 0-59)					13.7	15.4	16.1
Gross Household Disposable income adjusted for consumer prices (growth %)	1.3	4.2					
Income quintile share ratio S80/S20	4.4	4.5	4.5	4.3	5.5	5.4	5.4
GINI coefficient	28.0	29.0	28.0	27.0	31.4	31.0	30.5
Early leavers from education and training (% of population aged 18-24)	4.7	3.9	3.7	3.9	3.7	4.1	4.2
NEET: Young people not in employment, education or training (% of total population aged 15-24)	14.2	11.3	10.1	11.9	14.9	15.7	16.7

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)					29.8	31.5	31.2
At-risk-of-poverty (% of male population)	16.0	16.0	15.4	16.0	19.7	20.1	19.4
Poverty gap (%)	26.0	23.0	25.8	25.5	29.1	28.2	30.4
Persistent at-risk-of-poverty (% of male population)							
Severe Material Deprivation (% of male population)					14.4	15.0	15.2
Share of people living in low work intensity households (% of males aged 0-59)					13.6	15.5	16.3
Life expectancy at birth (years)	72.5	72.3		73.0	73.5	73.5	
Healthy life years at birth (years)					57.3	59.8	
Early leavers from education and training (% of males aged 18-24)	5.3	5.1	4.1	4.1	4.6	4.8	4.6
NEET: Young people not in employment, education or training (% of males aged 15-24)	13.9	10.9	9.7	12.1	16.4	17.4	18.0

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)					31.6	33.1	33.3
At-risk-of-poverty (% of female population)	18.0	19.0	19.0	19.7	21.3	22.5	21.6
Poverty gap (%)	25.0	23.0	25.0	23.7	27.0	26.4	27.8
Persistent at-risk-of-poverty (% of female population)							
Severe Material Deprivation (% of female population)					14.2	14.5	15.7
Share of people living in low work intensity households (% of females aged 0-59)					13.7	15.2	16.0
Life expectancy at birth (years)	79.3	79.3		79.7	79.9	79.9	
Healthy life years at birth (years)					60.7	61.7	
Early leavers from education and training (% of females aged 18-24)	4.1	2.6	3.3	3.6	2.6	3.4	3.6
NEET: Young people not in employment, education or training (% of females aged 15-24)	14.5	11.8	10.6	11.6	13.2	14.0	15.2

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)					28.9	31.4	33.8
At-risk-of-poverty (% of Children population)	16.0	16.0	15.8	18.7	19.6	21.9	22.3
Severe Material Deprivation (% of Children population)					14.6	13.8	17.6
Share of children living in low work intensity households (% of Children population)					11.6	13.3	14.9
Risk of poverty of children in households at work (Working Intensity > 0.2)					11.2	14.0	13.2
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	36.0	40.7	45.7	35.3	35.7	33.8	34.0

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)					29.5	31.7	31.5
At-risk-of-poverty (% of Working age population)	13.0	14.0	12.8	13.5	18.0	18.8	18.0
Severe Material Deprivation (% of Working age population)					13.7	14.8	14.9
Very low work intensity (18-59)					14.3	16.1	16.6
In-work at-risk-of poverty rate (% of persons employed)					6.0	6.9	6.2
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	35.0	30.0	37.6	35.7	31.8	31.6	34.8

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)					36.2	35.1	33.2
At-risk-of-poverty (% of Elderly population)	31.0	30.0	31.2	31.3	29.1	28.5	26.5
Severe Material Deprivation (% of Elderly population)					15.7	15.7	15.0
Relative median income of elderly (ratio with median income of people younger than 65)	0.77	0.75	0.75	0.76	0.80	0.84	0.9
Aggregate replacement ratio (ratio)	0.46	0.50	0.47	0.49	0.32	0.36	0.4

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care			6.3	7.1	7.0	6.8	
Disability			3.2	3.5	3.6	3.5	
Old age and survivors			6.9	7.6	7.7	7.7	
Family/Children			1.5	1.6	1.7	1.6	
Unemployment			0.2	0.4	0.5	0.5	
Housing and Social exclusion n.e.c.			0.1	0.1	0.1	0.1	
Total (including Admin and Other expenditures)			18.7	20.8	21.0	20.6	
of which: Means tested benefits			1.2	1.3	1.3	1.4	

Social Inclusion Indicators: Italy

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	25.9	26.0	25.3	24.7	24.5	28.2	29.9
At-risk-of-poverty (% of total population)	19.6	19.8	18.7	18.4	18.2	19.6	19.4
At-risk-of-poverty threshold (PPS single person)	8323	8640	9157	9158	9135	9308	9210
Poverty gap (%)	24.2	22.4	23.0	22.6	24.5	26.0	25.4
Persistent at-risk-of-poverty (% of total population)		14.6	12.7	13.0	11.6	11.8	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	23.9	24.1	23.4	23.2	23.3	24.4	24.4
Impact of social transfers (excl. pensions) in reducing poverty (%)	18.0	17.8	20.1	20.7	21.9	19.7	20.5
Severe Material Deprivation (% of total population)	6.3	6.8	7.5	7.0	6.9	11.2	14.5
Share of people living in low work intensity households (% of people aged 0-59)	10.8	10.0	9.8	8.8	10.2	10.4	10.3
Gross Household Disposable income adjusted for consumer prices (growth %)	1.4	1.3	-1.6	-3.4	-0.9	-0.8	-4.9
Income quintile share ratio S80/S20	5.5	5.5	5.1	5.2	5.2	5.6	5.5
GINI coefficient	32.1	32.2	31.0	31.5	31.2	31.9	31.9
Early leavers from education and training (% of population aged 18-24)	20.6	19.7	19.7	19.2	18.8	18.2	17.6
NEET: Young people not in employment, education or training (% of total population aged 15-24)	16.8	16.2	16.6	17.7	19.1	19.8	21.1

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	23.9	23.8	23.2	22.8	22.6	26.4	28.0
At-risk-of-poverty (% of male population)	18.0	18.4	17.1	17.0	16.8	18.3	18.1
Poverty gap (%)	24.5	23.6	23.1	22.4	24.6	27.1	27.2
Persistent at-risk-of-poverty (% of male population)		13.4	11.5	11.8	9.9	10.8	
Severe Material Deprivation (% of male population)	5.9	6.4	7.2	6.7	6.7	10.9	14.1
Share of people living in low work intensity households (% of males aged 0-59)	9.3	8.5	8.3	7.4	8.8	9.2	9.1
Life expectancy at birth (years)	78.5	78.7	79.1	79.4	79.8	80.1	
Healthy life years at birth (years)	65.2	63.3	63.0	63.4	67.6	63.4	
Early leavers from education and training (% of males aged 18-24)	23.9	22.9	22.6	22.0	22.0	21.0	20.5
NEET: Young people not in employment, education or training (% of males aged 15-24)	15.4	15.1	15.2	17.1	19.0	19.5	21.2

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	27.9	28.1	27.2	26.4	26.3	29.9	31.7
At-risk-of-poverty (% of female population)	21.1	21.2	20.1	19.8	19.5	20.8	20.7
Poverty gap (%)	23.9	21.9	23.0	22.9	24.2	25.3	24.1
Persistent at-risk-of-poverty (% of female population)		15.6	13.7	14.1	13.3	12.7	
Severe Material Deprivation (% of female population)	6.6	7.2	7.8	7.3	7.1	11.4	14.9
Share of people living in low work intensity households (% of females aged 0-59)	12.4	11.6	11.3	10.3	11.6	11.6	11.5
Life expectancy at birth (years)	84.2	84.2	84.5	84.6	85.0	85.3	
Healthy life years at birth (years)	64.7	62.5	61.9	62.6	67.6	62.7	
Early leavers from education and training (% of females aged 18-24)	17.1	16.4	16.7	16.3	15.4	15.2	14.5
NEET: Young people not in employment, education or training (% of females aged 15-24)	18.3	17.3	18.0	18.3	19.2	20.1	21.0

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	28.4	29.3	29.1	28.8	28.9	32.2	33.8
At-risk-of-poverty (% of Children population)	24.5	25.4	24.7	24.4	24.7	26.3	26.0
Severe Material Deprivation (% of Children population)	6.7	7.9	9.3	8.3	8.0	12.2	16.9
Share of children living in low work intensity households (% of Children population)	6.9	6.6	6.5	5.8	7.3	7.6	6.8
Risk of poverty of children in households at work (Working Intensity > 0.2)	21.0	21.5	20.9	21.3	20.3	21.7	22.1
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	23.2	21.6	22.6	23.3	24.5	20.3	21.5

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	25.7	25.3	24.5	24.1	24.7	28.4	30.4
At-risk-of-poverty (% of Working age population)	17.6	17.6	16.3	16.4	16.9	18.5	18.6
Severe Material Deprivation (% of Working age population)	6.3	6.7	7.3	7.1	6.8	11.0	14.3
Very low work intensity (18-59)	12.1	11.1	10.8	9.7	11.1	11.2	11.4
In-work at-risk-of poverty rate (% of persons employed)	9.7	9.9	9.0	10.2	9.5	10.8	11.1
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	19.6	19.3	22.4	23.0	23.9	21.6	22.2

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	24.6	25.3	24.4	22.8	20.3	24.1	25.2
At-risk-of-poverty (% of Elderly population)	21.7	21.9	20.9	19.6	16.6	17.0	16.3
Severe Material Deprivation (% of Elderly population)	5.8	6.3	6.7	5.7	6.3	10.9	13.0
Relative median income of elderly (ratio with median income of people younger than 65)	0.87	0.86	0.88	0.89	0.92	0.92	1.0
Aggregate replacement ratio (ratio)	0.58	0.49	0.51	0.51	0.53	0.55	0.6

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.8	6.6	6.9	7.3	7.3	7.1	
Disability	1.5	1.5	1.6	1.7	1.7	1.6	
Old age and survivors	15.5	15.5	16.1	17.1	17.4	17.4	
Family/Children	1.2	1.2	1.3	1.4	1.3	1.4	
Unemployment	0.5	0.4	0.5	0.8	0.8	0.8	
Housing and Social exclusion n.e.c.	0.1	0.1	0.1	0.1	0.1	0.1	
Total (including Admin and Other expenditures)	26.6	26.6	27.7	29.9	29.9	29.7	
of which: Means tested benefits	1.6	1.7	1.8	2.0	1.8	1.8	

Social Inclusion Indicators: Cyprus

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	25.4	25.2	23.3	23.5	24.6	24.6	27.1
At-risk-of-poverty (% of total population)	15.6	15.5	15.9	15.8	15.6	14.8	14.7
At-risk-of-poverty threshold (PPS single person)	9817	10951	10945	11256	10829	11394	11429
Poverty gap (%)	18.9	19.7	15.3	17.2	18.0	19.0	19.0
Persistent at-risk-of-poverty (% of total population)			10.4	10.5	10.3	10.6	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	21.6	21.0	22.9	23.6	23.5	23.5	23.5
Impact of social transfers (excl. pensions) in reducing poverty (%)	27.8	26.2	30.6	33.1	33.6	37.0	37.5
Severe Material Deprivation (% of total population)	12.6	13.3	9.1	9.5	11.2	11.7	15.0
Share of people living in low work intensity households (% of people aged 0-59)	3.8	3.7	4.5	4.0	4.8	4.9	6.4
Gross Household Disposable income adjusted for consumer prices (growth %)	5.3	6.8	5.7	-0.2	3.4	0.7	-9.4
Income quintile share ratio S80/S20	4.3	4.4	4.3	4.4	4.5	4.3	4.7
GINI coefficient	28.8	29.8	29.0	29.5	30.1	29.2	31.0
Early leavers from education and training (% of population aged 18-24)	14.9	12.5	13.7	11.7	12.7	11.3	11.4
NEET: Young people not in employment, education or training (% of total population aged 15-24)	10.7	9.0	9.7	9.9	11.7	14.6	16.0

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	23.3	22.7	20.5	20.9	22.8	22.8	25.1
At-risk-of-poverty (% of male population)	13.5	13.5	13.7	13.7	13.8	12.9	12.9
Poverty gap (%)	17.2	18.3	14.0	14.6	16.6	17.9	18.3
Persistent at-risk-of-poverty (% of male population)			8.5	7.7	8.2	9.8	
Severe Material Deprivation (% of male population)	12.5	12.5	9.0	9.1	11.5	12.0	15.1
Share of people living in low work intensity households (% of males aged 0-59)	2.6	2.9	3.3	3.0	4.2	4.2	5.8
Life expectancy at birth (years)	78.4	77.9	78.5	78.6	79.2	79.3	
Healthy life years at birth (years)	64.2	63.2	64.5	64.9	65.1	62.4	
Early leavers from education and training (% of males aged 18-24)	22.5	19.5	19.0	15.2	16.2	15.1	16.5
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.2	8.3	8.2	8.6	10.4	15.1	17.8

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	27.4	27.6	25.9	26.0	26.3	26.4	29.0
At-risk-of-poverty (% of female population)	17.7	17.4	18.1	17.8	17.2	16.6	16.4
Poverty gap (%)	19.8	20.5	16.3	19.3	20.1	19.7	19.4
Persistent at-risk-of-poverty (% of female population)			12.2	13.0	12.1	11.3	
Severe Material Deprivation (% of female population)	12.7	14.0	9.3	9.8	10.9	11.4	14.9
Share of people living in low work intensity households (% of females aged 0-59)	5.0	4.5	5.7	5.0	5.5	5.5	7.1
Life expectancy at birth (years)	82.2	82.2	83.1	83.6	83.9	83.1	
Healthy life years at birth (years)	63.4	62.9	65.4	65.6	64.2	61.4	
Early leavers from education and training (% of females aged 18-24)	8.2	6.8	9.5	8.7	9.8	8.1	7.0
NEET: Young people not in employment, education or training (% of females aged 15-24)	11.2	9.6	10.9	11.1	12.8	14.2	14.4

