World Economic and Financial Surveys

# Fiscal Monitor

## Balancing Fiscal Policy Risks

APR 12

INTERNATIONAL MONETARY FUND

World Economic and Financial Surveys

# FISCAL MONITOR
## April 2012

## Balancing Fiscal Policy Risks


International Monetary Fund

Cover: IMF Multimedia Services Division
Composition: Maryland Composition, Inc.

**Cataloging-in-Publication Data**

Fiscal monitor—Washington, D.C. : International Monetary Fund, 2009–
v. ; cm. — (World economic and financial surveys, 0258-7440)

Twice a year.
Some issues have also thematic titles.

1. Finance, Public—Periodicals. 2. Finance, Public—Forecasting—Periodicals. 3. Fiscal policy—Periodicals. 4. Fiscal policy—Forecasting—Periodicals. 5. Financial crises—Periodicals. 6. Global Financial Crisis, 2008–2009—Periodicals. I. International Monetary Fund. II. Series: World economic and financial surveys.
HJ101.F57

ISBN 978-1-61635-248-6

Publication orders may be placed online, by fax, or through the mail:
International Monetary Fund, Publication Services
P.O. Box 92780, Washington, DC 20090, U.S.A.
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# PREFACE

The projections included in this issue of the *Fiscal Monitor* are based on the same database used for the April 2012 *World Economic Outlook* and *Global Financial Stability Report* (and are referred to as "IMF staff projections"). The fiscal projections refer to the general government unless otherwise indicated. Short-term fiscal projections are based on officially announced budgets, adjusted for differences between the national authorities and the IMF staff regarding macroeconomic assumptions. The medium-term fiscal projections incorporate policy measures that are judged by the IMF staff as likely to be implemented. For countries supported by an IMF arrangement, the medium-term projections are those under the arrangement. In cases in which the IMF staff has insufficient information to assess the authorities' budget intentions and prospects for policy implementation, an unchanged cyclically adjusted primary balance is assumed, unless indicated otherwise. Country-specific assumptions are detailed in the Methodological and Statistical Appendix, which precedes the Statistical Tables.

The *Fiscal Monitor* is prepared by the IMF Fiscal Affairs Department under the supervision of Carlo Cottarelli, Director of the Department, and Philip Gerson, Deputy Director. This issue is coordinated by Martine Guerguil. Principal contributors include Nina Budina, Laura Jaramillo Mayor, Tigran Poghosyan, and Anke Weber. Nathalie Carcenac, Petra Dacheva, and Raquel Gomez Sirera provided outstanding research assistance. In addition, contributions were provided by Ali Abbas, Elif Arbatli, Mark De Broeck, Xavier Debrun, Julio Escolano, Luc Eyraud, Borja Gracia, Bertrand Gruss, Jiri Jonas, Carsten Jung, Stella Kaendera, Tidiane Kinda, Andrea Lemgruber, Paolo Mauro, Jimmy McHugh, Marialuz Moreno-Badia, Geremia Palomba, Iva Petrova, Marcos Poplawski-Ribeiro, Rafael Romeu, Andrea Schaechter, Abdel Senhadji, Anna Shabunina, Mauricio Soto, and Mauricio Villafuerte. Maria Delariarte and Nadia Malikyar provided excellent administrative and editorial assistance. From the IMF External Relations Department, Nancy Morrison and Michael Harrup edited the volume, and Michael Harrup managed its production.

Inputs, comments, and suggestions were received from other departments in the IMF, including area departments—namely, the African Department, Asia and Pacific Department, European Department, Middle East and Central Asia Department, and Western Hemisphere Department—as well as the IMF Institute, Monetary and Capital Markets Department, Research Department, Statistics Department, and Strategy, Policy and Review Department. Both projections and policy considerations are those of the IMF staff and should not be attributed to Executive Directors or to their national authorities.

# EXECUTIVE SUMMARY

Policymakers face the dilemma of how best to respond to the challenges of slackening global activity and continued financial volatility without losing sight of their medium-term adjustment needs. In countries with fiscal space, the pace of near-term fiscal adjustment plans should be calibrated to avoid undue pressures on activity and employment. In 2012, deficits in the advanced economies are projected to decline on average by about 1 percentage point of gross domestic product (GDP) in cyclically adjusted terms and slightly faster in 2013. This is broadly appropriate, although countries with enough fiscal space could consider slowing the pace of near-term adjustment to reduce downside risks. Should growth slow further, countries with fiscal space should allow the automatic stabilizers to operate freely and allow the deficit to rise to avoid excess fiscal contraction, which could worsen economic conditions. But short-term caution should not be an excuse to slow or delay efforts to put public finances on a sounder footing over the medium term, as this remains a key requirement for sustainable growth. In emerging economies fiscal adjustment will slow considerably this year. Again, in the context of somewhat weaker growth, this slowing is appropriate, and also in light of the stronger fiscal position of these economies with respect to advanced economies. Over the medium term, however, the fiscal space eroded during 2008–09 should be fully rebuilt, so as to restore flexibility to respond to future downturns.

