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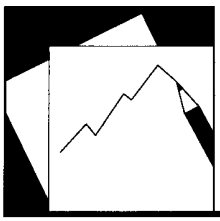

IMF Working Paper

Assessing the Macroeconomic Impact of Structural Reforms: The Case of Italy

Lusine Lusinyan and Dirk Muir

INTERNATIONAL MONETARY FUND

 WP/13/xx

IMF Working Paper

European Department and Research Department

Assessing the Macroeconomic Impact of Structural Reforms: The Case of Italy

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Authorized for distribution by Kenneth Kang

January 2013

Abstract

Wide-ranging structural reforms are underway in Italy, aimed at addressing key bottlenecks in the product and labor markets. Our analysis, based on the IMF's Global Integrated Monetary and Fiscal model (GIMF), attempts to quantify the potential gains to the economy from a comprehensive package of structural reforms. We find that these gains can be sizeable. While in most cases, the reforms go in the right direction, their impact would depend on effective and timely implementation. In some areas, especially in the labor market, reforms would benefit from further strengthening. The priorities should be to strengthen competition in the non-tradable sector and make the labor market more efficient and inclusive, supported by growth-friendly fiscal reforms.

JEL Classification Numbers: C53; E12; E27; E61; E62; H31; H32; O43; O47

Keywords: Growth; structural reforms; product market competition; labor market reforms; fiscal policy; macroeconomic policy coordination; dynamic stochastic general equilibrium models; Italy

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[1] The authors are grateful to Gianluca Esposito, Benjamin Hunt, Yan Liu, Isabelle Mouysset, Justin Tyson, the staff of the Ministry of Economy and Finance and of the Bank of Italy as well as other interlocutors during the 2012 Article IV Consultation mission to Italy, and the participants of the ECB Workshop on "The Short- and Medium-Term Impact of Structural Reforms and Their Implications for Macroeconomic Projections" (October 5, 2012) for helpful discussions and comments.

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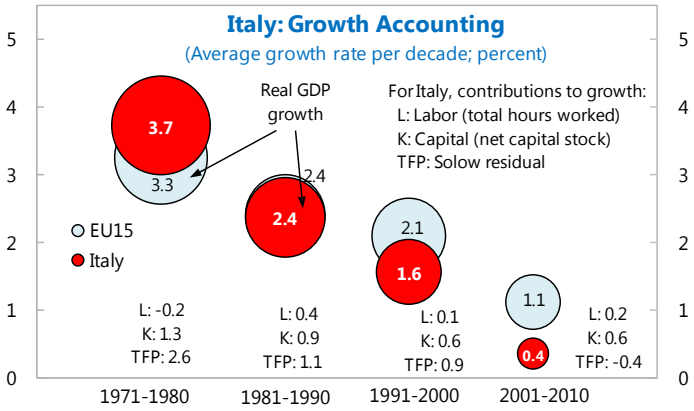
I. INTRODUCTION

Italy's economy has a number of important strengths. Italian households have sound balance sheets, and private savings have traditionally been high. Private debt, at about 125 percent of GDP, is among the lowest in the euro area. The public sector, despite having one of the largest debt in the world, has also large assets. With net foreign liabilities at around 20 percent of GDP, Italy's net international investment position is more favorable than in other euro area periphery countries, and its current account deficit is relatively low. Italy's exports, though lagging in terms of high value-added contents, are among the most diversified in the world.

Despite these strengths, Italy's economic performance has lagged behind its peers. Growth averaged less than ½ percent in the last decade (against over 1 percent in EU15 and 1¼ percent in G7 countries), while total factor productivity growth was negative. Potential growth is estimated to have stalled in recent years or even turned negative. In the absence of major changes to trends in productivity, employment, and investment, potential growth is likely to remain close to zero over the medium term.



Sources: OECD; and IMF staff estimates.

Italy's weak growth performance has been attributed to a number of structural factors.

- *Limited competition.* Regulatory rigidities and entry barriers have limited competition and kept rents high, especially in non-tradable sectors (Figure 1). This has adversely affected the business environment (Figure 2), increasing costs for the sectors that need to compete globally and eroding the competitiveness of the economy. With firms unable to grow and benefit fully from economies of scale, the efficiency has remained low, innovation and FDI penetration have been limited, and specialization has not moved sufficiently up toward more high-skill sectors (Figure 3), leading to a loss in export market shares.
- *Labor market rigidities*. Mirroring the problems in product markets, the labor market is marred by low labor participation, dualism, and low educational attainment (Figure 3).
- *Weak public services*. Deficiencies in the product and labor markets have been accentuated by the high tax burden coupled with inefficient public spending (Figure 4), a lengthy legal system, large regional disparities, and a sizeable unofficial economy.

Against this backdrop, the government has recently taken important steps in a wide range of structural areas. Product market liberalization and competition measures, introduced in 2011 and 2012, cover many key areas. Administrative simplification reforms to lower the cost of doing business have also been approved. The government's labor market reform aims to make the labor market more dynamic and inclusive.

To assess the potential impact of these reforms, this paper uses a model-based approach. We begin with a brief overview of the product and labor market reforms in Italy (Section II), highlighting the main structural problems, and contrasting these with the actions proposed. Section III estimates the impact of structural reforms in Italy using a simulation framework. We conclude with a brief discussion of reform priorities and implementation issues.

Our main findings can be summarized as follows:

- Reforms go in the right direction. They cover the key structural bottlenecks in the product and labor markets and address most priority areas.
- In product market reform, prompt and consistent implementation is important, especially in the energy sector, where the gains could be sizeable. Labor market reform should aim to lower labor adjustments costs, introduce more internal flexibility and a closer link between wages and productivity, increase participation, especially among women, and improve activation policies.
- The impact of structural reforms on GDP can be sizeable. We confirm the findings from the literature using IMF's Global Integrated Monetary and Fiscal model (GIMF) showing that policies that would close roughly half the gap in product and labor markets with the rest of the euro area and best practice cases in OECD, respectively, could raise real GDP by 5¾ percent after 5 years and by 10½ percent in the long run. A broader set of reforms including also fiscal measures to lower direct taxation and increase productive, well-targeted investment spending (both in a deficit neutral way) could amplify the gains and contribute further to closing Italy's competitiveness gap.

II. Recent Structural Reforms in Italy: An Overview

A. Product Markets: Deregulating and Enhancing Competition

Liberalizing economic activity and enhancing competition are the main objectives of the ongoing product market reforms. In general, the measures aim to address excessive monopolistic rents, reduce entry barriers and information asymmetries as well as remove unnecessary regulation of economic activities. They also address some of the key regulatory shortcomings from the 2001 constitutional reform that re-allocated significant legislative and regulatory powers to sub-national authorities in commercial distribution, energy, and transport, where strong connections to local vested interests exist.[2] Overall, the policies go in the right direction, but the success in achieving the objectives of a more open and competitive economic environment will depend on effective and consistent implementation of these policies over time.[3]

Table 1 summarizes the problems in key segments of product markets and policy proposals of the January 2012 liberalization package.[4] The latter are concentrated in the services and public sector and cover largely non-tradable sectors, including network industries (energy and transport, also at the local government level), professional services (e.g., legal/notaries, accounting, medical/pharmacists, engineering), and provision of local public services/utilities. Together these sectors amount to about one-third of the total value added in the economy and contribute about 40 percent of total inputs used (intermediate consumption) by other industries and close to 30 percent of the households' final consumption expenditure.[5]

To illustrate the types of problems and specific measures taken to address them, we discuss below the case of two sectors, the energy sector and professional services (for further details, see IMF, 2012a). A key message to draw from these examples is that the impact of the reforms can be highly uncertain because of a variety of reasons, such as long implementation period, the presence of numerous stakeholders, and changes in market conditions.

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[2] For details of the 2011 constitutional reform, see for example, OECD (2009).

[3] The recently updated OECD Product Market Regulation (PMR) indicators show that the overall PMR indicator has improved from 1.3 in 2008 to 1.2 in 2012, becoming less restrictive than the 2008 EU and OECD averages (Figure 1), with the indicator on the regulation restrictiveness in professions improving significantly to reach the 2008 average of the EU and OECD (NRP, 2012).

[4] The package was approved by the parliament on March 24, 2012 (Law n. 27/2012).

[5] Not included here are financial/insurance activities, telecommunication, public administration, wholesale/retail trade, and accommodation/food services. For some of these areas, more general measures to abolish/reduce regulatory and administrative restrictions are introduced in the January 2012 liberalization and simplification packages.

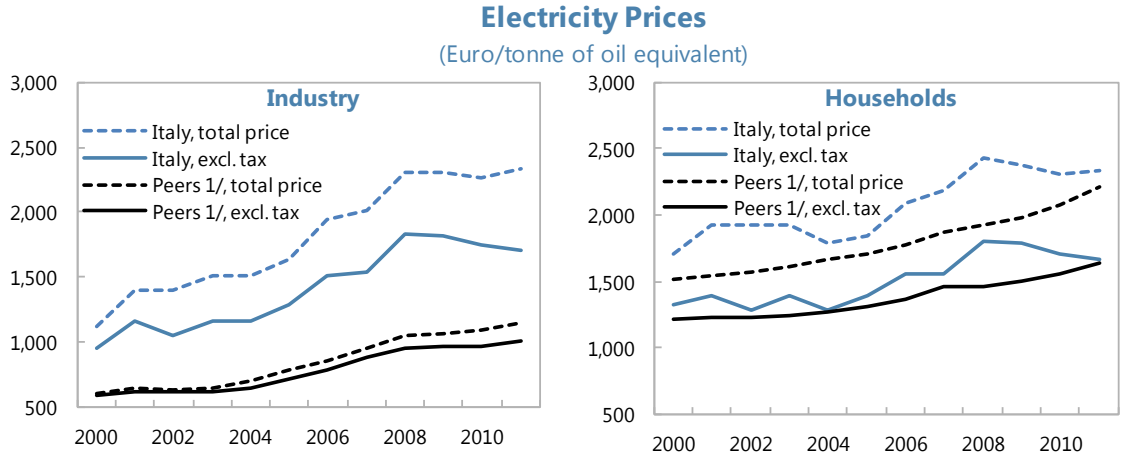
Table 1. Italy: Product Market Reforms—A Summary of Main Problems and Actions Taken

Area	Sub-sector	Main Problems	Actions Taken
Energy	Gas industry	High wholesale prices as a results of insufficient facilities for gas importation; insufficient investment in transport/ storage capacity by incumbent ENI; multi-level veto powers and co-ordination failure; long-term import contracts	Ownership separation of ENI from the gas distribution company; lower tariffs for vulnerable customers; promoting strategic investments
	Electricity	High tariffs as a result of costly gas-based generation; insufficient investment in transmission infrastructure; information asymmetries between integrated distributors and final sellers	Promoting investment in the transmission network; increasing information transparency
	Petroleum products	Outdated and oversized distribution network; regulatory barriers; contractual constraints	Eliminating restrictions on contractual arrangements and activities; replacing outdated systems; improving information transparency
Transport	Regulatory framework	Fragmented regulation, involving conflict of interest between regulator and service provider	Establishing independent Transport Authority
	Railways	Lack of vertical separation and competition; low quality of passenger (regional) and freight services; incumbent protected by government subsidies and entry barriers	Measures to be defined by the Transport Authority; competitive tender process for local railway services introduced
	Highways	Inadequate tariff system (not translating into investments to extend the network); very long duration of concessions	Measures to be defined by the Transport Authority; tariffs systems for new concessions to be reviewed
	Taxi services	Supply restrictions	Guidelines to limit the restrictions are provided but yet to be operationalized; however, Transport Authority's role in decisions on licenses will be limited
Professional services	General	Excessive regulation; limited competition protecting incumbent rents; conflict of interest in the governance of professional orders	Abolishing tariffs for regulated professions; reforming professional orders to ease entry and activity restrictions; separating administrative, education, and disciplinary functions within orders
	Pharmacies	Quantitative restrictions; constraints on ownership; partial liberalization of the sale of drugs	Increasing the number of pharmacies; abolishing some restrictions; prescription should indicate generic alternative
	Notaries	Quantitative restrictions; inadequate supply; shortcomings in entry exams	Increasing the number of notaries; more regular assessment of needs
Local public services	General	Non-competitive contract awards in favor of incumbents; "in-house" contracting; conflict of interest between regulator and service provider; low service quality	Requiring competitive tendering and territorial consolidation in service provision to increase efficiency/reduce costs; strengthening enforcement and sanctions for non-compliance; monitoring by the Presidency of the Council of Ministers

Source: IMF staff.

The Case of the Energy Sector

Italy's energy prices are among the highest in Europe. In particular, electricity prices are 50 percent higher than the European average (Antitrust Authority, 2012a), especially for industrial users. This reflects both high gas prices and large reliance on gas in electricity production. In turn, in the gas sector, the limited import infrastructure, the existence of a strong incumbent (ENI) in all segments of gas importation/transport/storage, and long-term import contracts hamper competition and discourage investments. Achieving coordination on the projects of national interest is complicated by a veto power of regional/local governments, and authorization procedures are very long. In the electricity sector, information asymmetries discourage competition in the final sale of electricity. Prices of petroleum products (with and without taxes) are also higher in Italy as a result of outdated and oversized distribution network, barriers to entry, and contractual restrictions.



Source: OECD.

1/ Peers = Average of Austria, Belgium, France, Germany, Netherlands, Portugal, and Spain.

To open up the gas sector to competition and promote infrastructure investments, the authorities started a process of separating the ownership of gas transport/storage providers from ENI. In particular, the ownership unbundling through a sale of ENI's shares in the gas transport company is set to be completed by May 2013. Measures are also being put in place to address the delays in authorization process for strategic infrastructure projects, promote investments in gas and electricity sectors, and reduce potential supply shortages and the cost of gas for companies by providing additional access to storages. Some restrictions on exclusive contracts between fuel distributors and suppliers have been lifted, and measures to enhance information transparency have been introduced.

The Case of Professional Services

Italy has one of most restrictive regulations in professions among the OECD countries (Figure 1). This has limited competition, restricted supply, protected incumbents' rent, and increased costs for businesses and households. Entry to and conduct in the market are subject

to stringent controls, along with price regulations. Pharmacists are particularly heavily regulated. Regulations in legal services create uncertainty about the ultimate costs of resorting to the justice system, while the structure of lawyers' fees creates incentives to prolong litigation. In general, the governance of professional orders leads to a possible conflict of interest as some members could be both competitors and responsible for the oversight of the order's activities and disciplinary matters. All these factors can cumulate to significant direct costs to the economy given that professional services contribute 6 percent of total value added in Italy and constitute 10 percent of total intermediate consumption used by all the industries.

Past attempts to reform professional services faced strong resistance and did not always move in the direction of deregulation and increasing competition. The latest reforms have proposed abolishing the tariffs for regulated professions, except for the cases of a judicial settlement of a compensation for which parameters established by the Ministry of Justice are to be used. A broader reform of professional orders is also underway to ensure a liberal access to professions and to increase competition by strengthening the governance (including in the areas of training and oversight) and by removing restrictions on advertising. Once again, however, the outcome of these reforms will depend on how exactly these will translate into practice by various professional orders.[6] To ease supply restrictions, the number of pharmacies and notaries will be increased, and some restrictions on pharmacies' activities are abolished, but the measures have fallen short of a more complete opening up of these sectors.

B. Labor Market: Improving Participation and Productivity

Making the labor market more dynamic and inclusive are the main objectives of the authorities' reform. The labor market reform bill, which was approved by the parliament in July 2012, is wide-ranging and addresses most of the key aspects of the labor market. In general, the reform aims at tackling job insecurity and dualism, making employment protection and unemployment insurance more even, and encouraging more stable employment relationships while also lowering the firing costs, and ultimately increasing employment and participation, especially of youth. The reform also envisages strengthening active labor market policies.