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	21.3	20.8	21.5	20.2	21.8	23.4	27.5
At-risk-of-poverty (% of Children population)	11.5	12.4	14.0	12.3	12.6	12.8	13.9
Severe Material Deprivation (% of Children population)	12.1	11.7	9.7	9.3	12.5	14.8	18.1
Share of children living in low work intensity households (% of Children population)	3.0	2.8	3.4	3.1	3.6	3.2	5.0
Risk of poverty of children in households at work (Working Intensity > 0.2)	10.4	10.5	12.5	10.6	10.6	11.2	11.6
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	43.4	37.7	44.0	51.4	49.6	47.1	45.5

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	21.4	21.1	18.9	19.9	22.1	22.1	25.8
At-risk-of-poverty (% of Working age population)	10.6	10.1	10.8	11.2	11.9	11.5	12.2
Severe Material Deprivation (% of Working age population)	12.3	12.7	8.6	9.5	11.5	11.6	15.5
Very low work intensity (18-59)	4.1	4.0	4.9	4.3	5.3	5.4	6.9
In-work at-risk-of poverty rate (% of persons employed)	7.2	6.3	6.3	6.8	7.4	7.3	8.0
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	34.2	34.0	36.5	38.1	37.4	42.5	41.9

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	55.6	55.6	49.3	48.6	42.6	39.8	33.4
At-risk-of-poverty (% of Elderly population)	51.9	50.6	46.3	46.4	39.9	35.5	29.3
Severe Material Deprivation (% of Elderly population)	15.3	19.4	10.9	9.5	7.3	7.1	7.5
Relative median income of elderly (ratio with median income of people younger than 65)	0.57	0.57	0.59	0.61	0.65	0.67	0.7
Aggregate replacement ratio (ratio)	0.28	0.29	0.33	0.37	0.37	0.39	0.4

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	4.6	4.5	4.5	5.1	5.0	5.1	
Disability	0.7	0.7	0.7	0.8	0.7	0.8	
Old age and survivors	8.3	8.3	8.4	9.3	10.2	10.8	
Family/Children	1.9	1.9	2.1	2.2	2.1	2.0	
Unemployment	1.2	0.9	1.0	1.0	1.1	1.2	
Housing and Social exclusion n.e.c.	1.3	1.6	1.9	2.5	2.7	2.6	
Total (including Admin and Other expenditures)	18.5	18.2	19.5	21.1	22.1	22.8	
of which: Means tested benefits	1.6	1.8	2.2	2.8	3.0	2.9	

Social Inclusion Indicators: Latvia

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	41.4	36.0	33.8	37.4	38.1	40.4	36.6
At-risk-of-poverty (% of total population)	23.1	21.2	25.6	25.7	21.3	19.1	19.4
At-risk-of-poverty threshold (PPS single person)	2668	3309	4354	4378	3585	3400	3609
Poverty gap (%)	24.9	24.6	28.6	28.9	29.4	31.8	28.4
Persistent at-risk-of-poverty (% of total population)			12.6	17.1	11.0	9.3	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	27.8	27.2	30.2	30.3	29.1	27.3	26.1
Impact of social transfers (excl. pensions) in reducing poverty (%)	16.9	22.1	15.2	15.2	26.8	30.0	25.7
Severe Material Deprivation (% of total population)	30.6	24.9	19.0	21.9	27.4	31.4	26.0
Share of people living in low work intensity households (% of people aged 0-59)	7.0	6.1	5.1	6.7	12.2	12.6	11.5
Gross Household Disposable income adjusted for consumer prices (growth %)	14.9	11.5	4.9	-18.4	-3.2	0.2	4.9
Income quintile share ratio S80/S20	7.9	6.3	7.3	7.3	6.9	6.6	6.5
GINI coefficient	39.2	35.4	37.7	37.4	36.1	35.4	35.9
Early leavers from education and training (% of population aged 18-24)	14.8	15.1	15.5	13.9	13.3	11.6	10.6
NEET: Young people not in employment, education or training (% of total population aged 15-24)	11.1	11.8	11.4	17.4	17.8	16.0	14.9

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	38.7	34.1	31.0	35.9	37.6	40.1	35.9
At-risk-of-poverty (% of male population)	21.1	19.3	23.1	24.2	21.7	20.0	19.5
Poverty gap (%)	28.7	27.3	27.4	31.3	32.4	34.3	31.9
Persistent at-risk-of-poverty (% of male population)			10.7	14.6	10.8	9.5	
Severe Material Deprivation (% of male population)	28.5	23.5	17.3	21.3	26.8	30.7	25.1
Share of people living in low work intensity households (% of males aged 0-59)	7.0	6.1	5.5	7.2	13.4	13.2	12.4
Life expectancy at birth (years)	65.4	65.8	67.0	68.1	68.6	68.6	
Healthy life years at birth (years)	50.8	51.0	51.8	52.8	53.5	53.7	
Early leavers from education and training (% of males aged 18-24)	18.9	20.0	20.2	17.5	17.2	15.8	14.7
NEET: Young people not in employment, education or training (% of males aged 15-24)	7.9	10.1	9.8	18.9	18.5	16.1	15.1

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	43.6	37.7	36.2	38.7	38.5	40.7	37.3
At-risk-of-poverty (% of female population)	24.8	22.7	27.7	27.0	21.0	18.4	19.4
Poverty gap (%)	22.5	23.6	29.7	27.9	25.8	29.2	25.6
Persistent at-risk-of-poverty (% of female population)			14.2	19.2	11.1	9.2	
Severe Material Deprivation (% of female population)	32.3	26.1	20.4	22.5	27.9	31.9	26.7
Share of people living in low work intensity households (% of females aged 0-59)	7.0	6.0	4.8	6.2	11.0	12.0	10.7
Life expectancy at birth (years)	76.3	76.5	77.8	78.0	78.4	78.8	
Healthy life years at birth (years)	52.5	54.1	54.6	56.2	56.7	56.7	
Early leavers from education and training (% of females aged 18-24)	10.4	10.1	10.7	10.4	9.4	7.5	6.3
NEET: Young people not in employment, education or training (% of females aged 15-24)	14.3	13.6	13.2	15.8	17.1	16.0	14.6

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	42.7	33.9	33.2	38.0	42.0	44.6	40.5
At-risk-of-poverty (% of Children population)	25.8	20.5	24.6	25.7	26.6	25.0	24.7
Severe Material Deprivation (% of Children population)	30.0	21.5	19.8	24.3	30.5	33.5	27.8
Share of children living in low work intensity households (% of Children population)	6.4	5.0	4.4	5.9	12.5	12.9	10.7
Risk of poverty of children in households at work (Working Intensity > 0.2)	21.1	17.7	21.3	21.5	18.7	17.4	18.4
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	18.1	31.0	22.6	21.9	28.1	33.2	28.6

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	38.5	33.1	28.1	32.8	37.0	41.3	36.2
At-risk-of-poverty (% of Working age population)	20.6	18.3	19.6	20.3	20.5	20.2	19.4
Severe Material Deprivation (% of Working age population)	28.9	23.4	16.5	20.4	26.4	31.4	25.3
Very low work intensity (18-59)	7.2	6.4	5.4	6.9	12.1	12.5	11.8
In-work at-risk-of poverty rate (% of persons employed)	11.2	9.9	11.2	11.5	9.9	9.6	9.1
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	18.6	23.8	18.7	18.5	27.3	29.1	25.4

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	51.3	50.3	58.1	55.5	37.7	32.9	34.0
At-risk-of-poverty (% of Elderly population)	29.8	33.3	51.2	47.5	18.8	8.9	14.0
Severe Material Deprivation (% of Elderly population)	38.1	35.3	28.2	25.3	27.5	29.0	26.6
Relative median income of elderly (ratio with median income of people younger than 65)	0.67	0.66	0.54	0.58	0.77	0.86	0.8
Aggregate replacement ratio (ratio)	0.49	0.38	0.30	0.35	0.46	0.53	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	3.8	3.4	3.7	3.9	3.7	3.2	
Disability	0.9	0.7	0.9	1.3	1.3	1.3	
Old age and survivors	5.8	5.0	5.7	7.9	9.4	8.1	
Family/Children	1.2	1.2	1.4	1.7	1.5	1.1	
Unemployment	0.5	0.4	0.5	1.6	1.3	0.7	
Housing and Social exclusion n.e.c.	0.2	0.2	0.3	0.3	0.4	0.4	
Total (including Admin and Other expenditures)	12.7	11.3	12.7	16.9	17.8	15.1	
of which: Means tested benefits	0.2	0.2	0.2	0.3	0.7	0.7	

Social Inclusion Indicators: Lithuania

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	35.9	28.7	27.6	29.5	33.4	33.1	32.5
At-risk-of-poverty (% of total population)	20.0	19.1	20.0	20.6	20.2	19.2	18.6
At-risk-of-poverty threshold (PPS single person)	2772	3428	4170	4381	3642	3563	3957
Poverty gap (%)	29.1	25.7	25.7	23.1	32.6	29.0	22.6
Persistent at-risk-of-poverty (% of total population)			10.9	11.7	7.6	7.5	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	26.6	25.5	27.2	29.4	31.8	30.2	28.4
Impact of social transfers (excl. pensions) in reducing poverty (%)	24.8	25.1	26.5	29.9	36.5	36.4	34.5
Severe Material Deprivation (% of total population)	25.3	16.6	12.3	15.1	19.5	19.0	19.8
Share of people living in low work intensity households (% of people aged 0-59)	8.3	6.4	5.1	6.9	9.2	12.6	11.3
Gross Household Disposable income adjusted for consumer prices (growth %)	10.5	5.6	6.6	-11.2	-0.4	0.4	0.6
Income quintile share ratio S80/S20	6.3	5.9	5.9	6.3	7.3	5.8	5.3
GINI coefficient	35.0	33.8	34.0	35.5	36.9	33.0	32.0
Early leavers from education and training (% of population aged 18-24)	8.2	7.4	7.4	8.7	7.9	7.4	6.5
NEET: Young people not in employment, education or training (% of total population aged 15-24)	8.2	7.0	8.9	12.4	13.2	11.8	11.2

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	33.9	26.3	25.3	27.3	32.9	33.0	31.4
At-risk-of-poverty (% of male population)	19.1	16.7	17.6	19.1	20.7	19.1	18.1
Poverty gap (%)	30.6	28.2	28.9	27.8	37.0	29.1	24.3
Persistent at-risk-of-poverty (% of male population)			10.2	9.2	6.8	8.4	
Severe Material Deprivation (% of male population)	23.6	15.8	11.7	14.3	19.5	18.7	19.0
Share of people living in low work intensity households (% of males aged 0-59)	8.3	6.5	5.1	7.3	9.6	12.8	11.7
Life expectancy at birth (years)	65.3	64.8	66.3	67.5	68.0	68.1	
Healthy life years at birth (years)	52.6	53.6	54.8	57.2	57.8	57.1	
Early leavers from education and training (% of males aged 18-24)	10.5	9.6	10.0	11.5	9.8	10.0	8.1
NEET: Young people not in employment, education or training (% of males aged 15-24)	8.0	6.2	8.6	14.1	14.7	13.1	12.8

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	37.7	30.9	29.7	31.4	33.8	33.3	33.4
At-risk-of-poverty (% of female population)	20.8	21.2	22.0	21.9	19.8	19.3	19.0
Poverty gap (%)	24.7	23.5	25.0	20.7	28.9	29.0	22.0
Persistent at-risk-of-poverty (% of female population)			11.5	13.8	8.4	6.8	
Severe Material Deprivation (% of female population)	26.7	17.3	12.9	15.7	19.5	19.3	20.5
Share of people living in low work intensity households (% of females aged 0-59)	8.2	6.3	5.0	6.6	8.7	12.4	10.9
Life expectancy at birth (years)	77.0	77.2	77.6	78.7	78.9	79.3	
Healthy life years at birth (years)	56.5	58.2	59.9	61.2	62.4	62.1	
Early leavers from education and training (% of females aged 18-24)	5.8	5.1	4.7	5.7	6.0	4.6	4.6
NEET: Young people not in employment, education or training (% of females aged 15-24)	8.4	7.8	9.3	10.7	11.6	10.4	9.5

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	37.2	29.9	29.4	31.0	34.3	34.6	31.9
At-risk-of-poverty (% of Children population)	25.1	22.1	22.8	23.7	23.3	25.2	20.8
Severe Material Deprivation (% of Children population)	24.0	15.9	12.3	14.8	19.7	16.7	16.9
Share of children living in low work intensity households (% of Children population)	7.5	6.4	3.6	5.2	5.5	11.6	9.2
Risk of poverty of children in households at work (Working Intensity > 0.2)	19.9	17.3	20.9	20.5	20.3	18.5	15.5
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	22.5	24.3	29.9	36.5	46.6	37.3	41.1

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	34.2	25.8	24.5	27.5	34.0	33.3	31.7
At-risk-of-poverty (% of Working age population)	17.8	15.6	16.8	18.5	21.8	20.2	17.9
Severe Material Deprivation (% of Working age population)	24.2	15.8	11.3	14.3	18.5	18.0	19.5
Very low work intensity (18-59)	8.5	6.4	5.5	7.5	10.3	13.0	12.0
In-work at-risk-of poverty rate (% of persons employed)	10.1	8.1	9.5	10.6	12.4	9.6	7.7
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	28.2	30.4	30.9	31.7	33.7	37.3	36.3

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	41.3	39.1	38.1	35.8	30.0	30.9	35.7
At-risk-of-poverty (% of Elderly population)	22.0	29.8	29.5	25.2	10.2	9.7	18.7
Severe Material Deprivation (% of Elderly population)	31.5	20.8	16.5	18.6	23.7	25.1	24.1
Relative median income of elderly (ratio with median income of people younger than 65)	0.74	0.69	0.71	0.73	0.92	0.90	0.8
Aggregate replacement ratio (ratio)	0.44	0.40	0.44	0.48	0.60	0.52	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	4.1	4.3	4.6	5.5	4.8	4.5	
Disability	1.3	1.4	1.6	2.1	1.8	1.6	
Old age and survivors	5.7	6.5	6.9	9.0	8.0	7.2	
Family/Children	1.1	1.2	1.8	2.8	2.2	1.7	
Unemployment	0.4	0.4	0.4	0.9	0.8	0.6	
Housing and Social exclusion n.e.c.	0.2	0.2	0.2	0.4	0.7	0.8	
Total (including Admin and Other expenditures)	13.3	14.4	16.1	21.2	19.1	17.0	
of which: Means tested benefits	0.2	0.2	0.3	0.5	1.0	1.0	