Against that background, this issue of the *Fiscal Monitor* examines in more detail the concept of fiscal space, or the scope that policymakers have to calibrate the pace of fiscal adjustment without undermining fiscal sustainability. Among the conclusions that emerge are the following:

- In the short to medium term, many countries remain vulnerable to unexpected shocks, leaving them with little margin for policy errors. Although debt ratios are expected to begin stabilizing by 2015 in the large majority of countries, the risk of a setback is high, constraining policy options.
- In the current recessionary context, the negative impact of fiscal adjustment on activity can be expected to be large, as confirmed by new work on the size of fiscal multipliers during periods of weak economic activity. When multipliers are on the high side, the beneficial impact of fiscal adjustment on debt ratios and spreads may be delayed. This is another reason why, as long as financing allows, a gradual but steady pace of adjustment seems preferable to heavy front-loading. Adjustment should be accompanied by broad and proactive communication strategies to fuel confidence and credibility.
- Since 2008 the rise in general government gross debt ratios may have overstated short-term pressures on the public finances in some countries, primarily because of the surge in seigniorage and the accumulation of assets by central banks (including government paper). This comes to light when looking at consolidated net balance sheets of governments and central banks. However, large central bank holdings of government debt and other assets will need to be liquidated or rolled over to the private sector as the demand for base money returns to more normal levels, meaning that gross general government debt, alongside net debt, remains a key indicator of public indebtedness over the longer term. The process of reducing central bank balance sheets will be difficult to manage without previous or parallel medium-term fiscal consolidation.
- Countries can have flexibility in the short term without having it in the longer term. The need to reduce debt ratios and to address pressures from entitlement spending means that very few countries have long-term fiscal space. The design and implementation of credible medium-term adjustment plans therefore remains a sine qua non for most advanced, and several developing, economies. Progress in this area is accelerating, but there is still a long way to go, including in the largest economies.

- A growing number of countries are putting in place fiscal rules. Although they are not a substitute for specific long-term adjustment plans, fiscal rules can build confidence and facilitate the establishment of a political consensus on fiscal policy. Second-generation fiscal rules are typically more complex than earlier versions, providing greater flexibility to respond to economic cycles but with more-binding corrections for past deviations. As such, they also raise significant enforcement and monitoring challenges.

Overall, fiscal risks remain elevated, although there are signs that in some key respects they are less acute than six months ago. Past efforts with fiscal consolidation are beginning to bear fruit, particularly when buttressed by credible institutional commitments. Nevertheless, debt ratios in many advanced economies are at historic levels and rising, borrowing requirements remain very large, financial markets continue to be in a state of alert, and downside risks to the global economy predominate. In this uncertain environment, the challenge for fiscal policy is to find the right balance between exploiting short-term space to support the fragile recovery and rebuilding longer-term space by advancing fiscal consolidation.

# BALANCING FISCAL POLICY RISKS

## 1. Continued Fiscal Tightening Is in Store for 2012, Particularly among Advanced Economies

Notwithstanding the deceleration in global activity in late 2011 and weaker growth prospects (see the April 2012 *World Economic Outlook*), fiscal deficits in most advanced economies are projected to continue to decline in 2012 (Table 1). Headline deficits will fall by almost 1 percentage point of GDP among the advanced economies, as countries unwind fiscal stimulus and, in a few cases, implement austerity measures in response to market pressures. At about 1 percentage point of GDP, deficit reduction in cyclically adjusted terms would be slightly higher than that implemented in 2011. In many cases, the challenge will be to ensure continued progress toward sound public finances while avoiding an excessive fiscal drag on activity. Gross financing needs are expected to decline only slightly, hovering around 25 percent of GDP per year over the coming three years in advanced economies, as lower deficits are offset by higher rollover requirements on a larger maturing debt stock (Table 2).

- In the *United States*, the deficit in 2012 is expected to decline by 1½ percent of GDP in headline terms, or by 1¼ percent of GDP in cyclically adjusted terms. Congressional approval of a full-year extension of payroll tax cuts and emergency unemployment benefits averted a more substantial fiscal withdrawal that would have had significant negative repercussions for economic activity. Additional fiscal consolidation of 1.5 percent of GDP is in the pipeline for 2013, including from the automatic spending cuts expected to be triggered by the failure of the congressional "supercommittee" to agree on a deficit reduction plan. This would be a significant adjustment to undertake, and the overall pace of consolidation could be reduced should growth disappoint and Treasury bond market conditions remain favorable. Moreover, the decline in the overall deficit could roughly double if temporary tax reductions and stimulus measures are allowed to expire. President Obama has unveiled a budget proposal that envisages additional stimulus measures over the next several years and a plan to overhaul the corporate tax code by reducing the corporate income tax rate from 35 to 28 percent and closing loopholes. However, prospects for congressional approval of either of these proposals are uncertain.
- In *Canada*, deficits are set to decline in 2012 and 2013 with expenditure restraint and the withdrawal of fiscal stimulus.
- In *Germany*, the cyclically adjusted deficit fell significantly in 2011, reflecting the expiration of one-off financial sector measures implemented in 2010,[1] sizable discretionary fiscal tightening due to both stimulus withdrawal and consolidation measures, and continued structural changes in the labor market (leading to lower payments of unemployment benefits). In 2012 the decline in the headline deficit is projected to be modest; the larger improvement in the cyclically adjusted balance reflects in part tightening measures (amounting to ¼–½ percentage point of GDP), together with cyclical improvements that may not be fully filtered out owing to methodological difficulties.
- In the *United Kingdom*, actual and potential GDP growth estimates have been revised down, resulting in weaker projections for both headline and cyclically adjusted balances. In cyclically adjusted terms, adjustment is projected at about 1¼ percent of GDP this year and next, about ½ percent of GDP annually less than previously expected.
- In *France* and *Italy*, the authorities are complementing recent fiscal packages with measures aimed at boosting growth. In France, starting October 1, a "social VAT," also known as fiscal devaluation,