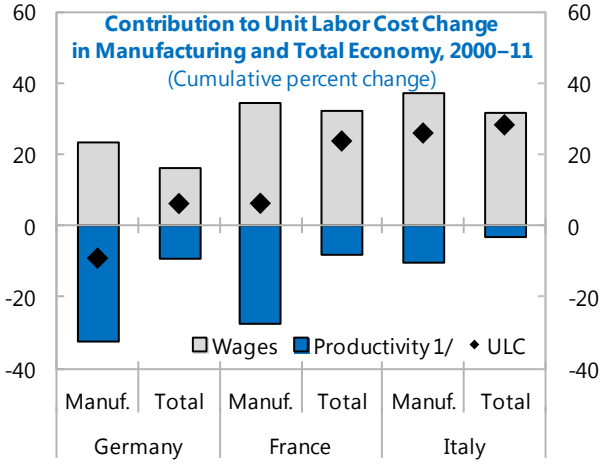
Table 2 summarizes the main problems in various areas of the labor market and policies proposed to address them, including the latest labor market reform (for further details, see IMF, 2012a). Overall, when assessing the recent labor market reforms, a number of observations emerge. First, as in the case of product market reforms, there are measures that

[6] Indeed, the discussions on the draft law to reform the lawyers' order already suggested some deviations from the principles adopted in the reform of professional orders by proposing to reintroduce tariffs, lengthen the training period, and limit advertising (Antitrust Authority, 2012b).

go in the right direction of increasing efficiency and participation in the labor market but their impact will depend entirely on the way they are implemented. Their implementation would also depend on the developments in other areas, such as the judicial system (for the case of firing costs) or fiscal federalism reforms (for the case of activation policies). In other cases, like the reorganization of the social safety net, fiscal constraints may limit the scope of the reforms. Second, there are measures which are more of an incremental nature and do not provide a clear structural shift from the current labor market arrangements, such as in the case of policies to address dualism between permanent and temporary workers. Lastly, there are areas that remain to be addressed, including the promotion of internal flexibility and better linking wages and productivity as well as extending the reforms to the public sector.

We focus our discussion here on two areas which could benefit from more far-reaching interventions. These are the reforms to reduce the dualism in the labor market and increase internal flexibility.

- In the first area, the recent reform promotes more open-ended and apprenticeship contracts, making these more attractive for the employers through a more favorable tax regime. However, the reforms fall short by leaving a variety of atypical contracts, imposing age limits and increasing flexibility for some, and by not addressing more forcefully the possibility of reinstatement in case of unfair dismissal of permanent workers. The limited substitutability between different types of labor inputs would persist, keeping the wage markups high.
- The second area concerns the mismatch between wages and productivity growth. Italy's aggregate wage distribution is too compressed, in stark contrast to large regional differences in productivity (Schindler, 2009; Boeri and Perotti, 2004). Indeed, the significant mismatch between wage and productivity growth has increased unit labor cost in Italy's manufacturing sector since 2000, well above that in Germany and France, eroding its competitiveness. In this context, the June 2011 agreement among social partners and the August 2011 fiscal package which allowed firm-level contracts to derogate from legislation and industry-wide collective agreements by generally binding decentralized agreements were welcome steps. However, their adoption has been slow, while the reforms' focus on this



Sources: AMECO; and IMF staff calculations.
1/ Negative = Increase in labor productivity.

was limited to some fiscal incentives to encourage firm-level wage bargaining.[7]

Several options can be pursued to strengthen the labor market reform further (see also, IMF, 2012b). To bridge the gap between permanent and temporary workers and simplify the system, a more flexible open-ended contract for new workers that gradually increases employment protection with tenure could be considered. This would help encourage hiring by lowering the cost of new regular hires, remove discontinuity in firing costs that employers face, reduce incentives for excess turnover in favor of longer tenures and skill accumulation, and ultimately increase the competition in the labor market. To improve the match between wage and productivity developments, the June 2011 and subsequent agreements among social partners to promote setting of firm-level contracts should be made more operational. Allowing companies and workers to first set firm-level contracts, unless they agree to opt out and abide by national ones, would help better match wages to productivity. In this context, a greater differentiation of public wages across regions would support private wage flexibility and employment, especially in the South. In addition, more could be done to boost female labor participation, which is one of the lowest in the OECD, such as by reducing the marginal tax rates for married second-earners.

[7] More recently, following the government's call to continue efforts to increase productivity and modernize industrial relations, social partners signed a 'productivity agreement' in November 2012 ("Guidelines to increase productivity and competitiveness in Italy") to strengthen aspects of firm-level bargaining and the link between wages and productivity. The agreement, however, was not endorsed by one of the three main trade unions, while the effectiveness of tax incentives to encourage productivity gains remains in question.

Table 2. Italy: Labor Market Reform—A Summary of Main Problems and Actions Taken

Area	Sub-area	Main Problems	Actions Taken
Contracts and labor market entry	General	Dualism; large number of atypical contracts; precariousness and difficulties to enter the market, especially for youth	Encouraging stable employment relationships
	Apprenticeship	Insufficient training contents; ineffective in translating into an open-ended contract	Promoting apprenticeship via tax incentives (*); increasing training; conditioning new contracts on past conversion into open-ended positions; increasing minimum duration and share of apprentices
	Temporary contracts	Disincentives for investing in skills and human capital; subject to abuse	Tax disincentives for fixed-term contracts (*); controlling abuse of atypical contracts
Employment protection legislation	Open-ended contracts	Prohibitively high costs for dismissal; mandatory reinstatement and compensation for unfair dismissal	Reducing costs of individual dismissal by limiting the compulsory reinstatement in case of dismissal for economic reasons
	Collective dismissal	Highest costs among OECD countries	Harmonizing with the modifications proposed for individual dismissal
	Legal process	Long and costly; only country in OECD where legal representation is mandatory; limited use of out-of-court settlements	Establishing special accelerated process for dismissal litigations; incentives for out-of-court settlement
Social safety net	General	Fragmented, complex, and uneven system; inefficient worker reallocation, regionally and in terms of skill mismatches	Reorganizing social safety net to make the coverage more uniform (within the overall fiscal constraints) by 2017; instruments for employer-financed early retirement schemes
	Wage guarantee funds	May hinder efficient worker reallocation and create adverse incentives for non-viable firms	Extend wage guarantee funds, as in part already in place during the crisis years (*)
Labor participation	Female participation	Very low participation	Protecting against illegal 'blank resignations'; vouchers for baby-sitting services; tax incentives to hire (*)
	Youth employment	Very low participation	Tax incentives to hire (*); establishing a special type of company (with simplified requirements) for young entrepreneurs (*); apprenticeship contracts (see above)
	Active labor market policies	Regional fragmentation and differences in efficiency; low spending on activation policies	Some liberalization of employment placement services (*); strengthening the system by introducing minimum levels of employment services
Internal flexibility	Firm-level contracts	Disconnect between wage and productivity developments; insufficient use of firm-level contracts	Agreement between social partners and legislation to promote wage bargaining decentralization (*); tax incentives for productivity-based contracts (*)
Public sector employment	General	Large regional differences in the relative size; high public-private wage ratio; differences in regional cost of living not reflected in wages; insufficient mobility	Not covered in the reform proposal yet but remains under discussion; earlier public administration modernization reform stalled because of fiscal constraints

Source: IMF staff.

Note: Reforms marked with (*) had been introduced (in part or fully) before the 2012 labor market reform.

III. Assessing the Impact of Structural Reforms

A. Empirical Literature on Structural Reforms: Some Recent Findings

An extensive literature finds a positive relationship between structural reforms and economic performance, especially in the long run.[8] Four key findings emerge from the recent empirical studies:

- In the long run, product and labor market reforms can have positive effects on growth, employment, and productivity (e.g., Bouis and Duval, 2011; Barnes and others; 2011; OECD, 2012; Hobza and Mourre, 2010)[9];
- In the short run, however, the impact of the reforms can be small or even negative because of adjustment costs, especially in case of job protection and unemployment benefits reforms (Cacciatore, and others, 2012), particularly when these are undertaken in severely depressed economies (Bouis and others, 2012);
- While the issue of long-run substitutability versus complementarity between product and labor market reforms remains empirically debated (Cacciatore and others, 2012), studies agree that a broad reform package would be more beneficial than individual reforms as the former could help lower transitional costs; and
- Cross-country coordination of reforms could produce larger and more evenly distributed positive effects (e.g., Gomes and others, 2011; Forni and others, 2010).

Italy-specific empirical results also point to potentially sizeable positive effects of structural reforms on GDP and productivity. In particular:

- OECD (2009) simulations suggest that Italy's labor productivity could increase by about 14 percent over 10 years if its product market (especially professional services) regulation is aligned to international best practice.
- Bouis and Duval (2011) and OECD (2012b) illustrate that, under an ambitious and broad reform agenda to close the gap with the best practice or most liberal cases (labor market reforms), Italy's GDP per capita could increase by about 7 percent after 5 years and close to 15 percent after a decade.
- Forni and others (2011) find that increasing competition in services sector in Italy could raise its real GDP by up to 11 percent in the long run, half of which comes in the first three years.

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[8] For a detailed literature survey, see, for example, IMF (2011a), and Schiantarelli (2010) for a comprehensive survey of the literature on the impact of product market regulation on macroeconomic performance.

[9] For an average OECD country, the overall GDP gains from undertaking an ambitious and comprehensive package of product and labor market reforms (EPL) as well as reforms of unemployment benefit, labor tax, and pension system, could reach 10 percent over the next decade.

- In the National Reform Programme 2012 (NRP, 2012), the authorities estimate that the impact of recent liberalization and simplifications measures could increase the level of real GDP by 2.4 percent over 2012–20 while closing the gap (in terms of the degree of competition, entry barriers, and administrative costs) with the best performers in Europe could raise real GDP by 5 percent by 2020.[10]
- Annicchiarico and others (2012), similar to NRP (2012), analyze the recent liberalization and simplifications measures and add also labor market and fiscal reforms. Labor market reforms here include a reduction in the bargaining power of insiders (lower wage markup) and a shift from labor to consumption taxation. The simulations show that if the reform progress is substantial aiming to close the gap towards the EU best performers by half over five years, such a comprehensive package of measures could increase the output by almost 4½ percent after 5 years and 5¾ percent over a decade.
- The OECD estimates that product market reforms adopted in Italy over 2008–12 could potentially increase TFP by 2–3 percent in 2020 (NRP, 2012).

B. The Model and Simulation Design: Using the IMF's GIMF

The impact of structural reforms is simulated using the IMF's Global Integrated Monetary and Fiscal model (GIMF) (see Annex).[11] Because of the presence of monopolistic competition in firms and in labor markets, GIMF can be used to generally assess the effectiveness of structural reforms in those markets primarily through markups on the price of non-tradable and tradable goods, and on wages. This is useful, since structural reforms are usually framed in terms of making the markets more competitive, for example, through reducing entry barriers. The labor market in GIMF, while containing a wage markup, is relatively simple, as only total hours are modeled, with no true distinction between unemployment, participation, and working-age population. However, through a proper mapping to the labor supply shock, GIMF can capture most labor market reform measures.

The standard calibration of GIMF is augmented with additional information for Italy and the euro area. Liquidity constrained households make up 25 percent of all households, in both

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[10] Also, a recent analysis by the Antitrust Authority, conducted in collaboration with the Bank of Italy, suggests that full and immediate implementation of the liberalization measures advocated by the Antitrust Authority would raise (as mapped through the OECD PMR indicators) the value added in the manufacturing sector by 2.2 percent in six years.

[11] The Annex outlines the features salient to the reforms we examine and also provides detailed explanations of the channels by which the different reforms affect the economy. For a more detailed description of GIMF, see Kumhof and others (2010). GIMF differs from the Global Economy Model (GEM), used in Everaert and Schule (2008), as it has a fully endogenous determination of the net foreign asset position, because of its overlapping generations framework. It also has a richer fiscal framework, and a more realistic baseline fiscal rule.

Italy and the rest of the euro area. The share of non-tradable sector accounts for roughly 50 percent of the economy.[12] The markups are calibrated to be consistent with data from Forni and others (2010) for price and wage markups, such that the non-tradable sector price markup is 61 percent versus 35 percent for the rest of the euro area, and 17 percent for tradable sector price markups. As for the wage markup, we follow the assumption in Forni and others (2010) and use the same values as for the non-tradable sector price markup.[13]

As with any macroeconomic model, our analysis has limitations. GIMF can only approximate the extent of the reforms, as the model is restricted to two sectors, tradable and non-tradable goods. This makes the direct analysis of specific reforms, such as a reduction of professional services costs, or a cut in the energy costs as a result of more competitive energy market, only approximate, through the broader aggregates. Also, since the analysis is conducted around an initial steady state, it does not account for differences in cyclical position that can affect the impact of policies, especially in case of labor market reforms (OECD, 2012; Bouis and others, 2012). Finally, different from Cacciatore and others (2012), this model does not capture well the hiring-firing dynamics which can be important for assessing short-term effects of structural reforms.

We use the distance-from-frontier approach, whereby the gap between Italy's indicators and the best practice in OECD and euro area is assumed to be closed in part. For product market reforms, we use the assumptions about markups as in Forni and others (2010). For labor market reforms, we use the OECD estimates and a methodology developed in 2011 for the IMF's contribution to the G-20 Mutual Assessment Process.[14] The reforms are assumed to be implemented over the 2013–18 period.

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[12] According to the Eurostat's input-output tables, the share of the energy, other utilities, construction, trade, transport, professional services and services sectors in total value added in Italy amounted to about 47½ percent in 2008.

[13] For Italy, price markups in the non-tradable sector are high relative to the rest of the euro area, and there are indications that this is also true for the wage markup. In general, price markups, which measure the degree of competition in a given sector, are found to be higher in non-tradable (services) sectors than in tradable (manufacturing) sectors across countries (e.g., Christopoulou and Vermeulen, 2008; Forni and others, 2010; Gomes and others, 2011). However, the average markups, especially in services are much higher in Italy than in other advanced economies. For example, Christopoulou and Vermeulen (2008) estimate that, over 1981–2004, the markups for the manufacturing/construction sectors were on average 1.18 and 1.23 in the euro area and Italy, respectively, while the markups for the services sector were 1.56 and 1.87 in the euro area and Italy, respectively. In contrast, Bouis (2007) does not find a large markup gap between Italy and other euro area countries.

[14] The data is provided by the OECD for use in the G-20 Mutual Assessment Process. The methodology employed, and the results of the 2011 exercise can be found in IMF (2011c).

In our simulations, policies can be either immediately credible or stepwise credible. The former assumes households and firms believe government policies to be permanent, and markups adjust permanently. In the latter, households and firms believe that the policies will lead to no further reductions in markups in the following years, so that the future announced path of policy changes has no effect on current decisions by households and firms. However, since the government continues to implement its new policies over time, households and firms eventually perceive the entire change to be permanent, after 5 years. The difference in the outcomes between the immediately and stepwise credible policies is only over the short/medium term.

We start with a "benchmark" scenario which includes product and labor market reforms based on the authorities' structural reform agenda. We supplement these simulations with an analysis of the impact of additional labor market reforms and of (deficit neutral) fiscal policies based on tax and expenditure switching. Finally, we conduct a number of sensitivity tests around the benchmark scenario. These involve variations of the key assumptions and parameters of the model, such as the degree of reform effort or effectiveness, the change in initial state of the economy, the degree of nominal rigidities, and credibility of policies.