Social Inclusion Indicators: Luxembourg

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	16.5	15.9	15.5	17.8	17.1	16.8	18.4
At-risk-of-poverty (% of total population)	14.1	13.5	13.4	14.9	14.5	13.6	15.1
At-risk-of-poverty threshold (PPS single person)	15851	16108	16166	16265	15981	16001	15996
Poverty gap (%)	19.7	18.8	16.6	17.6	18.6	15.7	15.0
Persistent at-risk-of-poverty (% of total population)		8.9	8.4	8.8	6.0	6.5	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	23.6	23.4	23.6	27.0	29.1	27.2	29.0
Impact of social transfers (excl. pensions) in reducing poverty (%)	40.3	42.3	43.2	44.8	50.2	50.0	47.9
Severe Material Deprivation (% of total population)	1.1	0.8	0.7	1.1	0.5	1.2	1.3
Share of people living in low work intensity households (% of people aged 0-59)	5.2	5.0	4.7	6.3	5.5	5.8	6.1
Gross Household Disposable income adjusted for consumer prices (growth %)			-74.6	4.3	0.3	-1.7	
Income quintile share ratio S80/S20	4.2	4.0	4.1	4.3	4.1	4.0	4.1
GINI coefficient	27.8	27.4	27.7	29.2	27.9	27.2	28.0
Early leavers from education and training (% of population aged 18-24)	14.0	12.5	13.4	7.7	7.1	6.2	8.1
NEET: Young people not in employment, education or training (% of total population aged 15-24)	6.7	5.7	6.2	5.8	5.1	4.7	5.9

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	15.8	15.0	14.2	16.0	16.5	15.6	17.3
At-risk-of-poverty (% of male population)	13.8	12.9	12.5	13.8	14.6	12.7	14.7
Poverty gap (%)	19.7	19.1	15.4	16.9	18.6	15.7	14.9
Persistent at-risk-of-poverty (% of male population)		7.9	7.7	7.7	5.2	5.6	
Severe Material Deprivation (% of male population)	0.9	0.8	0.6	0.9	0.4	1.3	1.3
Share of people living in low work intensity households (% of males aged 0-59)	4.5	4.3	3.8	4.9	4.8	5.1	5.1
Life expectancy at birth (years)	76.8	76.7	78.1	78.1	77.9	78.5	
Healthy life years at birth (years)	61.2	62.3	64.8	65.1	64.4	65.8	
Early leavers from education and training (% of males aged 18-24)	17.6	16.6	15.8	8.9	8.0	7.6	10.7
NEET: Young people not in employment, education or training (% of males aged 15-24)	6.1	4.7	4.6	6.0	5.6	4.6	6.3

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	17.1	16.9	16.7	19.6	17.7	18.0	19.4
At-risk-of-poverty (% of female population)	14.3	14.1	14.3	16.0	14.4	14.5	15.6
Poverty gap (%)	20.3	18.7	17.6	19.2	18.8	15.9	15.5
Persistent at-risk-of-poverty (% of female population)		9.8	9.2	9.9	6.9	7.5	
Severe Material Deprivation (% of female population)	1.3	0.8	0.7	1.3	0.7	1.1	1.3
Share of people living in low work intensity households (% of females aged 0-59)	5.9	5.8	5.5	7.8	6.3	6.6	7.1
Life expectancy at birth (years)	81.9	82.2	83.1	83.3	83.5	83.6	
Healthy life years at birth (years)	62.1	64.6	64.4	65.9	66.4	67.1	
Early leavers from education and training (% of females aged 18-24)	10.4	8.4	10.9	6.6	6.0	4.8	5.5
NEET: Young people not in employment, education or training (% of females aged 15-24)	7.3	6.6	7.8	5.5	4.7	4.9	5.5

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	20.4	21.2	20.9	23.7	22.3	21.7	24.6
At-risk-of-poverty (% of Children population)	19.6	19.9	19.8	22.3	21.4	20.3	22.6
Severe Material Deprivation (% of Children population)	1.6	0.7	0.9	1.2	0.2	1.2	1.7
Share of children living in low work intensity households (% of Children population)	3.1	3.5	3.1	4.1	3.2	2.9	4.0
Risk of poverty of children in households at work (Working Intensity > 0.2)	17.9	18.1	18.2	20.3	19.7	19.0	20.8
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	40.2	40.1	41.3	43.7	50.4	50.0	50.7

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	16.8	16.0	15.8	18.2	17.5	17.6	18.8
At-risk-of-poverty (% of Working age population)	13.5	12.7	12.9	14.2	13.9	13.1	14.5
Severe Material Deprivation (% of Working age population)	1.1	0.9	0.7	1.3	0.7	1.4	1.4
Very low work intensity (18-59)	5.9	5.6	5.2	7.1	6.4	6.9	6.8
In-work at-risk-of poverty rate (% of persons employed)	10.3	9.3	9.4	10.1	10.6	9.8	10.3
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	42.3	44.8	44.9	46.2	50.5	50.8	47.3

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	8.3	7.2	5.4	6.2	6.1	4.7	6.1
At-risk-of-poverty (% of Elderly population)	7.9	7.2	5.4	6.0	5.9	4.7	6.1
Severe Material Deprivation (% of Elderly population)	0.4	0.6	0.0	0.2	0.1	0.0	0.0
Relative median income of elderly (ratio with median income of people younger than 65)	0.96	0.96	0.97	1.01	1.05	1.05	1.1
Aggregate replacement ratio (ratio)	0.66	0.61	0.58	0.62	0.68	0.74	0.8

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	5.1	4.9	5.3	6.1	5.8	5.6	
Disability	2.6	2.3	2.4	2.7	2.6	2.6	
Old age and survivors	7.3	7.1	7.6	8.7	8.2	8.3	
Family/Children	3.4	3.1	4.2	4.3	4.0	3.6	
Unemployment	1.0	0.9	1.0	1.3	1.3	1.2	
Housing and Social exclusion n.e.c.	0.6	0.6	0.6	0.9	0.8	0.8	
Total (including Admin and Other expenditures)	20.4	19.3	21.4	24.3	23.1	22.5	
of which: Means tested benefits	0.6	0.6	0.6	0.9	0.8	0.8	

Social Inclusion Indicators: Hungary

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	31.4	29.4	28.2	29.6	29.9	31.0	32.4
At-risk-of-poverty (% of total population)	15.9	12.3	12.4	12.4	12.3	13.8	14.0
At-risk-of-poverty threshold (PPS single person)	3646	3894	3958	4097	4029	4210	4432
Poverty gap (%)	24.1	19.8	17.3	16.3	16.5	18.3	21.0
Persistent at-risk-of-poverty (% of total population)			7.7	8.6	5.7	8.8	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	29.6	29.3	30.4	28.9	28.4	28.9	27.1
Impact of social transfers (excl. pensions) in reducing poverty (%)	46.3	58.0	59.2	57.1	56.7	52.3	48.3
Severe Material Deprivation (% of total population)	20.9	19.9	17.9	20.3	21.6	23.1	25.7
Share of people living in low work intensity households (% of people aged 0-59)	13.0	11.3	12.0	11.3	11.8	12.1	12.7
Gross Household Disposable income adjusted for consumer prices (growth %)	1.4	-3.7	-2.4	-4.2	-2.8	2.9	-4.2
Income quintile share ratio S80/S20	5.5	3.7	3.6	3.5	3.4	3.9	4.0
GINI coefficient	33.3	25.6	25.2	24.7	24.1	26.8	26.9
Early leavers from education and training (% of population aged 18-24)	12.6	11.4	11.7	11.2	10.5	11.2	11.5
NEET: Young people not in employment, education or training (% of total population aged 15-24)	12.4	11.3	11.5	13.4	12.4	13.3	14.7

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	31.1	28.6	27.3	29.1	29.4	30.5	31.8
At-risk-of-poverty (% of male population)	16.3	12.3	12.4	12.8	12.6	14.1	14.2
Poverty gap (%)	25.3	20.5	17.9	16.3	16.9	18.5	21.8
Persistent at-risk-of-poverty (% of male population)			7.8	9.2	6.2	8.9	
Severe Material Deprivation (% of male population)	20.8	19.6	17.3	20.2	21.5	22.7	25.2
Share of people living in low work intensity households (% of males aged 0-59)	12.4	10.8	11.1	10.6	11.2	11.8	12.4
Life expectancy at birth (years)	69.2	69.4	70.0	70.3	70.7	71.2	
Healthy life years at birth (years)	54.4	55.1	54.8	55.9	56.3	57.6	
Early leavers from education and training (% of males aged 18-24)	13.8	12.6	12.5	12.0	11.5	12.1	12.2
NEET: Young people not in employment, education or training (% of males aged 15-24)	11.0	9.9	10.1	12.7	11.8	12.4	13.7

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	31.8	30.1	29.0	30.0	30.3	31.4	33.0
At-risk-of-poverty (% of female population)	15.5	12.3	12.4	12.1	12.0	13.6	13.9
Poverty gap (%)	23.3	18.9	17.0	16.3	15.6	18.0	20.1
Persistent at-risk-of-poverty (% of female population)			7.5	8.1	5.4	8.6	
Severe Material Deprivation (% of female population)	21.0	20.1	18.4	20.4	21.6	23.5	26.1
Share of people living in low work intensity households (% of females aged 0-59)	13.6	11.8	12.8	11.9	12.5	12.4	13.1
Life expectancy at birth (years)	77.8	77.8	78.3	78.4	78.6	78.7	
Healthy life years at birth (years)	57.2	57.8	58.3	58.2	58.6	59.1	
Early leavers from education and training (% of females aged 18-24)	11.4	10.1	10.9	10.4	9.5	10.3	10.7
NEET: Young people not in employment, education or training (% of females aged 15-24)	13.9	12.6	13.0	14.2	13.0	14.1	15.7

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	37.7	34.1	33.4	37.2	38.7	39.6	40.9
At-risk-of-poverty (% of Children population)	24.8	18.8	19.7	20.6	20.3	23.0	22.6
Severe Material Deprivation (% of Children population)	24.8	24.4	21.5	25.5	28.8	29.8	33.4
Share of children living in low work intensity households (% of Children population)	14.0	10.0	11.1	11.9	13.8	14.1	15.7
Risk of poverty of children in households at work (Working Intensity > 0.2)	15.7	12.6	13.3	14.1	12.4	14.7	12.2
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	43.6	57.8	57.7	55.5	57.2	51.6	47.6

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	31.1	29.8	29.1	30.2	30.5	31.7	32.9
At-risk-of-poverty (% of Working age population)	14.5	11.6	12.0	11.9	11.9	13.6	13.6
Severe Material Deprivation (% of Working age population)	20.2	19.0	17.6	20.1	21.3	23.1	25.6
Very low work intensity (18-59)	12.7	11.7	12.3	11.1	11.2	11.5	11.8
In-work at-risk-of poverty rate (% of persons employed)	6.9	5.8	5.8	6.2	5.4	6.1	5.3
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	49.1	59.3	60.3	58.0	57.0	52.3	49.3

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	23.9	21.1	17.5	17.5	16.8	18.0	20.6
At-risk-of-poverty (% of Elderly population)	9.4	6.1	4.3	4.6	4.1	4.5	6.0
Severe Material Deprivation (% of Elderly population)	18.6	17.2	14.4	14.6	14.1	15.5	17.4
Relative median income of elderly (ratio with median income of people younger than 65)	0.94	0.97	1.00	1.02	1.01	1.00	1.0
Aggregate replacement ratio (ratio)	0.54	0.58	0.61	0.62	0.60	0.59	0.6

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.4	5.7	5.6	5.7	5.7	6.3	
Disability	2.2	2.1	2.1	2.1	1.9	1.7	
Old age and survivors	9.3	9.8	10.2	11.3	10.4	10.5	
Family/Children	2.8	2.8	2.9	3.0	3.0	2.9	
Unemployment	0.7	0.8	0.8	1.0	0.9	0.8	
Housing and Social exclusion n.e.c.	0.7	1.1	0.9	0.8	0.7	0.5	
Total (including Admin and Other expenditures)	22.5	22.7	22.9	24.3	23.1	23.0	
of which: Means tested benefits	1.0	1.4	1.2	1.2	1.1	1.0	

Social Inclusion Indicators: Malta

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	19.1	19.4	19.6	20.2	20.3	21.4	22.2
At-risk-of-poverty (% of total population)	14.0	14.8	15.0	15.3	15.0	15.4	15.0
At-risk-of-poverty threshold (PPS single person)	7253	7464	7994	8262	7987	8420	8780
Poverty gap (%)	18.0	17.2	20.4	16.2	17.2	17.7	16.0
Persistent at-risk-of-poverty (% of total population)			7.7	7.7	9.1	11.4	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	21.1	21.2	22.7	23.1	22.6	22.9	23.5
Impact of social transfers (excl. pensions) in reducing poverty (%)	33.7	30.2	33.9	33.8	33.6	32.8	36.2
Severe Material Deprivation (% of total population)	3.7	4.2	4.0	4.7	5.7	6.3	8.0
Share of people living in low work intensity households (% of people aged 0-59)	9.2	9.2	8.2	8.4	8.4	8.3	7.9
Gross Household Disposable income adjusted for consumer prices (growth %)							
Income quintile share ratio S80/S20	4.0	3.9	4.2	4.0	4.3	4.1	3.9
GINI coefficient	27.0	26.3	27.9	27.2	28.4	27.4	27.2
Early leavers from education and training (% of population aged 18-24)	33.1	32.7	29.3	28.0	25.9	23.6	22.6
NEET: Young people not in employment, education or training (% of total population aged 15-24)	10.7	11.7	8.3	9.8	9.5	10.6	11.1

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	17.6	18.3	18.2	19.0	19.4	20.6	21.2
At-risk-of-poverty (% of male population)	13.3	14.4	13.6	14.7	14.5	15.0	14.4
Poverty gap (%)	17.8	16.4	21.7	15.9	17.3	17.2	16.2
Persistent at-risk-of-poverty (% of male population)			7.7	6.3	8.4	10.2	
Severe Material Deprivation (% of male population)	3.5	3.8	3.8	4.5	5.6	6.2	7.6
Share of people living in low work intensity households (% of males aged 0-59)	7.6	7.8	6.5	6.5	6.7	6.7	6.5
Life expectancy at birth (years)	77.0	77.5	77.1	77.9	79.2	78.6	
Healthy life years at birth (years)	68.3	69.1	69.0	69.4	70.2	70.3	
Early leavers from education and training (% of males aged 18-24)	37.5	36.9	32.6	32.0	32.6	29.6	27.5
NEET: Young people not in employment, education or training (% of males aged 15-24)	10.4	12.2	6.9	9.4	8.1	9.9	10.1

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	20.6	20.6	21.0	21.4	21.2	22.2	23.2
At-risk-of-poverty (% of female population)	14.7	15.3	16.4	15.9	15.5	15.8	15.5
Poverty gap (%)	18.1	18.2	18.8	16.7	16.6	18.0	16.0
Persistent at-risk-of-poverty (% of female population)			7.8	9.0	9.7	12.6	
Severe Material Deprivation (% of female population)	3.9	4.5	4.2	4.9	5.8	6.4	8.5
Share of people living in low work intensity households (% of females aged 0-59)	10.8	10.8	9.9	10.3	10.2	9.9	9.3
Life expectancy at birth (years)	81.9	82.2	82.3	82.7	83.6	83.0	
Healthy life years at birth (years)	69.5	71.1	72.3	71.0	71.6	70.7	
Early leavers from education and training (% of females aged 18-24)	28.5	28.1	25.7	23.5	18.5	17.1	17.6
NEET: Young people not in employment, education or training (% of females aged 15-24)	11.1	11.3	9.9	10.3	11.0	11.4	12.2

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	20.8	23.1	23.5	25.5	24.3	25.8	29.7
At-risk-of-poverty (% of Children population)	16.7	19.0	19.3	20.9	19.9	21.1	22.7
Severe Material Deprivation (% of Children population)	4.4	5.8	5.6	6.5	6.5	7.0	10.0
Share of children living in low work intensity households (% of Children population)	8.3	9.4	9.2	8.9	8.6	8.3	8.6
Risk of poverty of children in households at work (Working Intensity > 0.2)	11.8	13.3	13.4	16.3	14.5	16.2	17.9
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	37.7	31.9	34.4	33.4	32.8	30.4	33.4

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	17.1	17.5	17.0	17.9	18.8	20.1	20.1
At-risk-of-poverty (% of Working age population)	11.2	12.3	11.8	12.5	12.9	13.1	12.2
Severe Material Deprivation (% of Working age population)	3.3	3.9	3.7	4.3	5.7	6.5	7.9
Very low work intensity (18-59)	9.5	9.2	7.8	8.2	8.4	8.3	7.7
In-work at-risk-of poverty rate (% of persons employed)	4.1	4.5	5.0	5.7	5.6	6.1	5.7
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	38.1	33.9	38.9	36.9	35.8	35.8	39.9

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	26.3	23.1	26.4	23.2	21.5	21.5	21.9
At-risk-of-poverty (% of Elderly population)	24.2	20.7	24.7	20.9	18.0	18.1	17.4
Severe Material Deprivation (% of Elderly population)	4.3	3.0	3.0	4.1	4.7	4.6	6.0
Relative median income of elderly (ratio with median income of people younger than 65)	0.79	0.77	0.73	0.76	0.81	0.80	0.8
Aggregate replacement ratio (ratio)	0.47	0.48	0.42	0.47	0.46	0.47	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	5.0	5.1	5.3	6.0	5.6	5.5	
Disability	1.1	1.1	1.0	0.9	0.8	0.8	
Old age and survivors	9.3	9.1	9.3	10.1	10.5	10.2	
Family/Children	1.1	1.0	1.2	1.2	1.2	1.2	
Unemployment	0.6	0.5	0.5	0.6	0.5	0.5	
Housing and Social exclusion n.e.c.	0.5	0.6	0.6	0.5	0.5	0.5	
Total (including Admin and Other expenditures)	17.7	17.7	18.1	19.6	19.4	18.9	
of which: Means tested benefits	3.1	3.1	2.5	2.6	2.5	2.5	

Social Inclusion Indicators: Netherlands

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	16.0	15.7	14.9	15.1	15.1	15.7	15.0
At-risk-of-poverty (% of total population)	9.7	10.2	10.5	11.1	10.3	11.0	10.1
At-risk-of-poverty threshold (PPS single person)	9897	10522	11485	11618	11302	11251	11404
Poverty gap (%)	16.9	17.0	14.9	16.5	16.2	15.5	17.3
Persistent at-risk-of-poverty (% of total population)			6.4	4.7	8.2	7.7	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	21.0	20.6	19.9	20.5	21.1	20.9	20.6
Impact of social transfers (excl. pensions) in reducing poverty (%)	53.8	50.5	47.2	45.9	51.2	47.4	51.0
Severe Material Deprivation (% of total population)	2.3	1.7	1.5	1.4	2.2	2.5	2.3
Share of people living in low work intensity households (% of people aged 0-59)	10.7	9.5	8.1	8.3	8.2	8.7	8.7
Gross Household Disposable income adjusted for consumer prices (growth %)	1.3	2.9	-1.2	-2.1	0.6	-0.9	-2.9
Income quintile share ratio S80/S20	3.8	4.0	4.0	4.0	3.7	3.8	3.6
GINI coefficient	26.4	27.6	27.6	27.2	25.5	25.8	25.4
Early leavers from education and training (% of population aged 18-24)	12.6	11.7	11.4	10.9	10.0	9.1	8.8
NEET: Young people not in employment, education or training (% of total population aged 15-24)	4.0	3.5	3.4	4.1	4.3	3.8	4.3

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	14.6	14.6	14.3	14.3	14.1	14.9	13.6
At-risk-of-poverty (% of male population)	9.5	9.6	10.5	10.8	9.7	10.8	9.5
Poverty gap (%)	18.9	17.5	14.6	16.9	15.1	15.3	17.3
Persistent at-risk-of-poverty (% of male population)			6.9	5.4	6.8	8.1	
Severe Material Deprivation (% of male population)	1.7	1.7	1.5	1.4	2.3	2.4	2.3
Share of people living in low work intensity households (% of males aged 0-59)	8.9	8.4	6.9	7.5	7.3	7.9	7.7
Life expectancy at birth (years)	77.7	78.1	78.4	78.7	78.9	79.4	
Healthy life years at birth (years)	65.2	66.1	62.4	61.7	61.3	64.0	
Early leavers from education and training (% of males aged 18-24)	15.1	14.0	14.0	13.1	12.1	10.8	10.2
NEET: Young people not in employment, education or training (% of males aged 15-24)	3.7	3.1	3.1	4.1	4.4	3.7	3.9

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	17.4	16.9	15.5	15.9	16.0	16.6	16.3
At-risk-of-poverty (% of female population)	9.9	10.7	10.4	11.3	10.8	11.1	10.6
Poverty gap (%)	16.7	16.9	17.0	16.3	16.4	16.5	17.1
Persistent at-risk-of-poverty (% of female population)			5.8	4.1	9.5	7.3	
Severe Material Deprivation (% of female population)	2.8	1.7	1.6	1.5	2.2	2.6	2.4
Share of people living in low work intensity households (% of females aged 0-59)	12.6	10.6	9.3	9.2	9.1	9.5	9.8
Life expectancy at birth (years)	82.0	82.5	82.5	82.9	83.0	83.1	
Healthy life years at birth (years)	63.5	64.3	59.9	60.1	60.2	59.0	
Early leavers from education and training (% of females aged 18-24)	10.1	9.3	8.8	8.6	7.8	7.2	7.3
NEET: Young people not in employment, education or training (% of females aged 15-24)	4.4	4.0	3.8	4.1	4.2	3.8	4.7

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	17.5	17.2	15.5	17.5	16.9	18.0	16.9
At-risk-of-poverty (% of Children population)	13.5	14.0	12.9	15.4	13.7	15.5	13.2
Severe Material Deprivation (% of Children population)	3.2	1.9	2.2	1.5	2.0	2.9	3.3
Share of children living in low work intensity households (% of Children population)	8.5	6.2	5.1	5.4	5.8	6.3	6.4
Risk of poverty of children in households at work (Working Intensity > 0.2)	9.2	11.3	10.1	12.2	11.2	11.8	10.1
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	49.3	43.6	43.9	38.9	45.6	36.2	44.5

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	17.5	16.5	15.8	15.9	16.5	17.0	16.5
At-risk-of-poverty (% of Working age population)	9.3	8.9	9.9	10.3	10.1	10.5	10.1
Severe Material Deprivation (% of Working age population)	2.3	1.9	1.6	1.6	2.7	2.8	2.4
Very low work intensity (18-59)	11.6	10.8	9.2	9.4	9.1	9.6	9.6
In-work at-risk-of poverty rate (% of persons employed)	4.4	4.5	4.7	5.0	5.1	5.4	4.6
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	55.7	55.3	50.0	49.3	53.5	51.6	53.7

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	6.4	9.8	9.7	8.1	6.2	6.9	6.2
At-risk-of-poverty (% of Elderly population)	5.8	9.5	9.4	7.7	5.9	6.5	5.5
Severe Material Deprivation (% of Elderly population)	0.7	0.7	0.4	0.4	0.3	0.4	0.7
Relative median income of elderly (ratio with median income of people younger than 65)	0.87	0.83	0.84	0.86	0.87	0.87	0.9
Aggregate replacement ratio (ratio)	0.43	0.43	0.43	0.44	0.47	0.46	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	8.8	8.6	9.4	10.4	10.7	10.9	
Disability	2.4	2.4	2.4	2.5	2.5	2.4	
Old age and survivors	10.9	10.9	10.9	11.6	11.9	12.0	
Family/Children	1.5	1.6	1.2	1.3	1.2	1.2	
Unemployment	1.4	1.1	1.0	1.4	1.6	1.5	
Housing and Social exclusion n.e.c.	2.1	2.1	2.1	2.4	2.4	2.6	
Total (including Admin and Other expenditures)	28.8	28.3	28.5	31.6	32.1	32.3	
of which: Means tested benefits	3.4	3.7	3.9	4.5	4.6	4.7	

Social Inclusion Indicators: Austria

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	17.8	16.7	18.6	17.0	16.6	16.9	
At-risk-of-poverty (% of total population)	12.6	12.0	12.4	12.0	12.1	12.6	
At-risk-of-poverty threshold (PPS single person)	10452	10686	11124	11350	11479	12150	
Poverty gap (%)	15.5	17.0	15.3	17.2	17.2	19.0	
Persistent at-risk-of-poverty (% of total population)		5.5	5.6	6.2	6.5	5.8	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	25.1	24.7	24.5	24.1	24.1	24.9	
Impact of social transfers (excl. pensions) in reducing poverty (%)	49.8	51.4	49.4	50.2	49.8	49.4	
Severe Material Deprivation (% of total population)	3.6	3.3	6.4	4.8	4.3	3.9	4.0
Share of people living in low work intensity households (% of people aged 0-59)	8.0	8.1	7.8	7.2	7.7	8.0	7.6
Gross Household Disposable income adjusted for consumer prices (growth %)	3.1	2.8	-0.1	0.2	-0.3	-1.2	1.2
Income quintile share ratio S80/S20	3.7	3.8	3.7	3.7	3.7	3.8	
GINI coefficient	25.3	26.2	26.2	25.7	26.1	26.3	
Early leavers from education and training (% of population aged 18-24)	9.8	10.7	10.1	8.7	8.3	8.3	7.6
NEET: Young people not in employment, education or training (% of total population aged 15-24)	7.5	7.0	7.1	7.8	7.1	6.9	6.5

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	15.7	14.5	16.8	15.0	14.7	15.2	
At-risk-of-poverty (% of male population)	11.0	10.6	11.2	10.7	10.7	11.7	
Poverty gap (%)	17.5	18.7	15.7	18.7	17.5	20.0	
Persistent at-risk-of-poverty (% of male population)		3.5	4.9	4.4	5.8	4.6	
Severe Material Deprivation (% of male population)	3.8	3.1	6.0	4.4	3.9	3.5	3.8
Share of people living in low work intensity households (% of males aged 0-59)	7.0	6.6	6.6	5.6	6.7	7.0	6.7
Life expectancy at birth (years)	77.1	77.4	77.8	77.6	77.9	78.3	
Healthy life years at birth (years)	58.7	58.7	58.3	59.5	59.5	59.8	
Early leavers from education and training (% of males aged 18-24)	10.0	11.4	10.4	8.5	8.4	8.8	7.9
NEET: Young people not in employment, education or training (% of males aged 15-24)	7.0	6.4	6.4	7.4	6.9	6.8	6.3

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	19.7	18.9	20.3	18.9	18.4	18.5	
At-risk-of-poverty (% of female population)	14.0	13.3	13.5	13.2	13.5	13.5	
Poverty gap (%)	14.1	15.9	15.2	16.1	16.7	18.8	
Persistent at-risk-of-poverty (% of female population)		7.3	6.3	7.9	7.1	6.9	
Severe Material Deprivation (% of female population)	3.4	3.5	6.7	5.1	4.6	4.3	4.2
Share of people living in low work intensity households (% of females aged 0-59)	9.1	9.7	9.0	8.7	8.8	9.1	8.6
Life expectancy at birth (years)	82.8	83.1	83.3	83.2	83.5	83.9	
Healthy life years at birth (years)	61.0	61.5	59.7	60.8	60.7	60.4	
Early leavers from education and training (% of females aged 18-24)	9.7	10.1	9.8	8.9	8.2	7.8	7.3
NEET: Young people not in employment, education or training (% of females aged 15-24)	8.0	7.6	7.8	8.3	7.4	7.1	6.7

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	19.3	18.5	20.4	17.5	18.8	19.2	
At-risk-of-poverty (% of Children population)	14.7	14.8	14.9	13.4	14.3	15.4	
Severe Material Deprivation (% of Children population)	4.2	3.7	7.3	5.6	5.7	5.6	5.8
Share of children living in low work intensity households (% of Children population)	7.0	6.2	5.8	5.9	6.0	6.7	6.1
Risk of poverty of children in households at work (Working Intensity > 0.2)	11.2	11.6	11.7	10.2	11.3	11.4	
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	60.0	59.0	58.7	62.9	61.1	57.9	