C. The Benchmark Scenario of Structural Reforms

In the benchmark scenario, we consider the type of product and labor market reforms which have been introduced recently in Italy and are, in most cases, entering the implementation phase. In particular, for product markets, we consider the comprehensive package of the liberalization reforms discussed in Section II that could increase competition and productivity, especially in non-tradable sector. In addition to the specific sector-specific measures outlined in Table 1, this package incorporates also the plans to liberalize all other economic activities, including those subject to sub-national government regulations. In the package of labor market reforms, we include the policies that aim at increasing the efficiency in the labor market and boosting labor participation. The former consists of the measures to lower adjustment costs through easing employment protection legislation and improving job matching by strengthening activation policies. The latter focuses on the policies to increase female employment.[15] All product and labor market reforms in the benchmark scenario are

[15] Compared to the reforms outlined in Table 2, our simulations do not consider the reforms that aim to promote stable employment relationships and apprenticeship and to reorganize the social safety net. In the former case, the measures proposed are of a relatively incremental nature, while for the latter, the envisaged fiscal resources are limited and implementation is expected to be very gradual.

assumed to be stepwise credible. The specific reform measures and proxies used in the simulations are reported in Table 3.[16]

The key assumption here is the extent to which the specific reforms could translate into meaningful changes in the structural parameters that affect the economy, such as the price markups, productivity, and labor supply. In the benchmark scenario, we assume that the reforms will close roughly half the gap between the current situation in Italy and a best practice measure—the OECD for labor markets and rest of the euro area for product markets—over a five-year period (Table 3).[17] This assumption may still be ambitious, especially for product market reforms, considering deeply-rooted structural problems. We explore alternative assumptions for the mapping of the reforms onto the changes in the model parameters in the sensitivity analysis. NRP (2012), instead, assumes that recent liberalization and simplification measures will have a similar impact on price markups and business costs as estimated in the case of major structural reforms in the past. Implicitly, NRP (2012) assumes that the implementation of current reforms may yield substantial benefits in terms of increasing competition similar to those experienced across Europe as a result of the wave of product market reforms undertaken in the late 1980s and 1990s.

Product Market Reforms

Product market reforms that lead to greater competition are expected to reduce the level of economic rents, bring prices closer to marginal costs (i.e., reduce markups), improve resource allocation, and create incentives to undertake more productive activities.[18] Largely in line with the authorities' reform agenda, these policies include:

- Reducing barriers to entry and exit; eliminating restrictions on economic activities; reducing business costs, such as energy and administrative costs; providing transport and other local public services on a more competitive basis; reducing public involvement in the economy; and
- Liberalizing professional services. While this is a special case of the reforms in the non-tradable sector, it can potentially have a twofold effect. On the one hand, similar to other sectors, competition and deregulation measures will reduce input costs for

[16] While all the sections below report some of the economic effects and transmission mechanisms for the reforms, more detailed explanations of the main shocks to labor supply and markups are provided in the Annex.

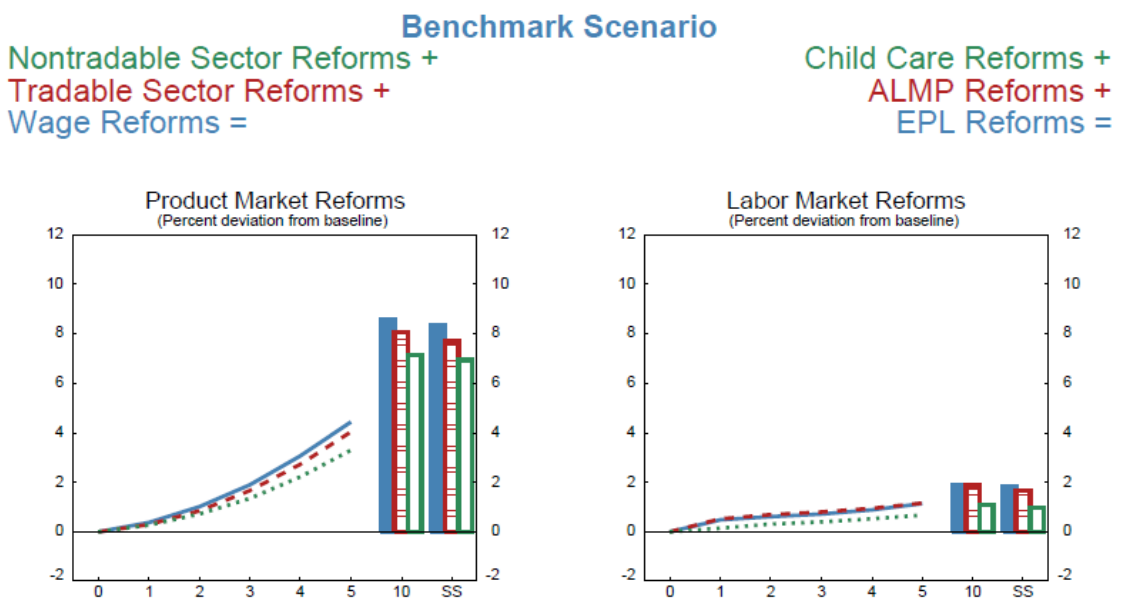
[17] Some measures have fiscal outlays, so there is a one-year delay in implementation, so that the government does not have to change its fiscal projections for the upcoming fiscal year. Also, we assume that polices are stepwise credible (until fifth year) such that the future path of shocks is not fully taken into account in households' and firms' decisions in the first years. This assumption affects only the short-term dynamics.

[18] For a detailed discussion on the link between product market reforms and macroeconomic performance, see for example, Griffith and Harrison (2004).

businesses and households that use professional services. On the other hand, such measures will likely involve opening up segments of the labor market, thus having also a direct impact on the labor market and wages (for example, when the reforms aim at easing supply restrictions, like the number of notaries or taxi licenses, or deregulate and reduce tariffs for services, like in the case of lawyers' compensation).

Our simulations suggest that increasing competition in tradable and non-tradable sectors could increase output by 4.0 percent in 5 years and 7.7 percent in the long run (Table 4 and Figure 5). Greater competition would reduce the cost of goods and services to consumers, leading to an increase in consumption, investment, and exports by 9.0, 6.5, and 5.8 percent, respectively, in the long run. The increased demand for goods would increase firm's demand for factors of production. This would put upward pressure on real wages which would increase by 7.3 percent in the long run. Hours worked would be slightly lower in the long run as the stronger income effect outweighs the substitution effect. The economy's competitiveness would improve in the long run: with labor productivity almost 8 percent higher, unit labor cost would decline, and the real exchange rate would depreciate by 3.5 percent.

Italy: Product and Labor Market Reforms—Impact on Real GDP



Source: IMF staff estimates.
Note: Horizontal axis=time (years), and SS=steady state.

The results for the medium term differ from the long-term impact since the markup reduction process would be still ongoing over the medium term, and agents would only gradually accept that the shift in policies is permanent. Therefore, at the 5-year mark, investment

would be much stronger than consumption as firms would still be accumulating the capital required to meet the new higher long-run level. Exports would be weaker than in the long run, while imports would be roughly similar but consisting more of investment goods. Still, the real exchange rate would already show a small depreciation after 5 years.

The impact of increasing competition in professional services through the labor market channel is estimated separately. As discussed, this would be in addition to the impact of the reforms that affect price markups in the non-tradable sector. Our calculations suggest that the reduction in the wage markup in professional services would have a small effect on the overall wage markup: a 40 percent cut in the former is approximately equal to a 3.4 percentage point cut in the economy-wide wage markup.[19] Hence, the reform would have a modest effect on real GDP, of 0.6 percent in the long run and only 0.2 percent after 5 years (Table 4). As the labor market becomes more efficient and competitive, labor supply would increase both in the medium and long run. Real wages would decline beyond just the fall in the wage markup, and there would still be some small competitiveness gains, especially in the medium term.

Labor Market Reforms

Labor market reforms focus on adjustment costs and on labor supply. These include:

- Easing employment protection (EPL): Reducing costs of labor adjustment for the firms, which is expected to improve resource allocation and labor mobility, thereby having a positive impact on productivity (see, for example, Martin and Scarpetta, 2011).
- Strengthening active labor market policies (ALMP): Encouraging the unemployed or those no longer participating in the workforce to retrain to fields with greater employment, leading to an overall increase in labor supply. This is modeled as an increase in government spending for ALMP programs offset with a reduction in transfers to other households.

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[19] Professional services contribute 6 percent of total value added in Italy and 10 percent of total intermediate consumption used by the industry (about 7 percent of total inputs to manufacturing and almost 12 percent of total inputs to non-tradable sectors). If we assume labor is roughly 60 percent of factor costs at the intermediates level, then professional services make up roughly 16 percent of labor costs. The wage markup in the Italian labor market is assumed to equal to the price markup in the non-tradable sector of 53 percentage points (consistent with Forni and others, 2010, of 61 percentage points, minus 8 percentage points markup at the final goods level, which is in GIMF, but not in Forni and others, 2010). 16 percent of 53 percentage points is roughly 8.5 percentage points, so a 10 percent reduction in the wage markup exclusively from professional services will translate to a 0.85 percentage point reduction in the wage markup for the entire Italian labor market.

- Increasing female participation: Increasing the availability of childcare available to women through increased government spending but offset as in the case of ALMP spending.

The labor market reforms would have a positive but relatively smaller impact on output (Table 5 and Figure 6). These reforms would increase either productivity or labor supply, which behave similarly given that both are supply-side factors in the economy. In the long run, real GDP would increase by 1.8 percent, with most of the increase driven by the reforms that boost labor supply, particularly through higher female participation. As labor supply increases, labor productivity would deteriorate slightly in the long run, but unit labor cost would still be lower since wages would decline by more. With more labor available for production, the firms' demand for capital would also increase, and investment would be permanently higher by 1.5 percent. This would also lead to a permanent real depreciation of almost 0.7 percent and a slightly stronger external position.

After 5 years, real GDP gains relative to the baseline would be 1.1 percent. Since in the medium term, households would have perceived the changes in policies regarding ALMP and childcare as temporary, they would not fully commit to supplying more labor. The impact from easing EPL would, in general, be marginal. Wages would fall by 0.9 percent, more than in the long run, since the positive effects of higher demand for Italian goods and hence for production factors would still take time to materialize. We see this also from the dynamics of consumption, which would decline slightly after 5 years before increasing in the long run.

The relatively modest impact of the labor market reforms reflects several factors. First, in the areas of employment protection legislation, active labor market policies, and childcare services, Italy, according to the OECD estimates, is not as far off from best practices. Second, the effects of these reforms on productivity and GDP are empirically found to be relatively small (e.g., Barnes and others, 2011; Bouis and Duval, 2011), even more so when government spending associated with these measures (in case of ALMP and childcare) are offset as assumed in our simulations. Third, in the short run, their impact is muted because of the assumed stepwise credibility of the reforms (per design of the exercise) such that the future shocks are not fully taken into account in households' and firms' decisions in the first years.

Combining Product and Labor Market Reforms

Implementing the product and labor market reforms together could raise real GDP in Italy by 5¾ percent after 5 years and by 10½ percent in the long run (Tables 4 and 5, and Figure 7). The reforms with the greatest impact would be those that affect the competitiveness of the non-tradable sectors given the assumed large reduction in markups to close half of the gap with the rest of the euro area. As mentioned above, the impact of labor market reforms would be more modest but still not inconsequential.

Italy: Product and Labor Market Reforms—Decomposition of Real GDP
(Percent deviation from baseline)

	Year 1	Year 2	Year 5	Long run
Product and labor market reforms	0.8	1.6	5.7	10.5
Product market reforms	0.4	1.0	4.4	8.3
Tradables sector	0.1	0.3	0.9	0.8
Non-tradables sector	0.3	0.7	3.3	6.9
Professional services	0.0	0.0	0.2	0.6
Labor market reforms	0.5	0.6	1.1	1.8
Employment protection	0.0	0.0	0.1	0.3
Active labor market policy	0.3	0.3	0.4	0.5
Female participation rate	0.2	0.3	0.7	1.0

Source: IMF staff estimates.

There appears to be a payoff from doing all product and labor market reforms simultaneously. Product market reforms would strongly boost consumption even as labor market reforms act as a drag, especially in the short run. Hours worked would increase in both the medium and long term, reflecting the impact of labor market reforms, and real wages would still be higher despite downward pressure from the labor market reforms. Unit labor cost would decline, and a strong labor productivity increase, driven by product market reforms, would dominate. The real exchange rate depreciation and terms-of-trade deterioration would be stronger when the reforms are combined. Overall, the impact of the total simultaneous reform package is slightly greater than the sum of the components (5.7 percent from the combined package versus 5.6 percent, the sum of the separate packages of product and labor market reforms). This result is somewhat counter to the recent findings by OECD (Cacciatore and others, 2012) arguing that in the long run there might be substitutability, rather than complementarity, between product and labor market reforms. The degree of complementarity in our simulations reinforces the point that a broad reform package would be highly beneficial.

The reforms in Italy would have positive but small effect on the rest of the euro area since most significant reforms take place in the non-tradable sector. Over the medium term, real GDP in the rest of the euro area would increase by just 0.3 percent (Table 6). Still, the purchasing power of households in the rest of the euro area would increase as Italy's real exchange rate depreciates, the terms of trade deteriorate, and its exports become cheaper. The exports from the rest of the euro area to Italy would increase as the aggregate demand in Italy picks up.

When product and labor market reforms in Italy are implemented in the context of wider euro area product market reforms, the gains for Italy would increase (Table 6). We assume that the rest of the euro area, as a whole, implements reforms in the non-tradable sector that would lead to closing half of its markup gap relative to other regions of the world, which in this case

is 10 percentage points. As in the case of Italy, there would be an increased demand for imports in the rest of the euro area, as households become wealthier in the long run. Since Italy has strong trade linkages with the rest of the euro area, exports from Italy would increase to meet increased euro area demand. Overall, Italy's real GDP would be 1.7 percent higher over the medium term from the reforms implemented in the rest of the euro area, and together with the domestic structural reforms, its output would increase by 7.5 percent. Note that the combined effect is slightly higher than the sum of the reforms in the two regions taken separately, supporting further the benefits of reform coordination in the euro area.

Overall, our results on the GDP impact of structural reforms are similar to those found in the literature as well as the authorities' recent estimates. Forni and others (2010) find that a reduction of the Italian service price markup to the level prevailing in the euro area (around 25 percentage point reduction) could increase real GDP by close to 11 percent in the long run. This is close to the 10 percent real GDP increase when simulating a 20 percentage point reduction in GIMF, where also close to half of the GDP increase would materialize in the first five years.[20] For the case of Germany, Gomes and others (2011) find that a 15 percentage point reduction in services markups could raise real GDP by about 4.5 percent in the long run (and a similar impact from reducing wage markups). Spillovers to the rest of the euro area would be positive but small, and simultaneous reforms in Germany and rest of euro area would have large positive effects on the euro area. Hobza and Mourre (2010) look at a similar set of reforms that increase competitiveness in labor and product markets and find a similar impact on GDP as in our simulations. Finally, in assessing the impact of the recent liberalization and simplification measures, NRP (2012) estimates that these measures would result in about 2 percentage points reduction in both tradable and non-tradable price markups by 2020, with an estimated increase in real GDP by 1.2 percent. Simulating such markup reductions in GIMF would result in very similar estimates.[21]

D. Additional Labor Market and Fiscal Reforms

In this section, we explore the impact of a more comprehensive structural reform agenda, which includes further labor market and fiscal reforms.

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[20] However, the investment response is not as strong in GIMF, but the increase in real wages and exports as well as the terms of trade deterioration are similar. The differences in the response of labor and the size of the real effective exchange rate depreciation are likely driven by the differences between models. Forni and others (2010) also find that the impact of labor market reforms is smaller than in the case of product market reforms, but we find an even more muted impact from the wage markup reduction.

[21] This is not surprising given similarities between GIMF and the QUEST III model used in NPR (2012). See Table 1 in Coenen and others (2012) for a comparison of the two models.