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	17.4	16.7	18.4	17.1	16.1	16.2	
At-risk-of-poverty (% of Working age population)	11.0	10.6	10.9	10.8	10.7	11.0	
Severe Material Deprivation (% of Working age population)	3.8	3.4	6.6	5.0	4.5	3.9	4.1
Very low work intensity (18-59)	8.4	8.8	8.4	7.6	8.3	8.5	8.1
In-work at-risk-of poverty rate (% of persons employed)	6.3	6.1	6.4	6.0	5.0	5.4	
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	52.6	54.5	52.4	51.1	51.8	52.8	

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	17.3	15.1	17.3	16.4	15.8	17.1	
At-risk-of-poverty (% of Elderly population)	16.2	14.0	15.0	15.1	15.2	16.0	
Severe Material Deprivation (% of Elderly population)	2.1	2.1	4.4	2.8	2.0	2.0	1.9
Relative median income of elderly (ratio with median income of people younger than 65)	0.94	0.93	0.92	0.91	0.91	0.93	
Aggregate replacement ratio (ratio)	0.65	0.62	0.68	0.64	0.64	0.60	

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	7.0	7.0	7.3	7.7	7.6	7.2	
Disability	2.2	2.1	2.1	2.2	2.2	2.2	
Old age and survivors	13.4	13.3	13.6	14.7	14.8	14.5	
Family/Children	2.8	2.7	2.8	3.0	3.1	2.8	
Unemployment	1.6	1.4	1.4	1.7	1.7	1.5	
Housing and Social exclusion n.e.c.	0.4	0.4	0.4	0.4	0.4	0.4	
Total (including Admin and Other expenditures)	28.3	27.8	28.5	30.7	30.6	29.5	
of which: Means tested benefits	1.9	1.9	2.0	2.2	2.2	2.2	

Social Inclusion Indicators: Poland

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	39.5	34.4	30.5	27.8	27.8	27.2	26.7
At-risk-of-poverty (% of total population)	19.1	17.3	16.9	17.1	17.6	17.7	17.1
At-risk-of-poverty threshold (PPS single person)	3057	3365	4039	4417	4552	4924	5117
Poverty gap (%)	25.0	24.0	20.6	22.7	22.2	21.4	22.2
Persistent at-risk-of-poverty (% of total population)			10.4	10.2	10.5	10.1	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	28.6	26.5	25.1	23.6	24.4	24.1	22.9
Impact of social transfers (excl. pensions) in reducing poverty (%)	33.2	34.7	32.7	27.5	27.9	26.6	25.3
Severe Material Deprivation (% of total population)	27.6	22.3	17.7	15.0	14.2	13.0	13.5
Share of people living in low work intensity households (% of people aged 0-59)	12.3	10.0	7.9	6.9	7.3	6.9	6.8
Gross Household Disposable income adjusted for consumer prices (growth %)	4.7	4.1	4.0	3.0	1.9	1.3	0.0
Income quintile share ratio S80/S20	5.6	5.3	5.1	5.0	5.0	5.0	4.9
GINI coefficient	33.3	32.2	32.0	31.4	31.1	31.1	30.9
Early leavers from education and training (% of population aged 18-24)	5.4	5.0	5.0	5.3	5.4	5.6	5.7
NEET: Young people not in employment, education or training (% of total population aged 15-24)	12.6	10.6	9.0	10.1	10.8	11.5	11.8

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	39.0	33.5	29.9	27.0	27.0	26.6	26.1
At-risk-of-poverty (% of male population)	19.7	17.6	17.0	16.9	17.4	17.8	17.1
Poverty gap (%)	25.9	25.4	21.5	23.7	23.3	22.8	23.3
Persistent at-risk-of-poverty (% of male population)			10.7	10.4	10.2	10.4	
Severe Material Deprivation (% of male population)	27.4	21.9	17.6	14.6	14.1	12.9	13.2
Share of people living in low work intensity households (% of males aged 0-59)	11.7	9.4	7.3	6.4	6.7	6.4	6.5
Life expectancy at birth (years)	70.9	71.0	71.3	71.5	72.1	72.6	
Healthy life years at birth (years)	58.4	57.6	58.5	58.3	58.5	59.1	
Early leavers from education and training (% of males aged 18-24)	6.9	6.2	6.1	6.6	7.2	7.4	7.8
NEET: Young people not in employment, education or training (% of males aged 15-24)	12.1	9.3	7.3	9.4	10.5	11.2	11.5

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	40.0	35.1	31.2	28.6	28.5	27.7	27.3
At-risk-of-poverty (% of female population)	18.5	17.1	16.7	17.4	17.7	17.6	17.1
Poverty gap (%)	24.2	22.8	20.0	21.8	21.0	20.3	21.2
Persistent at-risk-of-poverty (% of female population)			10.2	10.1	10.7	9.9	
Severe Material Deprivation (% of female population)	27.8	22.7	17.9	15.3	14.4	13.2	13.8
Share of people living in low work intensity households (% of females aged 0-59)	13.0	10.6	8.6	7.4	8.0	7.4	7.2
Life expectancy at birth (years)	79.7	79.8	80.0	80.1	80.7	81.1	
Healthy life years at birth (years)	62.9	61.5	63.0	62.5	62.3	63.3	
Early leavers from education and training (% of females aged 18-24)	3.9	3.8	3.9	3.9	3.5	3.7	3.5
NEET: Young people not in employment, education or training (% of females aged 15-24)	13.1	11.9	10.8	10.8	11.0	11.8	12.2

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	42.0	37.1	32.9	31.0	30.8	29.8	29.3
At-risk-of-poverty (% of Children population)	26.3	24.2	22.4	23.0	22.5	22.0	21.5
Severe Material Deprivation (% of Children population)	28.2	22.5	17.5	15.3	14.9	13.2	13.7
Share of children living in low work intensity households (% of Children population)	8.7	6.6	5.0	4.7	4.8	4.1	4.5
Risk of poverty of children in households at work (Working Intensity > 0.2)	21.9	20.8	19.8	20.3	19.4	19.7	18.8
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	27.6	29.9	31.1	23.6	26.7	26.9	25.6

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	40.2	34.9	30.6	27.3	27.6	27.0	26.7
At-risk-of-poverty (% of Working age population)	19.1	17.2	16.3	16.0	16.9	17.1	16.5
Severe Material Deprivation (% of Working age population)	27.2	21.9	17.2	14.4	13.6	12.5	13.2
Very low work intensity (18-59)	13.6	11.1	8.9	7.6	8.1	7.8	7.5
In-work at-risk-of poverty rate (% of persons employed)	12.8	11.7	11.5	11.0	11.5	11.2	10.4
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	35.7	36.5	34.5	30.4	29.9	28.2	27.0

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	32.5	27.3	26.9	25.8	24.4	24.7	23.4
At-risk-of-poverty (% of Elderly population)	7.8	7.8	11.7	14.4	14.2	14.7	14.0
Severe Material Deprivation (% of Elderly population)	29.2	23.7	20.8	17.3	16.5	15.4	14.8
Relative median income of elderly (ratio with median income of people younger than 65)	1.07	1.04	0.97	0.92	0.93	0.94	1.0
Aggregate replacement ratio (ratio)	0.59	0.58	0.56	0.56	0.57	0.55	0.6

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	3.8	3.9	4.5	4.7	4.5	4.3	
Disability	1.9	1.6	1.5	1.3	1.5	1.7	
Old age and survivors	11.5	10.8	10.9	11.4	11.3	10.9	
Family/Children	0.8	0.8	0.7	0.8	0.8	1.3	
Unemployment	0.6	0.4	0.4	0.4	0.4	0.3	
Housing and Social exclusion n.e.c.	0.3	0.3	0.2	0.2	0.2	0.2	
Total (including Admin and Other expenditures)	19.4	18.1	18.6	19.2	19.2	19.2	
of which: Means tested benefits	1.0	0.9	0.8	0.7	0.7	1.2	

Social Inclusion Indicators: Portugal

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	25.0	25.0	26.0	24.9	25.3	24.4	25.3
At-risk-of-poverty (% of total population)	18.5	18.1	18.5	17.9	17.9	18.0	17.9
At-risk-of-poverty threshold (PPS single person)	5157	5349	5702	5655	5844	5750	5736
Poverty gap (%)	23.5	24.3	23.2	23.6	22.7	23.2	24.7
Persistent at-risk-of-poverty (% of total population)		14.1	13.1	9.8	13.2	13.6	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	25.1	24.2	24.9	24.3	26.4	25.4	25.2
Impact of social transfers (excl. pensions) in reducing poverty (%)	26.3	25.2	25.7	26.3	32.2	29.1	29.0
Severe Material Deprivation (% of total population)	9.1	9.6	9.7	9.1	9.0	8.3	8.6
Share of people living in low work intensity households (% of people aged 0-59)	6.6	7.2	6.3	6.9	8.6	8.2	10.1
Gross Household Disposable income adjusted for consumer prices (growth %)	-0.1	2.5	1.6	0.5	1.6	-4.8	-4.0
Income quintile share ratio S80/S20	6.7	6.5	6.1	6.0	5.6	5.7	5.8
GINI coefficient	37.7	36.8	35.8	35.4	33.7	34.2	34.5
Early leavers from education and training (% of population aged 18-24)	39.1	36.9	35.4	31.2	28.7	23.2	20.8
NEET: Young people not in employment, education or training (% of total population aged 15-24)	10.6	11.2	10.3	11.2	11.5	12.7	14.1

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	23.9	24.0	25.0	24.0	24.8	23.8	24.6
At-risk-of-poverty (% of male population)	17.7	17.2	17.9	17.3	17.3	17.6	17.5
Poverty gap (%)	22.4	24.3	22.5	24.9	23.1	23.4	25.5
Persistent at-risk-of-poverty (% of male population)		13.1	12.0	9.2	13.0	13.3	
Severe Material Deprivation (% of male population)	8.7	9.2	9.5	8.9	9.2	7.8	8.3
Share of people living in low work intensity households (% of males aged 0-59)	6.0	6.7	5.8	6.6	8.4	7.9	9.8
Life expectancy at birth (years)	75.5	75.9	76.2	76.5	76.7	77.6	
Healthy life years at birth (years)	60.0	58.5	59.1	58.3	59.3	60.7	
Early leavers from education and training (% of males aged 18-24)	46.6	43.1	41.9	36.1	32.7	28.2	27.1
NEET: Young people not in employment, education or training (% of males aged 15-24)	9.8	9.7	8.9	10.6	10.4	12.3	14.8

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	26.0	26.0	26.8	25.8	25.8	25.1	25.9
At-risk-of-poverty (% of female population)	19.1	19.0	19.1	18.4	18.4	18.4	18.2
Poverty gap (%)	23.9	24.2	23.6	23.0	22.6	23.0	23.3
Persistent at-risk-of-poverty (% of female population)		15.0	14.1	10.4	13.5	13.8	
Severe Material Deprivation (% of female population)	9.4	9.9	9.9	9.2	8.8	8.7	8.9
Share of people living in low work intensity households (% of females aged 0-59)	7.2	7.8	6.8	7.3	8.8	8.6	10.3
Life expectancy at birth (years)	82.3	82.2	82.4	82.6	82.8	84.0	
Healthy life years at birth (years)	57.9	57.8	57.6	56.4	56.6	58.7	
Early leavers from education and training (% of females aged 18-24)	31.3	30.4	28.6	26.1	24.6	18.1	14.3
NEET: Young people not in employment, education or training (% of females aged 15-24)	11.5	12.8	11.7	11.8	12.7	13.1	13.5

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	25.5	26.9	29.5	28.7	28.7	28.6	27.8
At-risk-of-poverty (% of Children population)	20.8	20.9	22.8	22.9	22.4	22.4	21.7
Severe Material Deprivation (% of Children population)	9.6	11.8	11.8	10.5	10.8	11.3	10.3
Share of children living in low work intensity households (% of Children population)	4.4	5.1	5.8	6.2	7.9	7.1	8.5
Risk of poverty of children in households at work (Working Intensity > 0.2)	17.7	17.6	19.5	19.3	17.1	18.3	16.3
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	25.2	22.9	24.3	25.4	30.4	27.5	26.7

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	22.9	23.1	24.5	23.5	24.1	23.2	25.5
At-risk-of-poverty (% of Working age population)	15.7	15.2	16.3	15.8	15.7	16.2	16.9
Severe Material Deprivation (% of Working age population)	7.7	8.6	8.9	8.3	8.3	7.6	8.2
Very low work intensity (18-59)	7.3	7.9	6.5	7.2	8.8	8.6	10.6
In-work at-risk-of poverty rate (% of persons employed)	10.4	9.3	11.3	10.3	9.6	10.2	9.9
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	31.1	30.9	30.3	30.7	37.7	33.6	33.7

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	32.2	30.0	27.7	26.0	26.1	24.5	22.1
At-risk-of-poverty (% of Elderly population)	26.1	25.5	22.3	20.1	21.0	20.0	17.4
Severe Material Deprivation (% of Elderly population)	13.3	10.7	10.1	10.6	9.6	7.7	8.4
Relative median income of elderly (ratio with median income of people younger than 65)	0.79	0.80	0.83	0.85	0.82	0.87	0.9
Aggregate replacement ratio (ratio)	0.59	0.47	0.51	0.50	0.53	0.56	0.6

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.7	6.4	6.5	7.3	7.0	6.3	
Disability	2.3	2.3	2.1	2.1	2.1	2.1	
Old age and survivors	11.3	11.3	11.9	12.9	13.1	13.8	
Family/Children	1.2	1.2	1.3	1.4	1.4	1.2	
Unemployment	1.3	1.1	1.0	1.4	1.4	1.4	
Housing and Social exclusion n.e.c.	0.3	0.3	0.3	0.4	0.4	0.3	
Total (including Admin and Other expenditures)	24.5	23.9	24.3	26.8	26.8	26.5	
of which: Means tested benefits	2.1	2.1	2.3	2.6	2.5	2.2	

Social Inclusion Indicators: Romania

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)		45.9	44.2	43.1	41.4	40.3	41.7
At-risk-of-poverty (% of total population)		24.8	23.4	22.4	21.1	22.2	22.6
At-risk-of-poverty threshold (PPS single person)		1726	1838	2056	2126	2134	2106
Poverty gap (%)		34.8	32.3	32.0	30.6	31.8	30.9
Persistent at-risk-of-poverty (% of total population)					18.2	16.7	
At-risk-of-poverty before social transfers excl. pensions (% of total population)		30.9	30.7	29.1	27.5	29.1	28.0
Impact of social transfers (excl. pensions) in reducing poverty (%)		19.7	23.8	23.0	23.3	23.7	19.3
Severe Material Deprivation (% of total population)		36.5	32.9	32.2	31.0	29.4	29.9
Share of people living in low work intensity households (% of people aged 0-59)		8.4	8.2	7.7	6.8	6.7	7.4
Gross Household Disposable income adjusted for consumer prices (growth %)	9.0	14.2	22.6	-11.8	-1.3	-3.2	
Income quintile share ratio S80/S20	5.3	7.8	7.0	6.7	6.0	6.2	6.3
GINI coefficient	33.0	37.8	36.0	34.9	33.3	33.2	33.2
Early leavers from education and training (% of population aged 18-24)	17.9	17.3	15.9	16.6	18.4	17.5	17.4
NEET: Young people not in employment, education or training (% of total population aged 15-24)	14.8	13.3	11.6	13.9	16.4	17.4	16.8

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)		45.1	43.0	41.9	40.8	39.5	40.7
At-risk-of-poverty (% of male population)		24.3	22.4	21.4	20.7	21.9	21.9
Poverty gap (%)		35.4	32.6	32.4	31.5	33.7	31.9
Persistent at-risk-of-poverty (% of male population)					18.0	17.0	
Severe Material Deprivation (% of male population)		36.1	32.4	31.8	30.7	29.2	29.8
Share of people living in low work intensity households (% of males aged 0-59)		7.5	7.2	6.5	6.0	5.7	6.5
Life expectancy at birth (years)	69.2	69.7	69.7	69.8	70.1	71.0	
Healthy life years at birth (years)		60.6	60.2	59.8	57.5	57.5	
Early leavers from education and training (% of males aged 18-24)	17.8	17.1	15.9	16.1	18.6	18.5	18.0
NEET: Young people not in employment, education or training (% of males aged 15-24)	13.0	11.6	8.8	11.2	14.0	15.9	15.1

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)		46.7	45.3	44.2	42.1	41.1	42.6
At-risk-of-poverty (% of female population)		25.3	24.3	23.4	21.4	22.5	23.2
Poverty gap (%)		34.8	31.7	31.3	30.3	29.3	30.3
Persistent at-risk-of-poverty (% of female population)					18.5	16.3	
Severe Material Deprivation (% of female population)		36.9	33.4	32.6	31.2	29.5	30.0
Share of people living in low work intensity households (% of females aged 0-59)		9.2	9.2	8.9	7.7	7.6	8.3
Life expectancy at birth (years)	76.2	76.9	77.2	77.4	77.6	78.2	
Healthy life years at birth (years)		62.6	62.8	61.7	57.5	57.1	
Early leavers from education and training (% of females aged 18-24)	18.0	17.4	16.0	17.2	18.2	16.6	16.7
NEET: Young people not in employment, education or training (% of females aged 15-24)	16.6	15.1	14.5	16.8	18.9	18.8	18.6

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)		50.5	51.2	52.0	48.7	49.1	52.2
At-risk-of-poverty (% of Children population)		32.8	32.9	32.9	31.3	32.9	34.6
Severe Material Deprivation (% of Children population)		40.4	39.2	40.3	36.7	35.8	37.9
Share of children living in low work intensity households (% of Children population)		6.5	6.3	5.6	4.3	4.6	5.1
Risk of poverty of children in households at work (Working Intensity > 0.2)		29.1	29.5	29.8	29.9	30.7	32.6
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)		20.4	24.2	21.9	20.6	22.0	18.0

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)		42.0	41.0	40.5	39.7	39.0	40.2
At-risk-of-poverty (% of Working age population)		21.1	20.0	19.8	19.2	21.0	21.0
Severe Material Deprivation (% of Working age population)		32.7	29.8	29.6	29.0	27.7	27.9
Very low work intensity (18-59)		9.0	8.8	8.3	7.6	7.3	8.1
In-work at-risk-of poverty rate (% of persons employed)		17.3	16.8	17.3	17.0	18.6	18.9
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)		21.9	26.5	25.0	26.2	25.8	21.1

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)		57.7	49.2	43.1	39.9	35.3	35.7
At-risk-of-poverty (% of Elderly population)		30.6	26.0	21.0	16.7	14.1	15.4
Severe Material Deprivation (% of Elderly population)		48.9	38.9	33.8	32.4	28.6	28.6
Relative median income of elderly (ratio with median income of people younger than 65)		0.76	0.85	0.93	0.97	1.01	1.0
Aggregate replacement ratio (ratio)		0.43	0.49	0.55	0.65	0.64	0.7

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	3.3	3.5	3.5	4.1	4.4	4.1	
Disability	1.1	1.3	1.4	1.6	1.6	1.5	
Old age and survivors	5.7	6.0	7.1	8.8	8.8	8.7	
Family/Children	1.8	1.7	1.5	1.7	1.7	1.4	
Unemployment	0.3	0.3	0.2	0.4	0.6	0.3	
Housing and Social exclusion n.e.c.	0.3	0.4	0.3	0.3	0.3	0.3	
Total (including Admin and Other expenditures)	12.8	13.6	14.3	17.1	17.6	16.3	
of which: Means tested benefits	0.8	0.8	0.7	1.0	1.3	0.8	

Social Inclusion Indicators: Slovenia

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	17.1	17.1	18.5	17.1	18.3	19.3	19.6
At-risk-of-poverty (% of total population)	11.6	11.5	12.3	11.3	12.7	13.6	13.5
At-risk-of-poverty threshold (PPS single person)	7292	7753	8287	8599	8019	8285	8475
Poverty gap (%)	18.6	19.4	19.3	20.2	20.2	19.9	19.1
Persistent at-risk-of-poverty (% of total population)			7.7	7.0	6.9	7.5	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	24.2	23.1	23.0	22.0	24.2	24.2	25.2
Impact of social transfers (excl. pensions) in reducing poverty (%)	52.1	50.2	46.5	48.6	47.5	43.8	46.4
Severe Material Deprivation (% of total population)	5.1	5.1	6.7	6.1	5.9	6.1	6.6
Share of people living in low work intensity households (% of people aged 0-59)	6.9	7.2	6.7	5.6	6.9	7.6	7.5
Gross Household Disposable income adjusted for consumer prices (growth %)	2.7	4.6	1.6	-0.2	-1.2	0.2	-5.4
Income quintile share ratio S80/S20	3.4	3.3	3.4	3.2	3.4	3.5	3.4
GINI coefficient	23.7	23.2	23.4	22.7	23.8	23.8	23.7
Early leavers from education and training (% of population aged 18-24)	5.6	4.1	5.1	5.3	5.0	4.2	4.4
NEET: Young people not in employment, education or training (% of total population aged 15-24)	8.5	6.7	6.5	7.5	7.1	7.1	9.3

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	15.3	15.0	16.6	15.1	16.5	17.4	18.3
At-risk-of-poverty (% of male population)	10.3	10.0	11.0	9.8	11.3	12.2	12.5
Poverty gap (%)	20.0	19.2	20.8	21.1	20.9	20.1	19.8
Persistent at-risk-of-poverty (% of male population)			6.3	5.8	5.6	5.9	
Severe Material Deprivation (% of male population)	5.1	4.9	6.4	5.9	5.6	5.8	6.8
Share of people living in low work intensity households (% of males aged 0-59)	6.1	6.3	6.2	4.8	6.0	6.7	6.8
Life expectancy at birth (years)	74.5	74.6	75.5	75.9	76.4	76.8	
Healthy life years at birth (years)	57.7	58.7	59.5	60.6	53.4	54.0	
Early leavers from education and training (% of males aged 18-24)	7.1	5.8	7.2	7.2	6.4	5.7	5.4
NEET: Young people not in employment, education or training (% of males aged 15-24)	8.4	6.8	6.7	7.9	8.1	7.8	9.7

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	18.8	19.2	20.3	19.1	20.1	21.1	20.8
At-risk-of-poverty (% of female population)	12.9	12.9	13.6	12.8	14.1	15.0	14.6
Poverty gap (%)	18.3	19.7	18.7	20.2	19.1	19.5	18.4
Persistent at-risk-of-poverty (% of female population)			9.0	8.1	8.0	9.1	
Severe Material Deprivation (% of female population)	5.1	5.3	6.9	6.3	6.3	6.4	6.5
Share of people living in low work intensity households (% of females aged 0-59)	7.7	8.2	7.3	6.5	8.0	8.6	8.2
Life expectancy at birth (years)	82.0	82.0	82.6	82.7	83.1	83.3	
Healthy life years at birth (years)	61.0	62.3	60.8	61.5	54.6	53.8	
Early leavers from education and training (% of females aged 18-24)	4.0	2.2	2.6	3.2	3.3	2.5	3.2
NEET: Young people not in employment, education or training (% of females aged 15-24)	8.6	6.6	6.2	6.9	6.0	6.3	8.8

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	14.3	14.7	15.3	15.1	15.2	17.3	16.4
At-risk-of-poverty (% of Children population)	11.5	11.3	11.6	11.2	12.6	14.7	13.5
Severe Material Deprivation (% of Children population)	3.9	4.4	5.2	5.4	5.1	5.3	5.9
Share of children living in low work intensity households (% of Children population)	3.5	4.5	3.7	2.5	3.3	4.4	3.2
Risk of poverty of children in households at work (Working Intensity > 0.2)	9.0	8.4	9.0	9.5	9.9	11.3	11.1
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	56.1	54.8	50.4	53.7	51.4	45.4	47.7

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	16.5	16.6	18.0	16.2	18.1	18.7	19.7
At-risk-of-poverty (% of Working age population)	9.7	9.8	10.5	9.2	11.0	11.7	12.2
Severe Material Deprivation (% of Working age population)	5.1	5.0	6.9	6.2	6.1	6.2	6.9
Very low work intensity (18-59)	7.8	8.1	7.6	6.5	8.0	8.6	8.8
In-work at-risk-of poverty rate (% of persons employed)	4.8	4.7	5.1	4.8	5.3	6.0	6.5
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	55.5	53.3	49.0	52.1	49.8	45.8	49.0

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	22.5	22.4	24.4	23.3	22.8	24.2	22.8
At-risk-of-poverty (% of Elderly population)	19.9	19.4	21.3	20.0	20.2	20.9	19.6
Severe Material Deprivation (% of Elderly population)	6.3	6.6	7.4	6.5	6.3	6.8	6.6
Relative median income of elderly (ratio with median income of people younger than 65)	0.85	0.87	0.84	0.86	0.87	0.87	0.9
Aggregate replacement ratio (ratio)	0.41	0.44	0.44	0.45	0.45	0.47	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	7.1	6.7	7.0	7.8	7.9	7.8	
Disability	1.9	1.7	1.6	1.8	1.8	1.7	
Old age and survivors	10.1	9.7	9.6	10.9	11.4	11.6	
Family/Children	1.9	1.7	1.8	2.1	2.2	2.2	
Unemployment	0.6	0.4	0.4	0.6	0.7	0.8	
Housing and Social exclusion n.e.c.	0.6	0.5	0.4	0.5	0.6	0.6	
Total (including Admin and Other expenditures)	22.7	21.3	21.4	24.2	25.0	25.0	
of which: Means tested benefits	2.0	1.8	1.8	2.0	2.0	2.0	

Social Inclusion Indicators: Slovakia

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	26.7	21.3	20.6	19.6	20.6	20.6	20.5
At-risk-of-poverty (% of total population)	11.6	10.6	10.9	11.0	12.0	13.0	13.2
At-risk-of-poverty threshold (PPS single person)	2772	3365	4058	4694	5022	5314	5744
Poverty gap (%)	20.0	19.2	18.1	23.2	25.7	22.8	20.5
Persistent at-risk-of-poverty (% of total population)			4.9	5.4	6.0	7.8	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	20.0	18.2	18.4	17.1	19.8	19.5	20.0
Impact of social transfers (excl. pensions) in reducing poverty (%)	42.0	41.8	40.8	35.7	39.4	33.3	34.0
Severe Material Deprivation (% of total population)	18.2	13.7	11.8	11.1	11.4	10.6	10.5
Share of people living in low work intensity households (% of people aged 0-59)	6.2	6.4	5.2	5.6	7.9	7.6	7.2
Gross Household Disposable income adjusted for consumer prices (growth %)	4.0	9.5	5.5	0.4	3.4	-1.6	-2.0
Income quintile share ratio S80/S20	4.1	3.5	3.4	3.6	3.8	3.8	3.7
GINI coefficient	28.1	24.5	23.7	24.8	25.9	25.7	25.3
Early leavers from education and training (% of population aged 18-24)	6.6	6.5	6.0	4.9	4.7	5.1	5.3
NEET: Young people not in employment, education or training (% of total population aged 15-24)	14.4	12.5	11.1	12.5	14.1	13.8	13.8

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	25.6	19.4	18.9	18.0	19.6	19.5	19.7
At-risk-of-poverty (% of male population)	11.8	10.2	10.1	10.1	11.7	12.8	13.2
Poverty gap (%)	20.8	22.4	21.0	24.7	28.0	24.5	20.5
Persistent at-risk-of-poverty (% of male population)			4.6	5.1	4.6	7.6	
Severe Material Deprivation (% of male population)	17.8	12.8	11.1	10.5	11.1	10.1	10.1
Share of people living in low work intensity households (% of males aged 0-59)	5.8	5.7	4.5	5.1	7.4	7.5	7.0
Life expectancy at birth (years)	70.4	70.6	70.8	71.4	71.7	72.3	
Healthy life years at birth (years)	54.5	55.6	52.1	52.4	52.4	52.1	
Early leavers from education and training (% of males aged 18-24)	7.3	7.2	7.1	5.7	4.6	5.4	6.0
NEET: Young people not in employment, education or training (% of males aged 15-24)	12.8	11.0	9.6	12.2	13.8	13.9	14.5