For the labor market reforms, building on the options discussed in Section II.B., we consider additional reforms which would (i) help better bridge the gap between permanent and temporary workers by introducing a more flexible open-ended contract that gradually increases employment protection with tenure; and (ii) introduce more flexibility in wage setting such that firm-level wages would reflect closer firm's productivity and be less driven by nation-wide wage bargaining. Such reforms would translate into higher substitutability between labor inputs, and could be captured in our model as a reduction in wage markups.

Similar to the reforms in professional services, a reduction in wage markups would raise output (Figure 8). After 5 years, real GDP gains, relative to the baseline, would vary from 0.5 percent (under a 5 percentage point reduction in the wage markup) to about 1.5 percent (under a 20 percentage point reduction in the wage price markup). In the long run, the impact on GDP would vary from close to 1 percent to over 3.5 percent. As already discussed in the case of the reforms in professional services, labor supply would increase in both the medium and long run, and real wages would decline beyond just the fall in the wage markup. Labor productivity would decline slightly (between 0.25 percent and 1 percent in the long run), but unit labor cost would decline, too. Compared to product market reforms, the impact of a commensurate wage markup reduction on consumption and investment is more muted, but, in the medium term, exports grow faster and imports decline although the size of the real exchange rate depreciation would be similar. Combining such deeper labor market reforms with our benchmark scenario reforms would raise real GDP by up to 7¼ percent after five years (results are not reported here).

For the reforms in the fiscal area, two types of reforms which would—in a deficit-neutral way—lower the labor tax wedge and increase infrastructure spending are considered.

- *Shifting taxation from direct to indirect taxes*: Lowering both labor and corporate taxes, offset by broadening the VAT base.

- *Shifting expenditure from transfers to investment*: Shifting expenditure composition from general lump-sum transfers to productive, well-targeted infrastructure investment.

A tax reform to shift taxation from direct to indirect taxes could promote growth, hours worked, and exports (Figure 9). In particular, a tax reform package, which lowers both labor and corporate taxes (by 2 percent of GDP combined), offset by broadening the VAT base, could raise GDP relative to the baseline 0.5 percent on impact and by up to 2 percent in the long run.[22] Hours worked, after a positive short-term reaction, will be marginally higher in

[22] The reduction in direct taxes could focus in particular on employers' social security contributions. For additional discussion on fiscal devaluation, see IMF (2012).

the long run (although the real wage will increase by 1.3 percent). Exports will rise by about 1.5 percent in the long run, while the real exchange rate will depreciate by less than 1 percent. While an increase in consumption taxes will lower the amount consumed by households, the distortions removed by lowering corporate and labor income taxes are much greater. Moreover, the labor income tax cut will offset the negative effects from consumption taxes on households' spending power and will provide an incentive for more labor supply. The corporate income tax cut will reduce the cost of capital faced by firms, encouraging greater demand for capital, investment goods, and labor.

An expenditure reform to shift government expenditure from transfers towards investment (by 1 percent of GDP) would produce larger gains. Spending on productive, well-targeted infrastructure has the greatest return: instead of the fiscal outlay just entering real GDP on impact for that year, it improves the stock of infrastructure (for example, in key network industries) in Italy, making all sectors more productive as a whole. Therefore the temporary increase in government investment in infrastructure leads to a long-lived and persistent gain in economy-wide productivity. To make this increase in spending neutral, general lump-sum transfers, which have a smaller negative multiplier, are cut. On net, real GDP will be 1 percent higher on impact, and more than 5 percent in the long run, relative to the baseline.

The gains in growth might be delayed if the fiscal reforms are not perceived as fully credible in the short run. [23] In the case of tax switching, households and firms would not perceive the long-run benefits from lower labor and corporate income taxes, but the short-run costs of higher consumption taxes would be relatively high. In contrast, if households and firms perceive the expenditure switching as temporary, there would still be positive gains, just fewer than in case of a immediately credible reform. Additional infrastructure spending, even temporarily, would provide a large short-run fiscal multiplier, as there would be a temporary but long-lived public capital stock improvement that would increase economy-wide productivity.

[23] This is a common property across many macroeconomic models, and is also found in the literature. See Coenen and others (2012).

Italy: Combined Reforms Scenario—Decomposition of Real GDP
(Percent deviation from baseline)

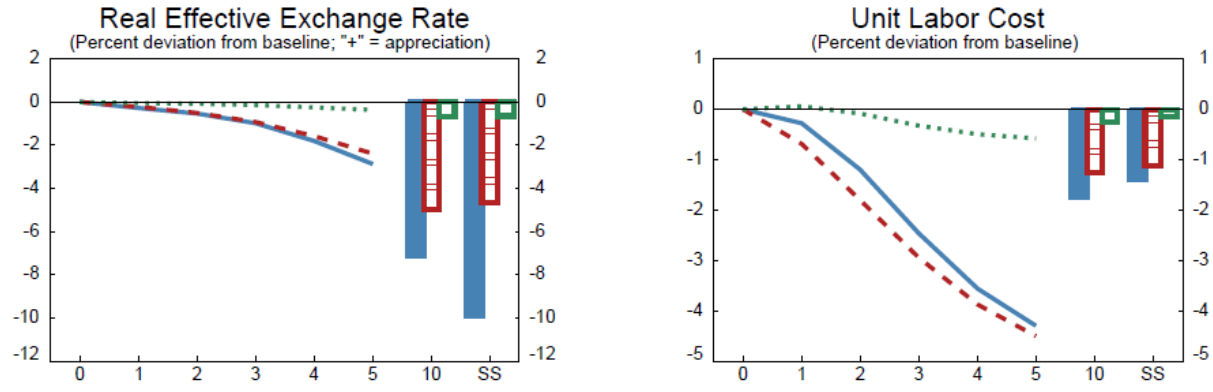
	Year 1	Year 2	Year 5	Long run
Total	1.7	3.2	8.6	21.9
Product and labor market reforms	0.8	1.6	5.7	10.5
Product market reforms	0.4	1.0	4.4	8.3
Labor market reforms	0.5	0.6	1.1	1.8
Fiscal reforms	0.9	1.7	3.0	9.8
Tax switching	0.6	0.9	1.3	1.8
Expenditure switching	0.2	0.7	1.6	7.7

Source: IMF staff estimates.

By combining fiscal reforms with product and labor market reforms, real GDP in Italy could increase by about 8½ percent after 5 years and almost 22 percent in the long run. In this case, we assume the switch in tax composition is one-off, and therefore fully credible from the beginning. The expenditure switching, however, occurs over 5 years, and is not fully credible until year 5. Nonetheless, by including fiscal reform, the effects of the package are roughly twice as large. Plus there are some synergies. Increased real GDP from the higher productivity also increases the tax revenues collected, and can amplify the fiscal multipliers of the tax switching. This is also true of the expenditure switching measures. And the productivity of the economy, already improved by product market reform, has its effects amplified by the productivity-enhancing effects of the higher government infrastructure spending.

Italy: Combined Reforms Scenario - Impact on Competitiveness

All Reforms (Product, Labor, Fiscal)
Product and Labor Market Reforms
... Labor Market Reforms Only



Source: IMF staff estimates.
Note: Horizontal axis=time (years), and SS=steady state.

Implementing a comprehensive package of structural reforms could contribute to closing Italy's competitiveness gap accumulated over the past decade. In particular, IMF's estimates suggest that the competitiveness gap (real exchange rate overvaluation) could be of the order of 5-10 percent.[24] Our simulations suggest that the above discussed structural reforms, especially in product markets and fiscal reforms, could result in real exchange rate depreciation of close to 3 percent after 5 years and over 7 percent in a decade. Unit labor cost would decline, by just about 4½ percent after 5 years, as increased labor productivity more than offsets the increase in wages. In the short run, however, the current account would deteriorate reflecting higher investment relative to private savings. In the medium term, real exports rise faster than real imports, although real imports would accelerate in the short run from stronger investment that is taking advantage of tax reform and productivity gains. In addition, the price shift from the depreciation (terms of trade deterioration) would adversely affect the nominal trade balance. In the long run, however, current account would converge to zero and turn slightly into surplus.

In sum, a combination of structural reforms in the product market, labor market and fiscal sector will produce long-run gains for the Italian economy. These effects could be reinforced if the rest of the euro area engages in similar reforms simultaneously. Also, there will be positive feedback effects across the different types of reforms, as demonstrated particularly with the labor and product market reforms. Moreover, the fiscal reforms could provide positive feedback effects for labor market reforms, as they use many of the same channels, particularly productivity, and could provide a stimulus for greater consumption and labor supply.

E. Sensitivity Analysis around the Benchmark Scenario

In the simulations presented in the benchmark reform scenario, we postulated a number of key assumptions about the underlying economic model and the implementation and mapping of the reforms. In this section, we explore the robustness of our main results to changes in these key assumptions by looking, in particular, at:

- The mapping of product market reforms to changes in markups;
- The mapping of labor market reforms to changes in labor supply and productivity;
- The degree of short-run nominal rigidities in the economy;
- The share of liquidity constrained households in the economy; and

[24] See, IMF 2010 and 2011 Article IV Consultation Staff Reports.

- Immediately credible versus stepwise credible policies.

Mapping Product Market Reforms (Table 7)

In Section III.C, we discussed the approach used in the benchmark scenario to map the structural reform measures onto the model. For product market reforms, in particular, we used the markup estimates available in the literature and assumed that, as a result of competition-enhancing reforms, the gap between the non-tradable (tradable) price markups in Italy and rest of euro area (rest of the world outside euro area) would halve over a five-year period.[25] For non-tradable sector, for example, this implies, on average, a 3 percentage point reduction in markups per year. While this is one possible assumption, as we stressed in Section II.A, the impact of the reforms can be highly uncertain, depending on their actual implementation. Therefore, we consider alternative levels for the changes in markups. Table 7 compares the outcomes from the benchmark reform scenario against the cases where the reduction in price and wage markups would be 25 percent more or 25 percent less. Relative to the benchmark, after five years, the total gains in real GDP would be 1.1 percentage points higher or 1.2 percentage points lower, respectively.

Mapping Labor Market Reforms (Table 8)

In the benchmark scenario, we have mapped a number of labor market reforms to the productivity and labor supply shocks, using the work done by the OECD. For example, the estimates from cross-country regressions looking at the relationships between EPL and labor productivity or childcare benefits and female employment are used to derive the required mapping from a particular reform to the model variables. Clearly, the estimates of such mapping coefficients would be suggest to uncertainty, and therefore, in the sensitivity analysis we consider alternative mappings of these reforms to changes in productivity and labor supply. Table 8 compares the benchmark reform scenario against the cases where the reforms would have stronger or weaker impact on productivity and labor supply, which we calibrate by assuming that the estimates of the mapping coefficients would be 25 percent higher or 25 percent lower than in the benchmark scenario, respectively. After five years, the total gains in real GDP would be about 0.2 higher or lower depending on the strength of the reform impact.

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[25] The choice of specific parameters through which product market reforms could be mapped is another important issue. NRP (2012) and Annicchiarico and others (2012) use somewhat more detailed mapping of the reforms into the parameters of QUEST III model. They distinguish between specific measures which are expected to: (i) increase competition in both tradable and non-tradable sectors (price markup reduction); (ii) reduce entry barriers (reduction in fixed costs of production); and (iii) reduce administrative costs (reduction in overhead labor, i.e. a shock to labor demand). However, we do not distinguish between these cases mainly because of our model limitations.

The Degree of Short-Run Nominal Rigidities (Table 9)

When discussing competition-enhancing structural reforms, we have focused on price and wage markups. Changes in markups have short-run effects on macroeconomic aggregates, which persist and amplify in the long run, but they do not affect directly the short-run dynamics of prices. The latter would be driven by nominal rigidities present in the economy. Long length of contracts could be a source of such rigidities, and we have seen in Section II.A that this is an important issue in some segments of Italy's product markets. In the benchmark scenario, the calibration is such that it takes the changes in prices from any given shock roughly 50 percent longer to work their way through the economy than in the most flexible major region (the United States). However, as the markets become more competitive, we can expect the speed of price adjustment to increase—after all, under perfect competition, such adjustment would be instantaneous.

To assess the macroeconomic impact of competition-enhancing reforms when the speed of price adjustment is faster, we consider a case where nominal rigidities in Italy are set to the same as in the United States. We simply test our benchmark reform scenario under this different calibration, without any transition path from higher to lower nominal adjustment costs. The outcomes in Table 9 can be read as the upper bound of the effects of short-run nominal rigidities on the transition dynamics from the impact of product and labor market reforms. While the long-run results remain unchanged, there are slightly greater gains in the short run (0.5 percentage points in real GDP by year 5) as firms and households adjust their prices and wages more rapidly to reflect the future changes in the economy, thereby incurring lower costs from short-run inertia. This effect is independent of the degree of credibility of the reform package. These effects would be muted if it took time for the nominal adjustment costs to decrease to their new, lower level.

The Share of Liquidity-Constrained Households (Table 10)

Initial conditions in the economy could matter for the impact of structural reforms. To proxy for different macroeconomic conditions in our simulations, we can vary the share of liquidity-constrained (LIQ) households assuming that this share would be higher the more negative are the economic conditions.[26] In Table 10, we look at an alternative scenario where LIQ households make up 50 percent of the economy instead of 25 percent.

The defining characteristic of LIQ households is the fact that they are bound to consume all of their income each period. Consequently, their expectations of future outcomes have no effect on their current spending, and have no concept of a stock of wealth. Therefore, as the

[26] In the benchmark reform scenario, we have assumed that roughly 25 percent of households are liquidity constrained. While this is an important assumption for the model, there is not a strong literature to support it.

share of LIQ households increase, the behavior of consumption is much more focused on current outcomes rather than the present discounted value of wealth (as is the case for OLG households).

Under product market reform, OLG households would expect future gains in wealth from the positive effects on demand for goods in the future. This would be true in the short run even if the reforms were only stepwise credible (but less than if the reforms were immediately credible). LIQ households, on the other hand, would experience a decrease in their income during the implementation of the reforms (whether immediately or stepwise credible), thereby consuming less. So under a higher level of LIQ households, product market reforms would have a smaller positive impact on real GDP.

For labor market reforms, OLG households only increase their consumption incrementally, as labor income only forms one part of their wealth, and their expectations of higher wealth occurs gradually since the reforms are only stepwise credible. However, for LIQ households, as labor supply increases (directly from the reforms to child care and ALMP, over time from the EPL reforms), their income, and consequently consumption, increase immediately—the future expectations of further reforms (or lack thereof) have no effect on this increase. Therefore, if LIQ households have a greater share, consumption would increase more rapidly in the short run.

On net, with a higher share of LIQ households, product market reforms would lead to slightly smaller gains in real GDP compared to the benchmark scenario of 4.3 percent versus 4.5 percent in the short run (and roughly unchanged in the long run). However, this is offset by the additional gains from the labor market reforms, which would lead to an increase of 1.2 percent of real GDP after 5 years, instead of only 1.1 percent (and 2.0 percent versus 1.8 percent in the long run). In face of the full package of structural reforms, real GDP would be slightly smaller after 5 years (less than 0.1 percent) but larger in the long run (10.7 percent versus 10.5 percent).

Immediately Credible versus Stepwise Credible Policies (Table 11)

In the benchmark scenario, the policies are assumed to be stepwise credible. If instead the structural reforms were immediately credible, the increase in real GDP would be faster since the households that can save would perceive the future increase in wealth from the promised continuation of the reform early on and increase their consumption in the present. When the reforms are stepwise credible, this source of increased consumption is no longer present.