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	27.6	23.1	22.0	21.1	21.6	21.7	21.3
At-risk-of-poverty (% of female population)	11.5	11.0	11.5	11.8	12.2	13.1	13.3
Poverty gap (%)	19.6	17.2	16.5	21.8	24.3	21.0	20.6
Persistent at-risk-of-poverty (% of female population)			5.2	5.6	7.3	8.0	
Severe Material Deprivation (% of female population)	18.6	14.5	12.3	11.6	11.8	11.0	10.8
Share of people living in low work intensity households (% of females aged 0-59)	6.6	7.2	5.9	6.0	8.4	7.8	7.4
Life expectancy at birth (years)	78.4	78.4	79.0	79.1	79.3	79.8	
Healthy life years at birth (years)	54.6	56.1	52.6	52.6	52.1	52.3	
Early leavers from education and training (% of females aged 18-24)	5.8	5.8	4.9	4.1	4.9	4.6	4.6
NEET: Young people not in employment, education or training (% of females aged 15-24)	16.0	14.1	12.5	12.9	14.4	13.7	13.1

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	30.4	25.8	24.3	23.7	25.3	26.0	26.6
At-risk-of-poverty (% of Children population)	17.1	17.0	16.7	16.8	18.8	21.2	21.9
Severe Material Deprivation (% of Children population)	19.9	16.3	12.6	12.7	13.5	12.4	11.9
Share of children living in low work intensity households (% of Children population)	4.4	5.5	4.4	5.4	8.0	7.3	7.2
Risk of poverty of children in households at work (Working Intensity > 0.2)	14.4	13.0	13.7	12.7	13.0	16.1	16.4
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	39.6	37.3	38.2	30.3	35.8	28.6	29.8

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	25.8	20.1	19.3	18.5	20.2	20.6	19.9
At-risk-of-poverty (% of Working age population)	10.6	9.2	9.5	9.6	11.2	12.4	12.3
Severe Material Deprivation (% of Working age population)	17.1	12.3	10.8	10.6	11.0	10.3	10.1
Very low work intensity (18-59)	6.7	6.7	5.4	5.6	7.9	7.8	7.2
In-work at-risk-of poverty rate (% of persons employed)	6.3	4.9	5.8	5.2	5.7	6.3	6.2
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	43.6	45.9	43.5	39.2	41.4	34.7	35.6

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	25.6	22.0	21.9	19.7	16.7	14.5	16.3
At-risk-of-poverty (% of Elderly population)	8.5	9.6	9.9	10.8	7.7	6.3	7.8
Severe Material Deprivation (% of Elderly population)	21.0	17.7	15.3	11.7	11.1	9.7	10.8
Relative median income of elderly (ratio with median income of people younger than 65)	0.85	0.81	0.79	0.81	0.83	0.86	0.8
Aggregate replacement ratio (ratio)	0.57	0.54	0.54	0.55	0.61	0.62	0.6

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	4.8	4.7	5.1	5.8	5.5	5.4	
Disability	1.3	1.3	1.4	1.5	1.6	1.6	
Old age and survivors	6.9	6.8	6.6	7.8	7.8	7.7	
Family/Children	1.6	1.5	1.5	1.7	1.8	1.8	
Unemployment	0.5	0.6	0.6	1.0	1.0	0.8	
Housing and Social exclusion n.e.c.	0.6	0.5	0.4	0.4	0.5	0.4	
Total (including Admin and Other expenditures)	16.4	16.1	16.1	18.8	18.7	18.2	
of which: Means tested benefits	1.0	1.0	0.8	0.9	0.9	0.9	

Social Inclusion Indicators: Finland

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	17.1	17.4	17.4	16.9	16.9	17.9	17.2
At-risk-of-poverty (% of total population)	12.6	13.0	13.6	13.8	13.1	13.7	13.2
At-risk-of-poverty threshold (PPS single person)	8886	9145	9933	10421	10339	10646	10921
Poverty gap (%)	14.5	14.1	15.7	15.1	13.8	13.5	15.0
Persistent at-risk-of-poverty (% of total population)		7.6	6.8	6.5	7.7	7.5	7.4
At-risk-of-poverty before social transfers excl. pensions (% of total population)	28.6	28.9	27.3	26.2	27.0	27.4	26.9
Impact of social transfers (excl. pensions) in reducing poverty (%)	55.9	55.0	50.2	47.3	51.5	50.0	50.9
Severe Material Deprivation (% of total population)	3.3	3.6	3.5	2.8	2.8	3.2	2.9
Share of people living in low work intensity households (% of people aged 0-59)	8.9	8.7	7.3	8.2	9.1	9.8	9.1
Gross Household Disposable income adjusted for consumer prices (growth %)	3.0	4.6	2.0	1.3	2.5	0.6	0.1
Income quintile share ratio S80/S20	3.6	3.7	3.8	3.7	3.6	3.7	3.7
GINI coefficient	25.9	26.2	26.3	25.9	25.4	25.8	25.9
Early leavers from education and training (% of population aged 18-24)	9.7	9.1	9.8	9.9	10.3	9.8	8.9
NEET: Young people not in employment, education or training (% of total population aged 15-24)	7.7	7.0	7.8	9.9	9.0	8.4	8.6

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	16.3	15.8	15.9	15.8	16.0	17.3	17.0
At-risk-of-poverty (% of male population)	12.0	12.1	12.7	12.9	12.4	13.2	12.9
Poverty gap (%)	14.6	14.7	17.1	16.6	14.7	15.2	16.4
Persistent at-risk-of-poverty (% of male population)		6.5	6.2	5.1	7.4	6.8	6.6
Severe Material Deprivation (% of male population)	3.0	3.0	3.2	2.9	2.6	3.2	3.0
Share of people living in low work intensity households (% of males aged 0-59)	9.2	8.5	7.2	8.5	9.4	10.2	10.0
Life expectancy at birth (years)	75.9	76.0	76.5	76.6	76.9	77.3	
Healthy life years at birth (years)	53.2	56.8	58.6	58.2	58.5	57.7	
Early leavers from education and training (% of males aged 18-24)	11.8	11.2	12.1	10.7	11.6	11.2	9.8
NEET: Young people not in employment, education or training (% of males aged 15-24)	7.2	6.4	7.7	10.5	9.4	8.7	8.6

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	17.9	19.0	18.9	17.9	17.7	18.5	17.4
At-risk-of-poverty (% of female population)	13.1	13.8	14.5	14.7	13.8	14.2	13.6
Poverty gap (%)	14.1	13.5	14.1	14.6	12.9	12.4	13.9
Persistent at-risk-of-poverty (% of female population)		8.5	7.4	7.7	8.1	8.1	8.1
Severe Material Deprivation (% of female population)	3.6	4.1	3.8	2.7	3.1	3.2	2.9
Share of people living in low work intensity households (% of females aged 0-59)	8.7	8.8	7.5	7.9	8.8	9.3	8.2
Life expectancy at birth (years)	83.1	83.1	83.3	83.5	83.5	83.8	
Healthy life years at birth (years)	52.8	58.0	59.5	58.6	58.2	58.3	
Early leavers from education and training (% of females aged 18-24)	7.8	7.2	7.7	9.0	9.0	8.4	8.1
NEET: Young people not in employment, education or training (% of females aged 15-24)	8.1	7.7	7.9	9.2	8.6	8.2	8.6

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	13.8	15.1	15.1	14.0	14.2	16.1	14.9
At-risk-of-poverty (% of Children population)	9.8	10.9	12.0	12.1	11.4	11.8	11.1
Severe Material Deprivation (% of Children population)	2.6	3.4	3.1	2.5	2.3	3.2	2.8
Share of children living in low work intensity households (% of Children population)	6.4	6.0	4.9	5.8	5.9	7.6	5.9
Risk of poverty of children in households at work (Working Intensity > 0.2)	6.5	8.2	9.1	7.9	7.6	7.5	7.7
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	67.3	65.3	59.6	56.5	61.6	60.9	63.0

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	16.8	16.8	16.5	16.2	17.1	18.0	17.3
At-risk-of-poverty (% of Working age population)	11.2	11.5	11.8	12.2	12.3	12.8	12.4
Severe Material Deprivation (% of Working age population)	3.8	3.9	3.7	3.1	3.3	3.5	3.4
Very low work intensity (18-59)	9.9	9.7	8.3	9.1	10.3	10.6	10.3
In-work at-risk-of poverty rate (% of persons employed)	4.4	5.0	5.1	3.7	3.7	3.9	3.8
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	59.3	58.2	54.1	50.8	53.8	52.9	53.4

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	23.0	23.1	23.9	23.1	19.5	19.8	19.5
At-risk-of-poverty (% of Elderly population)	21.8	21.6	22.5	22.1	18.3	18.9	18.4
Severe Material Deprivation (% of Elderly population)	2.2	2.6	3.2	2.2	1.7	2.1	1.5
Relative median income of elderly (ratio with median income of people younger than 65)	0.73	0.74	0.72	0.73	0.78	0.78	0.8
Aggregate replacement ratio (ratio)	0.47	0.47	0.49	0.48	0.50	0.50	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	6.7	6.5	6.8	7.6	7.5	7.5	
Disability	3.2	3.1	3.2	3.6	3.6	3.5	
Old age and survivors	9.7	9.5	9.6	11.4	11.7	11.7	
Family/Children	3.0	2.9	2.9	3.3	3.3	3.3	
Unemployment	2.2	1.9	1.8	2.4	2.4	2.1	
Housing and Social exclusion n.e.c.	0.8	0.8	1.0	1.2	1.2	1.3	
Total (including Admin and Other expenditures)	26.4	25.4	26.2	30.4	30.6	30.0	
of which: Means tested benefits	1.2	1.1	1.1	1.3	1.3	1.4	

Social Inclusion Indicators: Sweden

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	16.3	13.9	14.9	15.9	15.0	16.1	18.2
At-risk-of-poverty (% of total population)	12.3	10.5	12.2	13.3	12.9	14.0	14.2
At-risk-of-poverty threshold (PPS single person)	9068	9545	10680	11295	11005	11084	11693
Poverty gap (%)	22.7	20.3	18.0	20.3	19.7	18.5	18.6
Persistent at-risk-of-poverty (% of total population)		2.1	2.6	3.7	4.9	4.1	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	29.0	27.5	28.5	26.6	26.7	27.9	27.3
Impact of social transfers (excl. pensions) in reducing poverty (%)	57.6	61.8	57.2	50.0	51.7	49.8	48.0
Severe Material Deprivation (% of total population)	2.1	2.2	1.4	1.6	1.3	1.2	1.3
Share of people living in low work intensity households (% of people aged 0-59)	6.6	5.9	5.4	6.2	5.9	6.8	10.0
Gross Household Disposable income adjusted for consumer prices (growth %)	3.4	5.2	2.0	2.2	1.2	3.5	3.5
Income quintile share ratio S80/S20	3.6	3.3	3.5	3.7	3.5	3.6	3.7
GINI coefficient	24.0	23.4	24.0	24.8	24.1	24.4	24.9
Early leavers from education and training (% of population aged 18-24)	8.6	8.0	7.9	7.0	6.5	6.6	7.5
NEET: Young people not in employment, education or training (% of total population aged 15-24)	9.3	7.5	7.8	9.6	7.7	7.5	7.8

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	15.9	13.6	13.7	14.4	13.4	14.2	16.6
At-risk-of-poverty (% of male population)	12.3	10.5	11.3	12.0	11.4	12.2	12.7
Poverty gap (%)	26.4	22.7	20.1	22.1	22.9	19.3	23.6
Persistent at-risk-of-poverty (% of male population)		1.9	2.5	3.1	4.4	2.9	
Severe Material Deprivation (% of male population)	2.1	2.2	1.3	1.5	1.2	1.1	1.4
Share of people living in low work intensity households (% of males aged 0-59)	6.1	5.4	5.0	5.9	5.7	6.6	10.0
Life expectancy at birth (years)	78.8	79.0	79.2	79.4	79.6	79.9	
Healthy life years at birth (years)	67.3	67.7	69.4	70.7	71.7	71.1	
Early leavers from education and training (% of males aged 18-24)	10.1	9.5	9.0	8.0	7.5	7.8	8.5
NEET: Young people not in employment, education or training (% of males aged 15-24)	9.6	7.5	7.5	9.8	7.8	7.6	7.9

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	16.7	14.2	16.1	17.5	16.6	18.0	19.8
At-risk-of-poverty (% of female population)	12.3	10.6	13.0	14.5	14.3	15.7	15.7
Poverty gap (%)	20.9	18.3	17.0	17.8	16.8	17.9	17.1
Persistent at-risk-of-poverty (% of female population)		2.2	2.7	4.3	5.2	5.2	
Severe Material Deprivation (% of female population)	2.1	2.1	1.6	1.6	1.4	1.2	1.2
Share of people living in low work intensity households (% of females aged 0-59)	7.2	6.3	5.8	6.6	6.1	6.9	10.1
Life expectancy at birth (years)	83.1	83.1	83.3	83.5	83.6	83.8	
Healthy life years at birth (years)	67.5	66.8	69.0	69.6	71.1	70.2	
Early leavers from education and training (% of females aged 18-24)	7.1	6.5	6.8	6.0	5.5	5.4	6.3
NEET: Young people not in employment, education or training (% of females aged 15-24)	9.0	7.4	8.2	9.5	7.6	7.5	7.8

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	18.5	14.9	14.6	15.1	14.5	15.9	19.4
At-risk-of-poverty (% of Children population)	15.0	12.0	12.9	13.1	13.1	14.5	15.0
Severe Material Deprivation (% of Children population)	2.8	3.2	1.7	1.7	1.3	1.3	1.3
Share of children living in low work intensity households (% of Children population)	5.4	5.5	4.0	4.2	4.8	5.4	10.1
Risk of poverty of children in households at work (Working Intensity > 0.2)	11.6	8.4	9.6	9.9	9.0	10.1	9.5
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	59.0	64.7	62.2	56.9	58.4	54.7	53.6