The labor market also behaves very differently under immediately credible and stepwise credible policies. In an immediately credible scenario, firms and households foresee the potential for future production, and more labor is used in the short run, until such time that firms can invest enough to generate a higher capital stock to permanently increase their productive capacity. In the case of stepwise credible policies, the labor response is much weaker, as no long-run needs are perceived. After year five, labor will pick up as the full

future benefits are understood, and firms still do not have enough capital in place. So, in the immediately credible case, employment peaks early (in year 3) and declines, while in the stepwise credible case, employment builds gradually, peaks at a lower level (in year 5), but sustains the peak for longer. Once credibility is established, the results are the same as under the full credibility case, after about 10 years, as the economy has almost adjusted to its long run path.

IV. Concluding Remarks: Reform Priorities and Implementation

Italy needs comprehensive reforms to raise growth and restore competitiveness. To increase competition and productivity in product markets, there is a need to further open services sector, especially, professional services, key network industries, and local public services; reduce entry barriers; and promote investment in productive infrastructure, thus lowering the costs of doing business. In the labor market, the focus should be on allowing firms and workers to more easily adjust to changing economic conditions. To achieve this, there is a need to reduce uncertainty and costs associated with employment protection, promote more internal flexibility and closer link between wages and productivity, and improve employability and efficiency of job matching process of the work force at the same time as also augmenting labor participation.

Italy's recent reforms go in the right direction of increasing the competition and flexibility in the economy but more needs to be done. Our simulations suggest that the type of reforms that are currently in place in Italy could potentially raise real GDP by 5¾ percent after 5 years and by 10½ percent in the long run. More specifically:

- In the product market reform, the agenda is comprehensive, and its consistent, sustained, and early implementation is key. Depending on the implementation and hence on the achieved reductions in price markups, the economic gains could be sizeable: the real output could increase by 4½ percent in the medium term if the reforms could close half the gap in the degree of competition with the rest of the euro area. Well-targeted and timely executed infrastructure projects in the areas of main network bottlenecks could further increase productivity in the economy with significant implications for potential output, as our simulations suggest.

- In the labor market, the impact of the reforms that bring Italy close to the OECD best practices in employment protection legislation, active labor market policies, and female participation support through childcare services could be relatively modest. However, there is an important scope to strengthen the proposed reform further. More needs to be done to increase flexibility of the core via more firm-level arrangements that favor employment rather than wages and to bridge the gap between permanent and temporary workers. A tax reform to lower the labor tax wedge and remove disincentives for labor supply, especially for second earners could be considered.

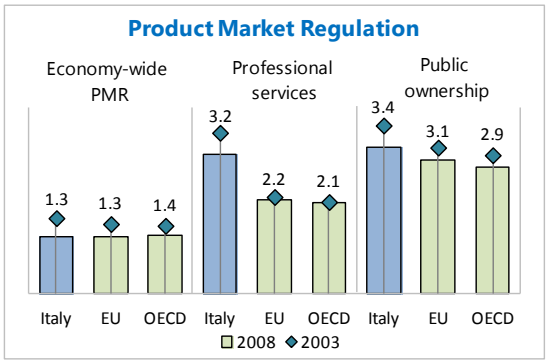
- Growth-friendly fiscal reform, by shifting taxation from labor and corporate tax to indirect taxes and by prioritizing public expenditure away from general transfers toward well-targeted productive infrastructure spending could lead to significant growth and competitiveness gains.

- Reforms coordinated at a wider European level, especially in the energy sector and infrastructure, could be beneficial for all countries.

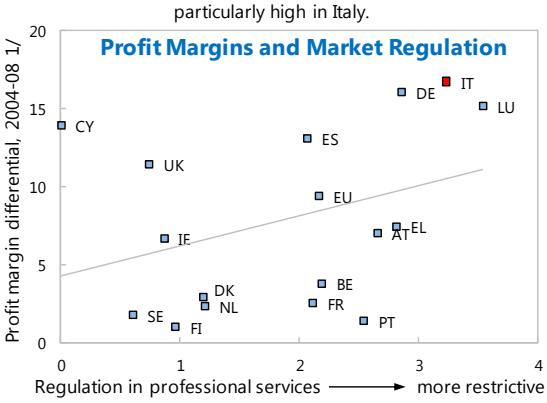
Our main results largely depend on the extent to which the ongoing reform efforts are successful in bringing Italy's economy closer to the peers in terms of its openness to competition, business costs, flexibility, and labor utilization. Hence, the effective implementation of the reforms is key, but it can face a number of challenges such as stemming from the unfavorable macroeconomic environment, reliance on sub-national governments, and pressures from ongoing fiscal adjustment. Stepwise credible policies could delay the potential gains from reforms, as our simulations suggest, emphasizing also the need for a more predictable regulatory and legal environment. To increase credibility and effectiveness of the reforms consideration could be given to establishing an independent review and advisory body for reforms which could foster consensus and focus policies on priority areas, while ensuring the continuity of the reform agenda. It would be important to effectively apply the competition enforcement framework, along with continuously monitoring, assessing, and communicating on the reform progress. A strong buy-in from the main implementing agents, especially the sub-national governments would be essential. Other reforms that are essential for the success of labor and product market reforms, particularly the justice system reforms, would need to be implemented in parallel.

Figure 1. Regulatory Barriers and High Profit Margins in Nontradable Sectors

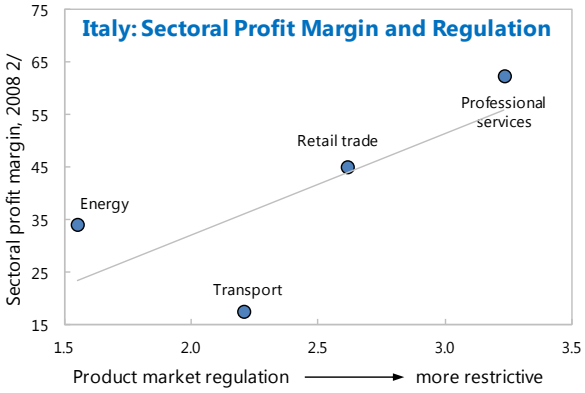
Overall product market regulation restrictiveness in Italy is in line with the EU and OECD averages, but Italy underperforms in services sector while public ownership remains high.



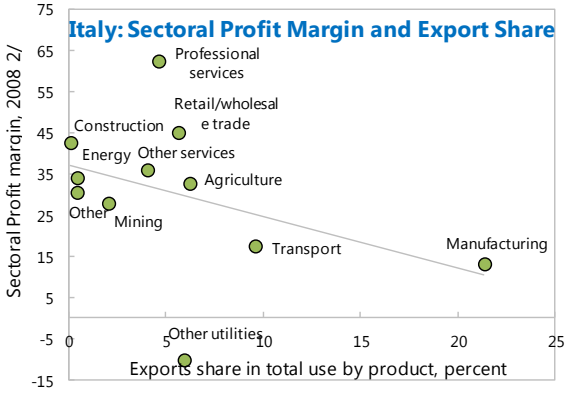
Profit margins are generally higher in services than manufacturing sector but the differential is particularly high in Italy.



More restrictive regulations are associated with higher profit margins, both across countries and across sectors in Italy. In services (over 70 percent of total value added), only 5 percent is exported ...



...while profit margins reach over 60 percent in professional services. In contrast, in manufacturing (less than 20 percent of total value added), over one-fifth is exported, and profit margin is 13 percent.

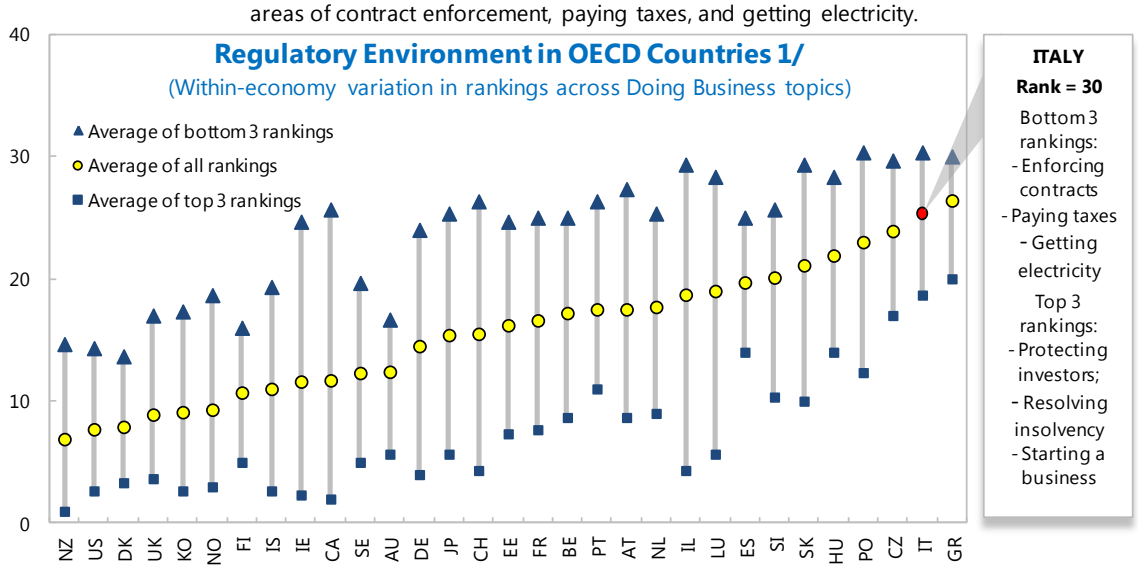


Sources: OECD; Eurostat; and IMF staff calculations.

1/ Difference between gross operating surplus in percent of production value in services and manufacturing sectors.
2/ Net operating surplus in percent of sectoral value added, 2008 (latest available year).

Figure 2. Difficult Environment for Doing Business

Among high-income countries, Italy ranks the last before Greece for doing business, particularly in the areas of contract enforcement, paying taxes, and getting electricity.



Ease of Doing Business in Italy vs. OECD Average 1/2/

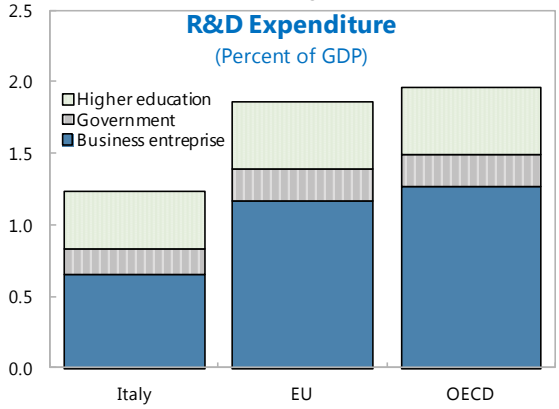
Enforcing contracts #31	Getting electricity #29	Construction permits #27	Registering property #25	Resolving insolvency #19
• Takes twice longer and more procedures • And costs more	• Takes more time • And costs 4 times more	• Takes more time • And costs 3 times more	• More procedures • But takes less time at about the same cost	• Takes longer to close a business • Costs twice but with lower recovery rate

Paying taxes #31	Getting credit #28	Trading across the board #26	Starting a business #21	Protecting investors #16
• Takes more time and more payments • Tax rates are much higher	• Weaker legal rights • Wider cove-rage in credit registries	• Takes twice longer to export/import • Costs about 20% more to export/import	• Takes less time • But costs 4 times more	• Transparency is better • But investor protection is weaker

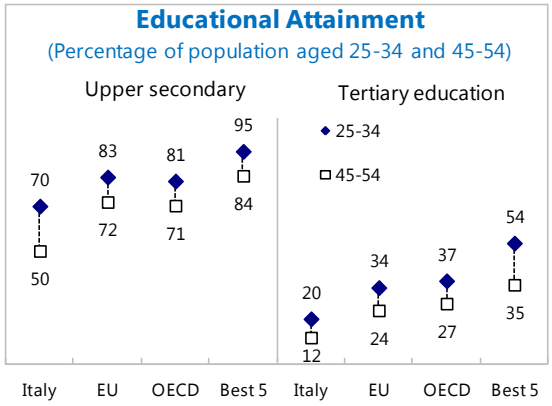
Source: World Bank Doing Business 2012.
1/ OECD high-income economies; 2/ For each topic, the ranking among 31 OECD countries is reported.

Figure 3. Low R&D, Poor Educational Attainment, and Insufficient Complexity of Exports

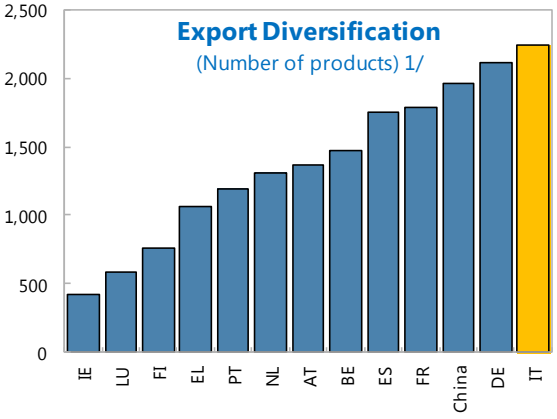
Italy has one of the lowest investments in R&D and ICT specialization among OECD countries.



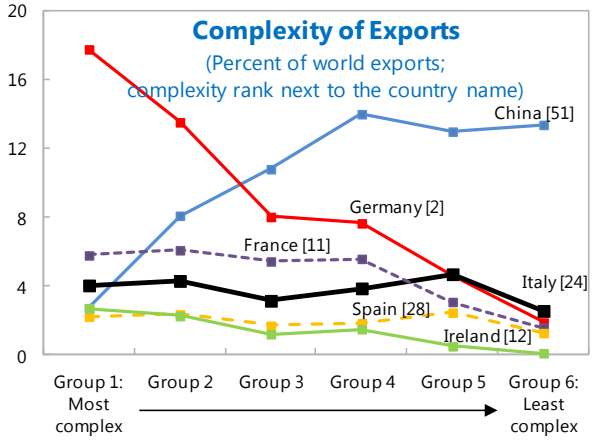
It also scores among the worst in educational attainment, including on average PISA scores (among worst 8) in OECD.



While Italy's exports are the most diversified among 125 countries, followed by Germany,...



it ranks only 24th in exports complexity, with similar shares in world exports both for most complex (competing with Germany and France) and least complex (competing with China) products.

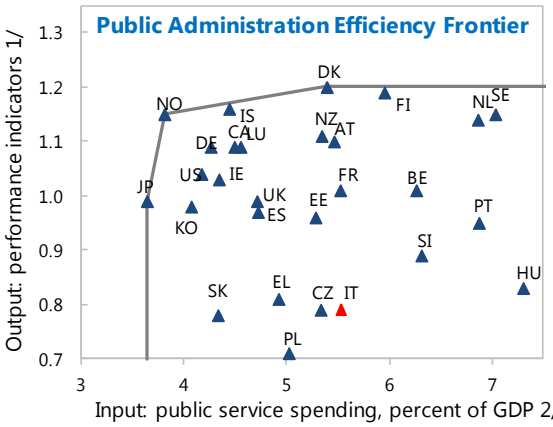


Sources: OECD; and Felipe and Kumar (2011).

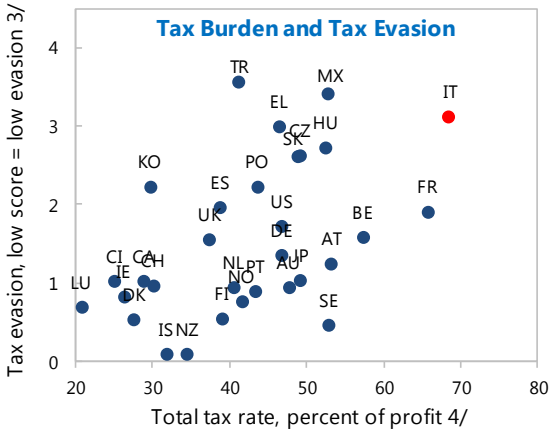
1/ Products with revealed comparative advantage (RTA) > =1, where RTA is the ratio of the export share of a given product in the country's exports to the same share at the worldwide level (or the country's share of world exports of a given product in its share of total world exports).

Figure 4. Inefficient Public Administration and High Tax Burden

While Italy's public expenditure ranks among the worst in terms of quality and efficiency, especially for public administration...



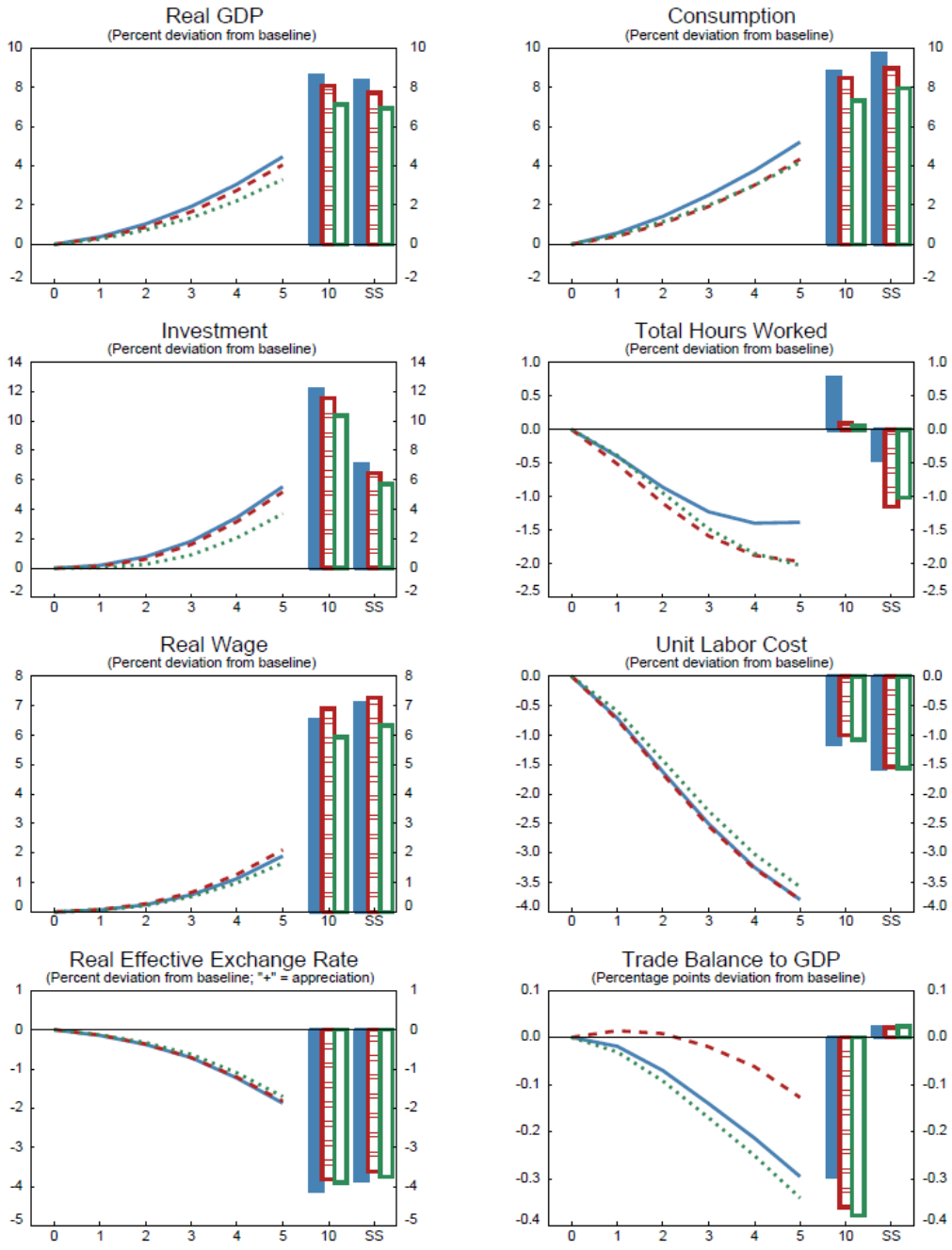
...its tax burden is the highest in OECD, particularly for businesses, with alarming incidence of tax evasion.



Sources: OECD (2012); World Bank Doing Business 2012; and Sustainable Governance Indicators 2011.
1/ A composite indicator for public administration outcome based on international surveys on the quality of justice and the level of corruption, both taken from the Global Competitiveness Report, and the levels of bureaucracy in the economy measured by OECD's Product Market Regulation indicator.
2/ Spending on general public services (excluding interest payments) and public order and safety, 2007.
3/ Business tax evasion and avoidance: 6 = more than 50% of business is unofficial or unrecorded, 0 = all businesses are registered.
4/ The total tax rate measures the amount of taxes and mandatory contributions payable by the business in the second year of operation, expressed as a share of commercial profits.

Figure 5. Italy: Product Market Reforms

___ Markups on Non-tradables, Tradables and Professional Services
_ _ Markups on Non-tradables and Tradables
... Markups on Non-tradables Only

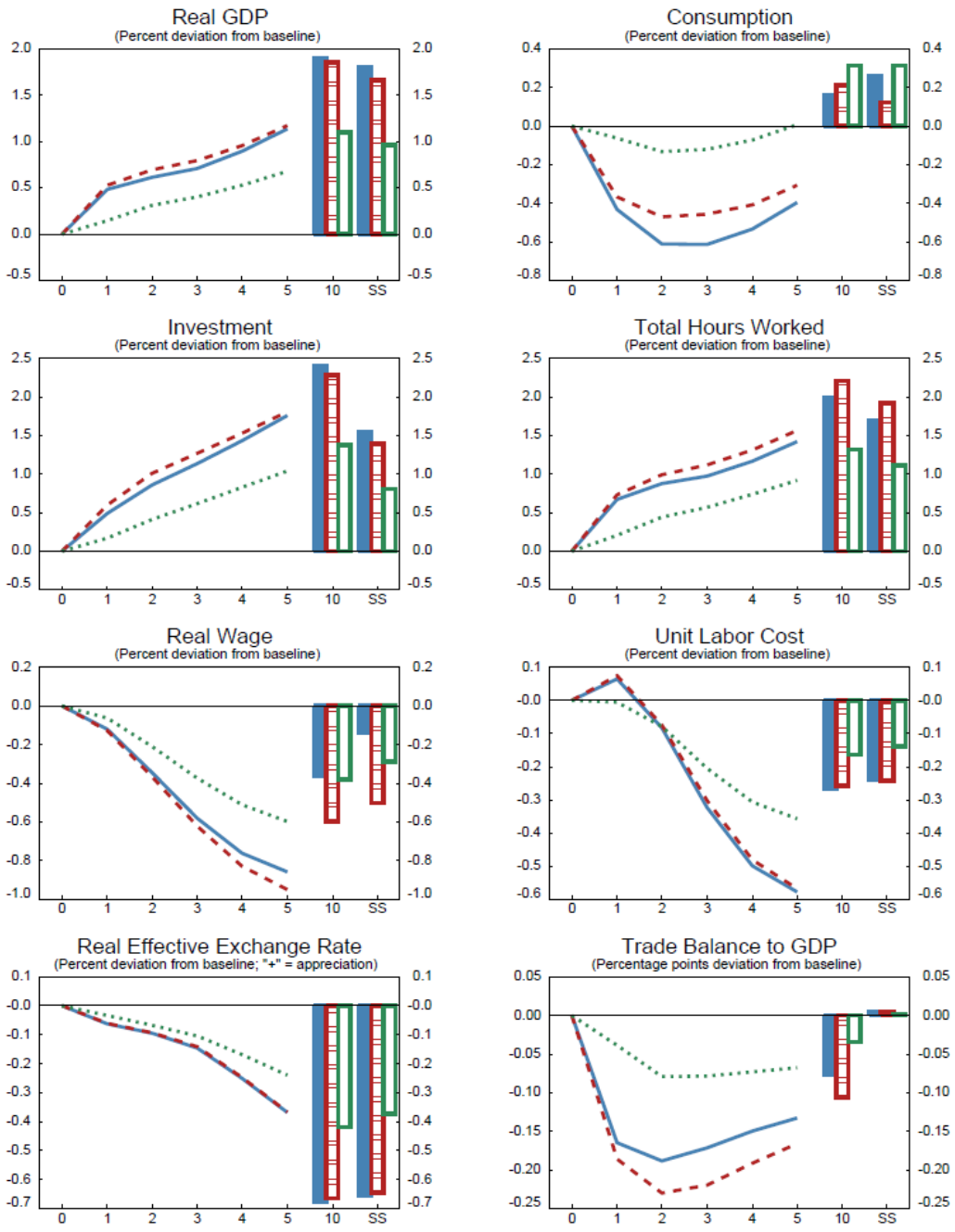


Source: IMF staff estimates.

Note: Horizontal axis=time (years), and SS=steady state.

Figure 6. Italy: Labor Market Reforms

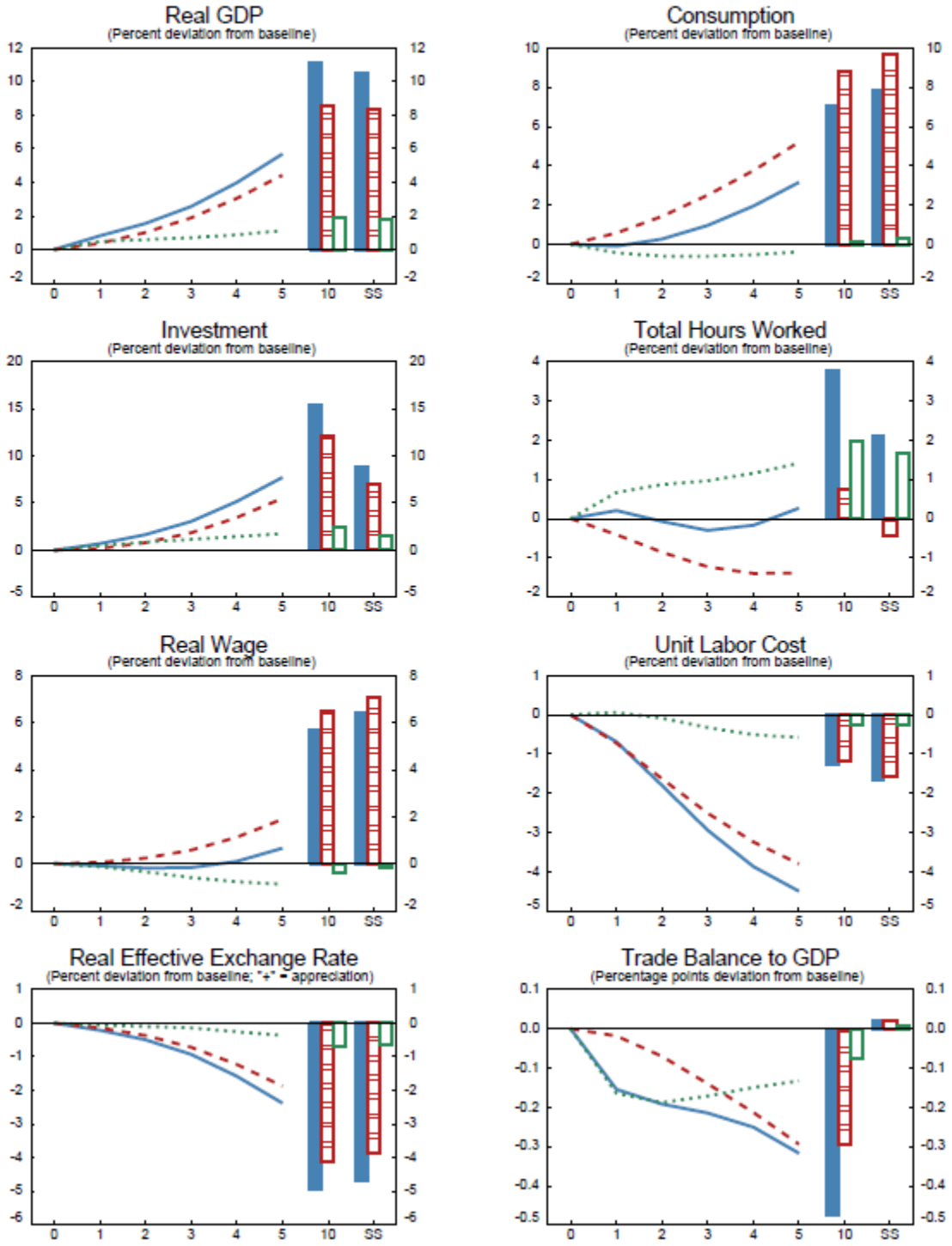
___ EPL, ALMP and Child Care
_ _ ALMP and Child Care
... Child Care



Source: IMF staff estimates.
Note: Horizontal axis=time (years), and SS=steady state.

Figure 7. Italy: Benchmark Scenario of Structural Reforms

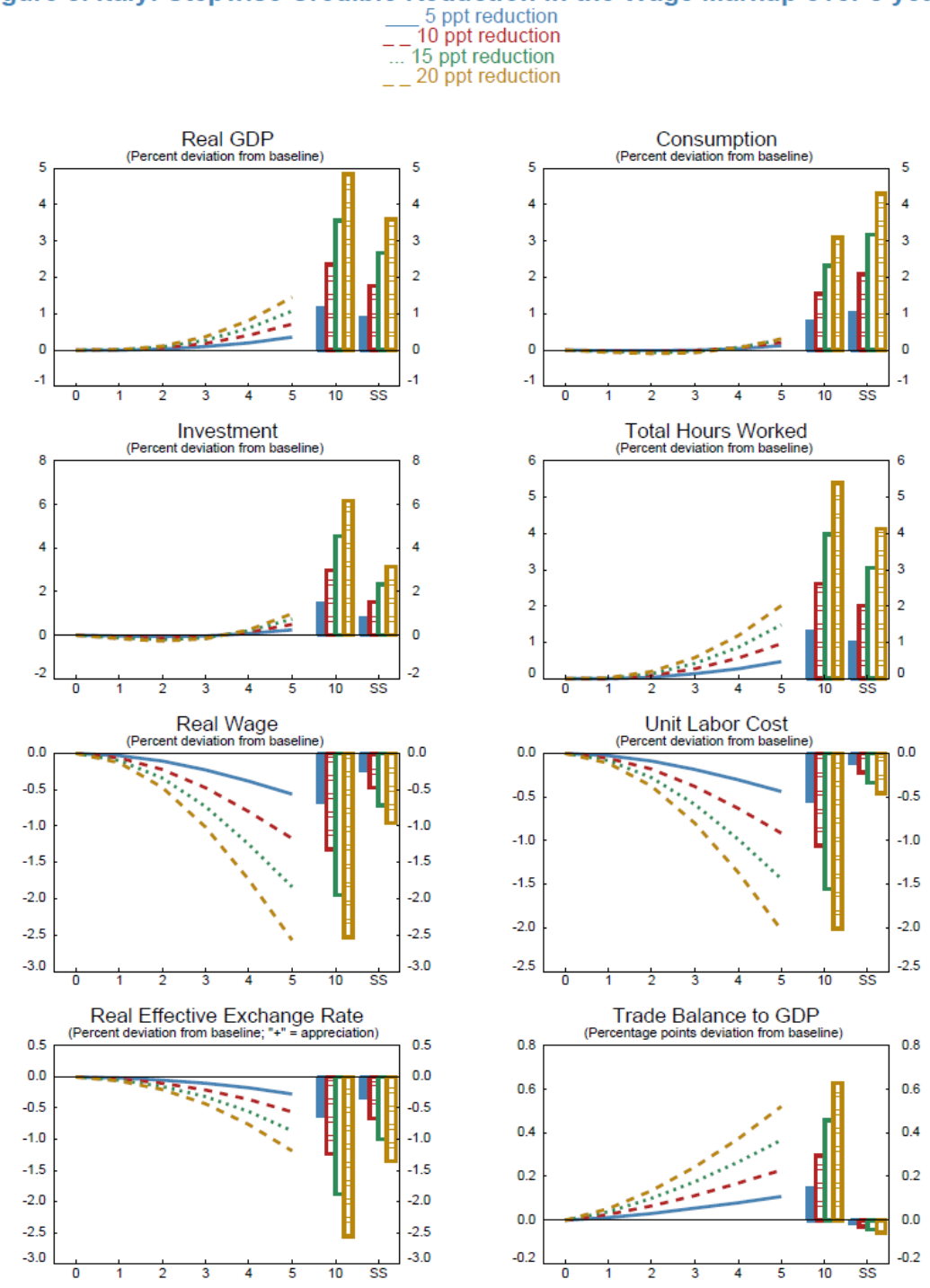
Product and Labor Markets
Product Market Only
Labor Market Only



Source: IMF staff estimates.