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	16.5	14.5	14.8	15.6	15.0	15.4	17.9
At-risk-of-poverty (% of Working age population)	11.4	10.2	11.2	12.1	11.9	12.5	12.8
Severe Material Deprivation (% of Working age population)	2.1	2.2	1.5	1.8	1.5	1.3	1.6
Very low work intensity (18-59)	7.2	6.0	6.0	7.0	6.4	7.3	10.0
In-work at-risk-of poverty rate (% of persons employed)	7.4	6.5	6.8	7.0	6.6	6.9	6.7
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	59.3	61.8	59.1	52.2	54.1	52.8	50.4

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	11.9	10.4	15.5	18.0	15.9	18.6	17.7
At-risk-of-poverty (% of Elderly population)	11.3	9.9	15.0	17.7	15.5	18.2	17.5
Severe Material Deprivation (% of Elderly population)	0.9	0.6	0.8	0.5	0.7	0.6	0.4
Relative median income of elderly (ratio with median income of people younger than 65)	0.85	0.81	0.78	0.77	0.79	0.77	0.8
Aggregate replacement ratio (ratio)	0.62	0.63	0.62	0.60	0.60	0.58	0.6

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	7.8	7.5	7.5	7.9	7.4	7.5	
Disability	4.5	4.4	4.4	4.6	4.1	3.8	
Old age and survivors	11.8	11.6	12.0	13.2	12.7	12.4	
Family/Children	3.0	2.9	3.0	3.2	3.1	3.1	
Unemployment	1.6	1.1	0.9	1.3	1.4	1.2	
Housing and Social exclusion n.e.c.	1.1	1.1	1.1	1.2	1.2	1.1	
Total (including Admin and Other expenditures)	30.3	29.2	29.5	32.0	30.4	29.6	
of which: Means tested benefits	0.8	0.8	0.8	0.9	0.8	0.8	

Social Inclusion Indicators: United Kingdom

Global

All	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of total population)	23.7	22.6	23.2	22.0	23.2	22.7	24.1
At-risk-of-poverty (% of total population)	19.0	18.6	18.7	17.3	17.1	16.2	16.2
At-risk-of-poverty threshold (PPS single person)	10578	11267	11126	10091	10178	10082	10582
Poverty gap (%)	22.8	22.4	21.0	20.6	21.4	21.3	21.0
Persistent at-risk-of-poverty (% of total population)				8.0	7.4	6.9	
At-risk-of-poverty before social transfers excl. pensions (% of total population)	30.1	29.7	28.9	30.4	31.0	30.5	31.9
Impact of social transfers (excl. pensions) in reducing poverty (%)	36.9	37.4	35.3	43.1	44.8	46.9	49.2
Severe Material Deprivation (% of total population)	4.5	4.2	4.5	3.3	4.8	5.1	7.8
Share of people living in low work intensity households (% of people aged 0-59)	12.0	10.3	10.4	12.6	13.1	11.5	13.0
Gross Household Disposable income adjusted for consumer prices (growth %)	2.9	0.8	-0.1	1.4	1.4	-1.7	1.3
Income quintile share ratio S80/S20	5.4	5.3	5.6	5.3	5.4	5.3	5.4
GINI coefficient	32.5	32.6	33.9	32.4	32.9	33.0	32.8
Early leavers from education and training (% of population aged 18-24)	11.3	16.6	17.0	15.7	14.9	15.0	13.6
NEET: Young people not in employment, education or training (% of total population aged 15-24)	8.5	11.9	12.1	13.3	13.7	14.3	14.0

By gender

Male	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of male population)	22.1	21.1	21.7	21.1	22.1	21.4	23.4
At-risk-of-poverty (% of male population)	18.0	17.6	17.4	16.7	16.4	14.8	16.0
Poverty gap (%)	22.8	22.9	21.1	20.9	23.0	22.2	22.0
Persistent at-risk-of-poverty (% of male population)				7.6	7.0	6.1	
Severe Material Deprivation (% of male population)	4.4	3.9	4.3	3.4	4.8	5.0	7.5
Share of people living in low work intensity households (% of males aged 0-59)	10.8	9.6	9.7	12.0	12.4	10.7	12.4
Life expectancy at birth (years)	77.3	77.6	77.8	78.3	78.7	79.1	
Healthy life years at birth (years)	64.8	64.6	65.0	65.0	65.0	65.2	
Early leavers from education and training (% of males aged 18-24)	12.3	17.6	18.3	16.9	15.8	16.2	14.7
NEET: Young people not in employment, education or training (% of males aged 15-24)	7.5	10.1	10.2	12.1	12.2	13.2	12.9

Female	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of female population)	25.4	24.1	24.7	22.8	24.2	24.1	24.8
At-risk-of-poverty (% of female population)	19.9	19.6	20.0	17.8	17.8	17.6	16.5
Poverty gap (%)	22.7	21.9	20.9	20.5	19.3	20.5	19.8
Persistent at-risk-of-poverty (% of female population)				8.3	7.7	7.8	
Severe Material Deprivation (% of female population)	4.7	4.4	4.8	3.2	4.9	5.1	8.1
Share of people living in low work intensity households (% of females aged 0-59)	13.1	11.1	11.1	13.3	13.9	12.2	13.5
Life expectancy at birth (years)	81.7	81.8	81.9	82.5	82.6	83.1	
Healthy life years at birth (years)	64.9	66.0	66.3	66.1	65.6	65.2	
Early leavers from education and training (% of females aged 18-24)	10.2	15.6	15.6	14.5	14.0	13.8	12.4
NEET: Young people not in employment, education or training (% of females aged 15-24)	9.6	13.7	14.1	14.6	15.2	15.5	15.1

By age group

Children (0-17)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of children (% of people aged 0-17)	30.1	27.6	29.6	27.4	29.7	26.9	31.2
At-risk-of-poverty (% of Children population)	23.8	23.0	24.0	20.7	20.4	18.0	18.5
Severe Material Deprivation (% of Children population)	7.1	6.3	6.5	4.4	7.3	7.1	12.5
Share of children living in low work intensity households (% of Children population)	15.4	13.7	13.8	16.1	17.1	14.0	16.2
Risk of poverty of children in households at work (Working Intensity > 0.2)	15.1	14.7	16.2	12.2	12.7	12.1	13.2
Impact of social transfers (excl. pensions) in reducing poverty (0-17) (%)	42.8	43.6	39.6	51.6	54.2	57.6	58.5

Working age (18-64)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion (% of Working age population)	20.7	19.6	19.7	19.8	21.2	21.4	23.8
At-risk-of-poverty (% of Working age population)	15.5	15.1	14.7	14.8	14.9	14.1	15.5
Severe Material Deprivation (% of Working age population)	4.3	4.0	4.7	3.6	5.0	5.5	8.0
Very low work intensity (18-59)	10.7	9.0	9.1	11.3	11.7	10.5	11.8
In-work at-risk-of poverty rate (% of persons employed)	7.7	7.9	8.0	6.3	6.7	7.8	8.8
Impact of social transfers (excl. pensions) in reducing poverty (18-64) (%)	38.3	38.9	38.0	44.4	45.2	48.0	45.4

Elderly (65+)	2006	2007	2008	2009	2010	2011	2012
At-risk-of-poverty or exclusion of elderly (% of people aged 65+)	27.5	27.9	28.5	23.1	22.3	22.7	16.9
At-risk-of-poverty (% of Elderly population)	26.1	26.5	27.3	22.3	21.3	21.8	16.1
Severe Material Deprivation (% of Elderly population)	2.1	1.9	1.4	1.2	1.3	1.3	1.4
Relative median income of elderly (ratio with median income of people younger than 65)	0.73	0.74	0.74	0.80	0.81	0.81	0.9
Aggregate replacement ratio (ratio)	0.45	0.44	0.43	0.44	0.48	0.48	0.5

Expenditure in social protection indicators (% of GDP)	2006	2007	2008	2009	2010	2011	2012
Sickness/Health care	7.9	7.5	7.7	8.7	8.3	8.3	
Disability	2.4	2.5	2.7	2.9	2.4	2.4	
Old age and survivors	11.2	10.4	10.7	11.8	11.4	11.4	
Family/Children	1.5	1.6	1.7	1.9	1.8	1.7	
Unemployment	0.6	0.5	0.6	0.8	0.7	0.7	
Housing and Social exclusion n.e.c.	1.6	1.4	1.4	1.7	1.7	1.7	
Total (including Admin and Other expenditures)	25.6	24.7	25.8	28.6	27.4	27.3	
of which: Means tested benefits	3.9	3.5	3.6	4.2	3.8	3.8	

Data sources and definitions

Main data sources

Most of the data used in this report originates from Eurostat, the Statistical Office of the European Union. The main data source for the social indicators is the EU-SILC (EU-Statistics on Income and Living Conditions). The EU-SILC instrument is the EU reference source for comparative statistics on income distribution and social inclusion at the European level. It provides two types of annual data for 27 European Union countries, Croatia, Iceland, Norway, Switzerland and Turkey:

- Cross-sectional data pertaining to a given time or a certain time period with variables on income, poverty, social exclusion and other living conditions, and
- Longitudinal data pertaining to individual-level changes over time, observed periodically over a four year period.

EU-SILC does not rely on a common questionnaire or a survey but on the idea of a 'framework'. The latter defines the harmonised lists of target primary (annual) and secondary (every four years or less frequently) variables to be transmitted to Eurostat; common guidelines and procedures; common concepts (household and income) and classifications aimed at maximising comparability of the information produced.

Data regarding social protection expenditures are from the European System of integrated Social PROtection Statistics (ESSPROS). ESSPROS is an instrument of statistical observation which enables international comparison of the administrative national data on social protection in the EU Member States.

The conventional definition used for the scope of social protection definition is the following:

'Social Protection encompasses all interventions from public or private bodies intended to relieve households and individuals of the burden of a defined set of risks or needs, provided that there is neither a simultaneous reciprocal nor an individual arrangement involved. The list of risks or needs that may give rise to social protection is, by convention, as follows: Sickness/Health care, Disability, Old age, Survivors, Family/children, Unemployment, Housing and Social exclusion not elsewhere classified'.

Definitions and data sources of key social indicators

Indicator	Definition	Data by Gender	Data by Age	Source
At-risk-of-poverty-or-exclusion	Percentage of a population representing the sum of persons who are: at risk of poverty or severely materially deprived or living in households with very low work intensity.	X	X	Eurostat, SILC
At-risk-of-poverty	Share of people with an equivalised disposable income (after social transfer) below the at-risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income after social transfers.	X	X	Eurostat, SILC
At-risk-of-poverty threshold	60 % of the national median equivalised disposable income after social transfers.	X		Eurostat, SILC
Poverty gap	Difference between the median equivalised disposable income of people below the at-risk-of-poverty threshold and the at-risk-of-poverty threshold, expressed as a percentage of the at-risk-of-poverty threshold (cut-off point: 60 % of national median equivalised disposable income).	X		Eurostat, SILC
Persistent at-risk-of-poverty	Percentage of the population living in households where the equivalised disposable income was below the at-risk-of-poverty threshold for the current year and at least two out of the preceding three years.	X		Eurostat, SILC
At-risk-of-poverty before social transfers excl. pensions	Share of people having an equivalised disposable income before social transfers that is below the at-risk-of-poverty threshold calculated after social transfers.			Eurostat, SILC
Impact of social transfers	Computed indicator, formula: 100*(B-A)/B, where B: At-risk-of-poverty before social transfers excl. pensions. A: At-risk-of-poverty.		X	Eurostat, SILC
Severe Material Deprivation	Inability to afford some items (at least 4 on a list of 9)considered by most people to be desirable or even necessary to lead an adequate life.	X	X	Eurostat, SILC
Share of people living in low work intensity households	Share of persons living in a household having a work intensity below a threshold set at 0.20. The work intensity of a household is the ratio of the total number of months that all working-age household members have worked during the income reference year and the total number of months the same household members theoretically could have worked in the same period.	X		Eurostat, SILC
Gross Household Disposable Income adjusted for consumer prices	The amount of money available for spending or saving. This is money left after expenditure associated with income, e.g. taxes and social contributions, property ownership and provision for future pension income.			AMECO
Income quintile share ratio S80/S20	Ratio of total income received by the 20 % of the population with the highest income (the top quintile) to that received by the 20 % of the population with the lowest income (the bottom quintile).			Eurostat, SILC
GINI coefficient	The relationship of cumulative shares of the population arranged according to the level of equivalised disposable income, to the cumulative share of the equivalised total disposable income received by them.			Eurostat, SILC
Life expectancy at birth	The mean number of years a newborn child can expect to live if subjected throughout his or her life to the current mortality conditions, the probabilities of dying at each age.	X		Eurostat
Healthy life years at birth	Number of years that a person is expected to continue to live in a healthy condition.	X		Eurostat
Early leavers from education and training	Early leaver from education and training, previously named early school leaver, generally refers to a person aged 18 to 24 who has finished no more than a lower secondary education and is not involved in further education or training; their number can be expressed as a percentage of the total population aged 18 to 24.	X		Eurostat
NEET: Young people not in employment, education or training	Share of people aged 15 to 24 who are unemployed, not engaged in housework, not enrolled in school or work-related training, and not seeking work.	X		Eurostat, LFS
Risk of poverty of children in households at work (Working Intensity > 0.2)	Share of children at-risk-of-poverty living in households with work intensity bigger than very low.			Eurostat, SILC
In-work at Risk-of-poverty rate	The share of persons who are at work and have an equivalised disposable income below the risk-of-poverty threshold, which is set at 60 % of the national median equivalised disposable income (after social transfers).			Eurostat, SILC
Relative median income of elderly	Ratio of the median equivalised disposable income of people aged above 65 to the median equivalised disposable income of those aged below 65.			Eurostat, SILC
Aggregate replacement ratio	Ratio of the median individual gross pensions of 65-74 age category relative to median individual gross earnings of 50-59 age category, excluding other social benefits.			Eurostat, SILC
Social indicator expenditure	Percentage of expenditure in different social protection areas in relation with the GDP.			Eurostat

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