Note: Horizontal axis=time (years), and SS=steady state.

Figure 8. Italy: Stepwise Credible Reduction in the Wage Markup over 5 years

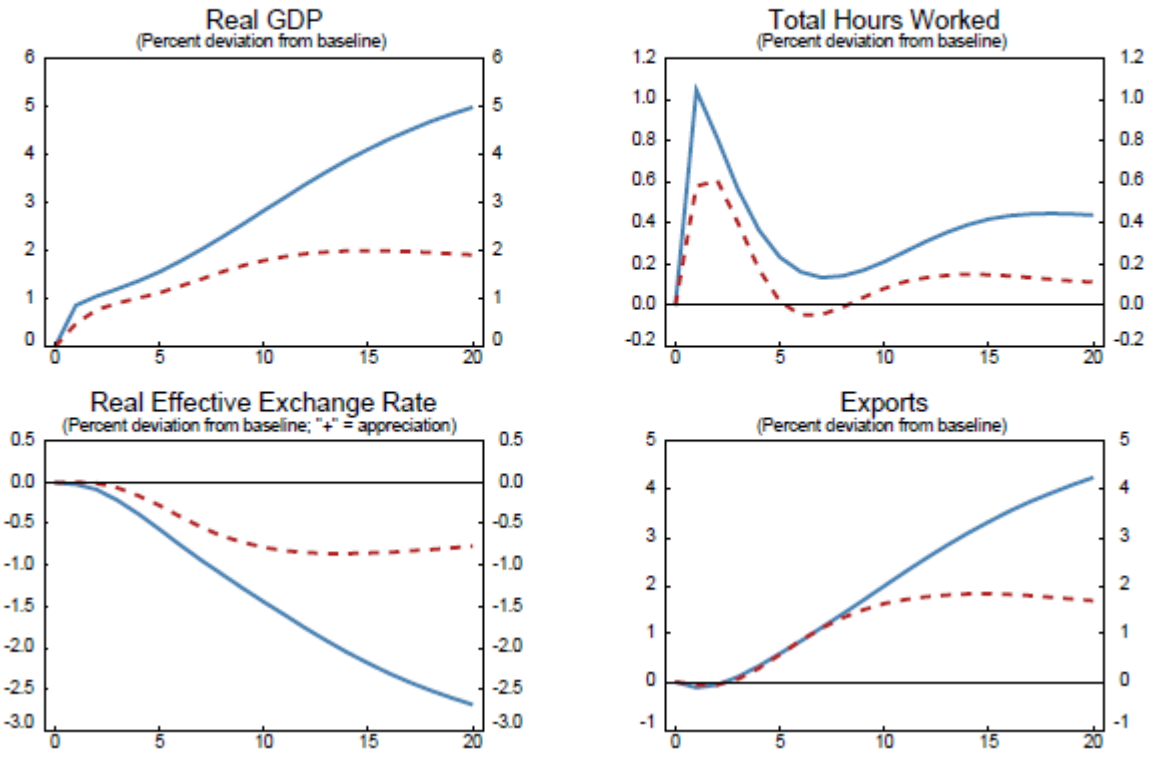


Source: IMF staff estimates.

Note: Horizontal axis=time (years), and SS=steady state.

Figure 9. Italy: Fiscal Reform

___ Expenditure Switching
_ _ Tax Switching



Source: IMF staff estimates.
Note: Horizontal axis=time (years).

Table 3. Main Reform Measures and Proxies Used in Simulations

Reform	Proxy	Phasing	Other assumptions
Reforms in product markets			
Increasing competition in the tradable sector	Decrease in tradable markup.	Phases in over 5 years. Not fully credible until the fifth year.	Share of tradable sector in production = 50%. Markup declines 2.5 ppt (= roughly 50% of gap with the rest of the world, outside the euro area).
Increasing competition in the non-tradable sector	Decrease in non-tradable markup.	Phases in over 5 years. Not fully credible until the fifth year.	Share of non-tradable sector in production = 50%. Markup declines 15 ppt (=roughly 50% of gap with the rest of the euro area).
Increasing competition in professional services	Decrease in wage markup, economy wide.	Phases in over 5 years. Not fully credible until the fifth year.	Markup declines 3.4 ppt (=40% decline in the cost of professional services).
Reforms in labor markets			
Easing employment protection	Increase in productivity in both the tradable and non-tradable sectors.	Delayed for 1 year because of reform enactment issues; then immediate. Not fully credible until the fifth year.	Employment protection legislation converges towards average of 3 lowest stances observed across the OECD. Overall productivity increases 0.34% (= 50% of OECD best practices gap).
Strengthening active labor market policies (ALMP)	Increase in labor supply and government spending (offset with a reduction in lump-sum transfers to non-liquidity constrained households only).	Delayed 1 year because of lack of fiscal space; then immediate. Not fully credible until the fifth year.	Increase in the ratio of per capita ALMP spending per unemployed over GDP towards average level in Denmark, Austria, Netherlands, Norway, Sweden, and Switzerland. Participation rate increases 0.24%; fiscal costs = 0.45% of GDP (= 50% of OECD best practices gap)
Increasing female participation through childcare	Increase in labor supply and government spending (offset with a reduction in lump-sum transfers to non-liquidity constrained households only).	Delayed for 1 year because of lack of fiscal space; then immediate. Not fully credible until the fifth year.	Increase in public childcare spending towards average level in Denmark, Norway, Sweden and the United Kingdom. Participation rate increases 0.60%; fiscal costs = 0.3% of GDP (= entire OECD best practices gap).
Fiscal reform through tax and expenditure switching			
Switching to consumption taxes from labor and corporate income taxes	All components exist in GIMF.	Immediate and permanent change. Immediately credible.	Increase 2% of GDP on consumption taxes; decrease 1% of GDP on each of labor and corporate income taxes.
Switching to infrastructure from general lump-sum transfers.	Infrastructure is government investment; general lump-sum transfers are in GIMF.	Phases in over 5 years. Not fully credible until the fifth year.	1% of GDP switch.

Table 4. Italy: Benchmark Scenario with Details of Product Market Reforms

	T	+ NT =	T and NT	+ Wage	= Product	+ Labor	= Full
(Percent deviation from baseline)							
Italy in Year 5							
GDP	0.91	3.30	4.04	0.23	4.44	1.13	5.69
Consumption	0.99	4.16	4.33	0.04	5.19	-0.40	3.14
Investment	1.55	3.69	5.19	0.29	5.53	1.75	7.74
Hours Worked	0.31	-2.02	-1.96	0.34	-1.38	1.42	0.27
Real Wages	0.60	1.66	2.10	-0.37	1.89	-0.86	0.66
Unit Labor Cost	-0.01	-3.58	-3.79	-0.26	-3.79	-0.58	-4.50
Labor Productivity	0.56	4.94	5.53	-0.18	5.29	-0.44	4.59
Exports	0.52	2.28	3.11	0.35	3.16	0.73	4.17
Imports	0.44	1.77	1.63	-0.08	2.14	0.63	2.53
Real Italy/E.A. exch. rate	-0.01	-1.56	-1.69	-0.16	-1.73	-0.36	-2.20
Real eff. exchange rate	0.00	-1.67	-1.79	-0.17	-1.83	-0.37	-2.32
Terms of trade	-0.15	-1.48	-1.82	-0.23	-1.85	-0.49	-2.51
Italy in the Long Run							
GDP	0.79	6.93	7.70	0.59	8.32	1.80	10.53
Consumption	1.08	7.94	9.00	0.68	9.71	0.26	7.82
Investment	0.77	5.72	6.46	0.51	7.00	1.54	8.87
Hours Worked	-0.10	-1.01	-1.15	0.68	-0.44	1.69	2.12
Real Wages	0.91	6.34	7.27	-0.17	7.09	-0.14	6.44
Unit Labor Cost	0.02	-1.56	-1.54	-0.09	-1.57	-0.24	-1.66
Labor Productivity	0.91	6.99	7.94	-0.16	7.70	-0.12	6.88
Exports	0.38	5.43	5.79	0.45	6.27	1.32	7.89
Imports	0.33	1.76	2.09	0.16	2.25	0.45	2.78
Real Italy/E.A. exch. rate	0.12	-3.58	-3.46	-0.23	-3.69	-0.65	-4.45
Real eff. exchange rate	0.13	-3.61	-3.48	-0.23	-3.71	-0.65	-4.47
Terms of trade	-0.06	-3.47	-3.51	-0.29	-3.80	-0.85	-4.80

Table 5. Italy: Benchmark Scenario with Details of Labor Market Reforms

	ALMP	Child + Care	Labor = Supply	+ EPL	= Labor	+ Product	= Full
(Percent deviation from baseline)							
Italy in Year 5							
GDP	0.38	0.68	1.17	0.07	1.13	4.44	5.69
Consumption	-0.49	0.01	-0.31	0.11	-0.40	5.19	3.14
Investment	0.58	1.04	1.81	0.11	1.75	5.53	7.74
Hours Worked	0.50	0.92	1.56	-0.02	1.42	-1.38	0.27
Real Wages	-0.30	-0.60	-0.95	0.05	-0.86	1.89	0.66
Unit Labor Cost	-0.18	-0.36	-0.57	-0.04	-0.58	-3.79	-4.50
Labor Productivity	-0.17	-0.34	-0.54	0.08	-0.44	5.29	4.59
Exports	0.24	0.46	0.71	0.01	0.73	3.16	4.17
Imports	0.21	0.35	0.71	0.07	0.63	2.14	2.53
Real Italy/E.A. exch. rate	-0.12	-0.23	-0.36	-0.00	-0.36	-1.73	-2.20
Real eff. exchange rate	-0.12	-0.24	-0.37	0.00	-0.37	-1.83	-2.32
Terms of trade	-0.17	-0.31	-0.48	0.00	-0.49	-1.85	-2.51
Italy in the Long Run							
GDP	0.51	0.96	1.66	0.33	1.80	8.32	10.53
Consumption	-0.35	0.31	0.12	0.40	0.26	9.71	7.82
Investment	0.43	0.81	1.39	0.30	1.54	7.00	8.87
Hours Worked	0.59	1.11	1.92	-0.04	1.69	-0.44	2.12
Real Wages	-0.15	-0.29	-0.50	0.34	-0.14	7.09	6.44
Unit Labor Cost	-0.07	-0.14	-0.24	-0.03	-0.24	-1.57	-1.66
Labor Productivity	-0.15	-0.28	-0.48	0.34	-0.12	7.70	6.88
Exports	0.37	0.72	1.25	0.22	1.32	6.27	7.89
Imports	0.12	0.24	0.40	0.10	0.45	2.25	2.78
Real Italy/E.A. exch. rate	-0.19	-0.37	-0.64	-0.09	-0.65	-3.69	-4.45
Real eff. exchange rate	-0.19	-0.37	-0.64	-0.09	-0.65	-3.71	-4.47
Terms of trade	-0.25	-0.48	-0.83	-0.11	-0.85	-3.80	-4.80

Table 6. Italy and the Euro Area: Simultaneous Reforms Scenario, in Year 5

	Product	Italy + Labor	= Total	Euro Area + NT Price	E.A.+Italy = Total
(Percent deviation from baseline)					
Italy					
GDP	4.44	1.13	5.69	1.73	7.51
Consumption	5.19	-0.40	3.14	1.61	4.09
Investment	5.53	1.75	7.74	3.49	11.48
Hours Worked	-1.38	1.42	0.27	2.07	2.44
Real Wages	1.89	-0.86	0.66	0.72	1.26
Unit Labor Cost	-3.79	-0.58	-4.50	1.05	-3.52
Labor Productivity	5.29	-0.44	4.59	-0.39	4.07
Exports	3.16	0.73	4.17	1.73	6.00
Imports	2.14	0.63	2.53	1.48	3.99
Real Italy/E.A. exch. rate	-1.73	-0.36	-2.20	1.45	-0.81
Real eff. exchange rate	-1.83	-0.37	-2.32	-0.13	-2.49
Terms of trade	-1.85	-0.49	-2.51	0.01	-2.56
Rest of the euro area					
GDP	0.27	0.03	0.31	4.46	4.78
Consumption	0.29	0.04	0.35	5.46	5.82
Investment	0.63	0.03	0.72	6.52	7.26
Hours Worked	0.32	0.01	0.34	-0.25	0.10
Real Wages	0.24	0.06	0.32	3.09	3.41
Unit Labor Cost	0.29	0.04	0.35	-1.56	-1.21
Labor Productivity	-0.04	0.03	-0.00	4.28	4.27
Exports	0.28	0.05	0.32	2.70	3.01
Imports	0.38	0.07	0.48	2.42	2.91
Real E.A./Italy exch. rate	1.76	0.36	2.25	-1.43	0.81
Real eff. exchange rate	0.04	0.03	0.07	-2.41	-2.34
Terms of trade	0.13	0.05	0.20	-1.80	-1.60

Table 7. Mapping Product Market Reforms
Decomposition of Real GDP

	Year 1	Year 2	Year 5	S.S.
(Percent deviation from baseline)				
Italy				
Product and Labor Reforms				
Benchmark	0.82	1.57	5.69	10.53
+25% on Product Reforms	0.88	1.75	6.79	12.95
-25% on Product Reforms	0.74	1.33	4.54	8.43
Product Market Reforms				
Benchmark	0.38	1.02	4.44	8.32
+25% on Product Reforms	0.38	1.10	5.35	10.37
-25% on Product Reforms	0.23	0.66	3.21	6.22
Tradables Sector				
Benchmark	0.11	0.29	0.91	0.79
+25% on Product Reforms	0.14	0.37	1.16	0.99
-25% on Product Reforms	0.09	0.22	0.70	0.59
Nontradables Sector				
Benchmark	0.26	0.71	3.30	6.93
+25% on Product Reforms	0.23	0.70	3.88	8.63
-25% on Product Reforms	0.14	0.42	2.33	5.18
Professional Services				
Benchmark	0.00	0.02	0.23	0.59
+25% on Product Reforms	0.01	0.03	0.30	0.74
-25% on Product Reforms	0.01	0.02	0.18	0.44
Labor Market Reforms				
Benchmark	0.48	0.61	1.13	1.80

Table 8. Mapping Labor Market Reforms
Decomposition of Real GDP

	Year 1	Year 2	Year 5	S.S.
(Percent deviation from baseline)				
Italy				
Product and Labor Reforms				
Benchmark	0.82	1.57	5.69	10.53
+25% on Labor Reforms	0.83	1.60	5.84	10.93
-25% on Labor Reforms	0.79	1.49	5.48	10.45
Product Market Reforms				
Benchmark	0.38	1.02	4.44	8.32
Labor Market Reforms				
Benchmark	0.48	0.61	1.13	1.80
+25% on Labor Reforms	0.56	0.76	1.44	2.32
-25% on Labor Reforms	0.46	0.58	1.03	1.47
Employment Protection				
Benchmark	0.01	0.01	0.07	0.33
+25% on Labor Reforms	0.01	0.01	0.09	0.41
-25% on Labor Reforms	0.00	0.01	0.05	0.25
Active Labor Market Policy				
Benchmark	0.33	0.29	0.38	0.51
+25% on Labor Reforms	0.38	0.38	0.49	0.67
-25% on Labor Reforms	0.32	0.28	0.37	0.46
Female Participation Rate				
Benchmark	0.15	0.31	0.68	0.96
+25% on Labor Reforms	0.17	0.42	0.93	1.24
-25% on Labor Reforms	0.13	0.29	0.60	0.77

Table 9. The Degree of Short-Run Nominal Rigidities
Decomposition of Real GDP

	Year 1	Year 2	Year 5	S.S.
(Percent deviation from baseline)				
Italy				
Product and Labor Reforms				
Benchmark	0.82	1.57	5.69	10.53
Nom. Rigidities Like U.S.	0.88	1.75	6.25	10.53
Product Market Reforms				
Benchmark	0.38	1.02	4.44	8.32
Nom. Rigidities Like U.S.	0.42	1.13	4.80	8.32
Labor Market Reforms				
Benchmark	0.48	0.61	1.13	1.80
Nom. Rigidities Like U.S.	0.49	0.65	1.25	1.80

Table 10. The Share of Liquidity-Constrained Households
Decomposition of Real GDP

	Year 1	Year 2	Year 5	S.S.
(Percent deviation from baseline)				
Italy				
Product and Labor Reforms				
Benchmark	0.82	1.57	5.69	10.53
LIQ Households = 50%	0.81	1.54	5.66	10.69
Product Market Reforms				
Benchmark	0.38	1.02	4.44	8.32
LIQ Households = 50%	0.31	0.88	4.28	8.29
Labor Market Reforms				
Benchmark	0.48	0.61	1.13	1.80
LIQ Households = 50%	0.53	0.71	1.24	1.99

Table 11. Immediately Credible versus Stepwise Credible Policies
Decomposition of Real GDP

	Year 1	Year 2	Year 5	S.S.
(Percent deviation from baseline)				
Italy				
Product and Labor Reforms				
Stepwise Credible (Benchmark)	0.82	1.57	5.69	10.53
Immediately Credible	2.33	3.44	6.70	10.53
Product Market Reforms				
Stepwise Credible (Benchmark)	0.38	1.02	4.44	8.32
Immediately Credible	1.87	2.75	4.94	8.32
Tradables Sector				
Stepwise Credible (Benchmark)	0.11	0.29	0.91	0.79
Immediately Credible	0.36	0.57	0.83	0.79
Nontradables Sector				
Stepwise Credible (Benchmark)	0.26	0.71	3.30	6.93
Immediately Credible	1.46	2.10	3.60	6.94
Professional Services				
Stepwise Credible (Benchmark)	0.00	0.02	0.23	0.59
Immediately Credible	0.00	0.06	0.39	0.59
Labor Market Reforms				
Stepwise Credible (Benchmark)	0.48	0.61	1.13	1.80
Immediately Credible	0.63	0.81	1.27	1.99
Employment Protection				
Stepwise Credible (Benchmark)	0.01	0.01	0.07	0.33
Immediately Credible	0.05	0.07	0.06	0.33
Active Labor Market Policy				
Stepwise Credible (Benchmark)	0.33	0.29	0.38	0.51
Immediately Credible	0.36	0.31	0.36	0.51
Female Participation Rate				
Stepwise Credible (Benchmark)	0.15	0.31	0.68	0.96
Immediately Credible	0.19	0.36	0.72	0.96

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ANNEX: IMF'S GIMF AND TRANSITION DYNAMICS

The IMF's Global Integrated Monetary and Fiscal model (GIMF) is a multi-region micro-founded dynamic stochastic general equilibrium (DSGE) model. The version used in this analysis has six regions: Italy, the euro area (excluding Italy), emerging Asia, Japan, the United States, and a remaining countries bloc. The two regions of concern in our analysis are Italy and the euro area (excluding Italy), while the spillover effects on other regions from the reforms under consideration here are negligible.

GIMF has optimizing behavior by households and firms (divided between tradable and non-tradable goods sectors), and full intertemporal stock-flow accounting. Frictions in the form of sticky prices and wages, real adjustment costs, liquidity-constrained households that cannot save, and households with finite planning horizons that can save give the model certain key properties—notably, an important role for both fiscal and monetary policy. Firms produce tradable and non-tradable intermediate goods which are combined with imported tradable intermediate goods to product final goods for consumption and investment, both private (which are also traded) and public.

For fiscal policy, GIMF has certain advantages. It is based on the Blanchard-Weil-Yaari overlapping generations model, which leads to a significant break in Ricardian equivalence. These households are referred to as overlapping generations (OLG) households. OLG households have a finite planning horizon, implying that they do not expect to have to face future tax liabilities to repay debt incurred by the government. In this implementation of GIMF, we assume the planning horizon is 20 years in length. OLG households can save their labor income and income they receive from firm ownership and previous savings, and choose to hold government debt, which is important for permanent fiscal reforms. They can also borrow to smooth consumption, particularly in the face of long-run shocks (such as the reforms in this paper). The intertemporal elasticity of substitution, which governs their ability to smooth, is set to 0.25 in all economies. Their saving-investment decision means that large-scale reforms in large countries lead to long-run movements in the global real interest rate.

The non-Ricardian nature of the OLG households is complemented by the presence of liquidity-constrained (LIQ) households that cannot save. They consume all their wage income every period, as well as any transfers they receive from the government. Their presence imparts higher short-run volatility to shocks that affect labor supply or indirect taxes. LIQ households are calibrated as 25 percent of households for advanced economies (this includes Italy and the rest of the euro area) and 50 percent in emerging markets.

The fiscal rule maintains a deficit-to-GDP target, equivalent to a long-run debt-to-GDP target. There is an endogenous countercyclical response of general lump-sum transfers based on an output gap measure, parameterized as found in Girouard and André (2005)—0.53 for Italy and 0.48 for the rest of the euro area. Fiscal policy is conducted using seven instruments—government spending, government investment (infrastructure spending),

general lump-sum transfers, lump-sum transfers targeted to liquidity-constrained households, the consumption tax (VAT), the corporate income tax, and the labor income tax.

In each region, monetary policy is an inflation-targeting regime in tandem with a flexible exchange rate regime. The monetary policy rule is a standard CPI-inflation-forecast-based interest rate reaction function. For Italy and the rest of the euro area, they are governed by one interest rate reaction function, based a euro-area-wide measure of CPI inflation with a target of 2 percent, where Italy has a weight of roughly 1/6th.

We present below a more detailed discussion of how the model behaves in the face of the key shocks that best represent and the structural and fiscal reforms discussed above – increased competitiveness in product markets which are modeled by reductions in markups on the prices of non-tradable and tradable goods, and the nominal wage; increased participation and flexibility in the labor market, which are modeled by increases in labor supply and productivity, with the potential for offset by additional fiscal costs.

Impact of a Permanent Decrease in the Non-tradable Price Markup

Policies to promote competition in non-tradable sector lead to a reduction in price markups. This leads to a reduction in costs in the non-tradable sector, similar to an increase in productivity in the non-tradable sector. Demand for the factors of production increase. Consequently, the real wage increases, leading to higher households' wealth, resulting in higher consumption. The higher demand for capital also stimulates investment, both in order to accumulate a higher capital stock, and to maintain its permanently higher level.

The real exchange rate depreciates, as the relative price shifts between tradable and non-tradable goods in Italy. The adjustment however is restricted by the nominal exchange rate peg required maintain the monetary union (but interest rates still have some reaction to the economic developments in Italy, unlike a conventional nominal exchange rate peg). The real depreciation, strongest against the rest of euro area, leads to higher real GDP in the rest of the euro area from cheaper imports.

On the price side, there is downward pressure on prices from production, but slightly higher from stronger domestic demand. In the short run, inflation increases slightly, but falls after about 2 years. However, the policy rate is governed by the monetary union, and Italy is only a small portion (roughly 1/6th). Since the rest of the euro area is subject to a sustained increase in aggregate demand and inflationary pressures, there is a sustained increase in the euro area-wide policy rate.

In the long run, output is higher across the euro area, particularly in Italy, and there are higher real wages. The higher real wage and stronger consumption lead to consumers decreasing their supply of labor in the long run. However, on the demand side, there is a shift in the use of labor from the non-tradable to the tradable sector, as tradable firms hire more

workers in order to take advantage of their higher export opportunities from the permanent depreciation.

Impact of a Permanent Decrease in the Tradable Price Markup

Policies to promote competition in tradable sector lead to a reduction in price markups. This leads to a reduction in costs in the tradable sector, similar to an increase in productivity in the tradable sector. Demand for the factors of production increase. Consequently, the real wage increases, leading to higher households' wealth, resulting in higher consumption. The higher demand for capital also stimulates investment, both in order to accumulate a higher capital stock, and to maintain its permanently higher level.

The real exchange rate appreciates, as the relative price shifts between tradable and non-tradable goods in Italy. The adjustment however is restricted by the nominal exchange rate peg required maintain the monetary union (but interest rates still have some reaction to the economic developments in Italy, unlike a conventional nominal exchange rate peg). However, the euro area still imports cheaper goods from Italy, which depresses their GDP, and dampens inflation, leading to euro-area-wide interest rate cuts.

On the price side, there is a downward pressure on prices from production, but slightly higher from weaker monetary policy. In the short run, inflation falls slightly, but rises for about after about 2 over the first 10 years, before decelerating. The inflation dynamics are driven by the decline in euro-area-wide interest rates.

In the long run, output is in Italy, and there are higher real wages, but roughly unchanged in the euro area. The higher real wage and stronger consumption lead to consumers decreasing their supply of labor in the long run. However, on the demand side, there is a shift in the use of labor from the tradable to the non-tradable sector, as tradable firms face the negative effects of the permanent appreciation.

Impact of a Permanent Decrease in the Real Wage Markup

Reforms to make the labor market more competitive, such as some of the reforms in the professional services sector, lead to a generally lower wage markup by households. Unit labor costs will decline, and the demand for labor will increase by firms, as wages fall in the short run. In the medium to long run, households benefit from higher wealth, as both the amount of workers increase, while the fall in the real wage from the drop in the markup is mostly offset by higher labor demand boosting the real wage. In the more competitive environment, households also supply more labor, which contributes to the lower real wage. Overall labor income rises, and there is higher consumption. The higher demand for labor also stimulates demand for capital. Consequently, investment rises strongly in the short run, in order to accumulate a higher capital stock, but is still higher in the long run in order to maintain a permanently higher level of capital.

Since the cut in the wage markup is tantamount to an increase in productivity across the economy, the real exchange rate depreciates. The adjustment however is restricted by the nominal exchange rate peg required to maintain the monetary union (but interest rates still have some reaction to the economic developments in Italy, unlike a conventional nominal exchange rate peg). The real depreciation, strongest against the rest of euro area, leads to stronger growth in the rest of the euro area from cheaper imports, although this effect is quite small.

On the price side, there are downward pressure on prices from production, but slightly higher from stronger domestic demand. In the short run, inflation increases slightly, but falls after about 2 years. However, the policy rate is governed by the monetary union, and Italy is only a small portion (roughly 1/6th). Since the rest of the euro area faces little impact from the reforms in Italy, there are no inflationary pressures in the euro area, so the euro area-wide policy rate remains effectively unchanged.

In the long run, output is higher in Italy, and there are lower wage costs, leading to higher labor demand. However, there is upward pressure on the real wage (that is, much of the cut of the markup is offset), as stronger consumption and wealth leads consumers to face downward pressure on their supply of labor, given their utility function. So in the long run, consumption and investment is higher, as is output, labor is stronger, and wages are only slightly weaker.

There is little effect in the rest of the euro area. As with the price markups on non-tradable goods, since households and firms find the policy reform measures to be stepwise credible, the rise in real GDP will be much slower. Once credibility is established, the results are the same as under the full credibility case, after some additional time has passed, and the economy has adjusted to its long-run path.

Impact of a Permanent Increase in Labor-Augmenting Productivity

The implementation of employment protection legislation (EPL) is characterized by a permanent increase in labor-augmenting productivity in the production of both tradable and non-tradable intermediate goods.

Higher productivity raises the marginal products of capital and labor, thereby increasing the demand for these factors of production. In order that households supply more labor and capital, firms offer a higher real wage and real rental rate on capital. Therefore, there is an increase in the income of households and, consequently, private consumption. Additionally, investment increases in order to accumulate and maintain the higher level of capital demanded in the long run.

The increase in productivity more than compensates for higher wages and capital costs, so overall marginal production costs decline. This leads firms to decrease output prices and inflation falls slightly in the short run. This should lead to lower nominal interest rates, but

will not in the case of Italy since it is only 1/6th of the euro area. The fiscal authority reacts counter-cyclically to the pickup in real activity by reducing general transfers to households, temporarily improving the fiscal balance.

An increase in the level of productivity in all intermediate goods sectors reduces marginal production costs, which reduces output prices and exerts downward pressure on inflation. The real effective exchange rate depreciates increasing the competitiveness of exports.

In the long run, the current account shifts in a small surplus and net foreign assists are higher. Essentially, domestic households export some excess capital once they have financed the increase in their domestic capital stock.

Impact of a Permanent Increase in Labor Supply

Labor market reforms, such as the provision of child care to help increase the female participation rate and active labor market policies, lead to an increase in the amount of labor supplied, which in GIMF is represented as an increase in total hours worked. However, there is no formal distinction in the model between average hours, employment, the participation rate, or the size of the labor force.

A permanent increase in labor supply lowers the real wage, lowering the price of domestically-produced goods in both home and foreign markets. This encourages both higher consumption of goods by households (as they receive more goods for the same amount of spending) and more production by firms because of cheaper factors of production. Moreover, this will stimulate the demand for capital by firms, and hence investment – more so in the short run, in order to accumulate the capital stock demand.

As noted above, there is a reduction in marginal cost, leading to downward pressure on inflation. Nevertheless, there is no significant monetary policy response on the part of the ECB, since Italy is only 1/6th the euro area, and will have limited impact on the euro-area-wide measure of inflation.

In GIMF, the substitution effect generally outweighs the income effect slightly, so labor income will be higher, allowing for higher consumption. Coupled with the already-noted increase in investment, there will an increase in real GDP

If other shocks are paired with an increase in labor supply, the effects of those shocks are amplified over the course of the adjustment process, as labor becomes an increasingly large share of factor income and wealth, amplifying the effect of supply-side shocks on consumption and production.

Impact of New Fiscal Costs from the Labor Market Reforms

Some labor market reforms incur extra fiscal cost, such as the provision of child care to increase the female participation rate and active labor market policies. In the scenarios considered here, the additional fiscal outlays are offset with a reduction in lump-sum transfers, resulting in a shift in the composition of government expenditure.

As government spending increases, real GDP increases immediately. The increase in aggregate demand will lead to higher inflationary pressures, but with only a minimal impact on the setting of the monetary policy rate, as Italy is only around 1/6th of the euro area. So there will not be much crowding out of real activity from monetary policy.

Increased spending would increase the government debt burden (albeit only slightly with the proposed reforms), which would lead to increased crowding out of investment in debt-financing markets, and reduced fiscal room for other spending. However, the additional fiscal outlays can be offset by either increasing taxes (distortionary or lump-sum), or decreasing other spending (such as lump-sum transfers, or government infrastructure investment).

In the case of the labor market reforms presented here, there is a decrease in general lump-sum transfers. Therefore, there is no crowding out of investment. There is also slight downward pressure on consumption, as there is a decrease in expected wealth for households that save. Once the positive effect from government spending is offset by the negative impact on consumption, the impact on real GDP would be ambiguous.