[1] Net of these one-off measures, the cyclically adjusted primary deficit narrowed by 1.2 percentage points of GDP, instead of 2.3 percentage points of GDP, in 2011.

## Table 1. Fiscal Balances, 2008–13

*(Percent of GDP, except where otherwise indicated)*

| | | | | | Projections | | Difference from September 2011 *Fiscal Monitor* | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2011 | 2012 | 2013 |
| **Overall balance** | | | | | | | | | |
| Advanced economies | –3.7 | –8.9 | –7.7 | –6.6 | –5.7 | –4.5 | 0.1 | –0.3 | –0.4 |
| United States | –6.7 | –13.0 | –10.5 | –9.6 | –8.1 | –6.3 | 0.1 | –0.2 | –0.1 |
| Euro area | –2.1 | –6.4 | –6.2 | –4.1 | –3.2 | –2.7 | 0.1 | 0.0 | –0.2 |
| France | –3.3 | –7.6 | –7.1 | –5.3 | –4.6 | –3.9 | 0.6 | 0.1 | 0.1 |
| Germany | –0.1 | –3.2 | –4.3 | –1.0 | –0.8 | –0.6 | 0.6 | 0.3 | 0.2 |
| Italy | –2.7 | –5.4 | –4.5 | –3.9 | –2.4 | –1.5 | 0.1 | 0.0 | –0.4 |
| Spain | –4.2 | –11.2 | –9.3 | –8.5 | –6.0 | –5.7 | –2.3 | –0.9 | –1.3 |
| Japan | –4.1 | –10.4 | –9.4 | –10.1 | –10.0 | –8.7 | 0.2 | –0.8 | –0.9 |
| United Kingdom | –4.9 | –10.4 | –9.9 | –8.7 | –8.0 | –6.6 | –0.2 | –0.9 | –1.5 |
| Canada | 0.1 | –4.9 | –5.6 | –4.5 | –3.7 | –2.9 | –0.3 | –0.5 | –1.0 |
| Others | 1.9 | –1.0 | 0.1 | 0.7 | 0.7 | 1.5 | 0.2 | –0.4 | –0.1 |
| Emerging economies | –0.4 | –4.8 | –3.6 | –2.2 | –2.1 | –2.1 | 0.5 | 0.1 | –0.2 |
| Asia | –2.2 | –4.7 | –3.9 | –3.3 | –3.2 | –3.0 | 0.1 | –0.5 | –0.7 |
| China | –0.4 | –3.1 | –2.3 | –1.2 | –1.3 | –1.0 | 0.3 | –0.5 | –0.9 |
| India | –7.2 | –9.8 | –9.2 | –8.7 | –8.3 | –8.2 | –0.6 | –0.8 | –0.8 |
| ASEAN-5 | –0.5 | –3.3 | –2.1 | –2.2 | –2.3 | –2.4 | 0.6 | 0.3 | 0.1 |
| Europe | 0.6 | –6.2 | –4.4 | –0.5 | –1.0 | –1.3 | 1.5 | 1.2 | 0.8 |
| Russia | 4.9 | –6.3 | –3.5 | 1.6 | 0.6 | –0.3 | 2.7 | 2.7 | 1.9 |
| Latin America | –0.7 | –3.6 | –2.9 | –2.4 | –2.1 | –1.9 | –0.1 | 0.1 | 0.0 |
| Brazil | –1.4 | –3.1 | –2.8 | –2.6 | –2.3 | –2.4 | –0.1 | 0.5 | 0.2 |
| Mexico | –1.1 | –4.7 | –4.3 | –3.4 | –2.4 | –2.2 | –0.2 | 0.4 | 0.3 |
| Middle East and North Africa | –0.4 | –2.5 | –3.5 | –5.7 | –5.4 | –4.9 | 0.0 | –0.6 | –0.6 |
| Low-income countries | –1.2 | –4.0 | –2.9 | –2.5 | –3.0 | –2.5 | 0.6 | –0.1 | 0.0 |
| Oil producers | 5.9 | –3.0 | –0.8 | 2.1 | 2.4 | 1.6 | 1.9 | 2.4 | 1.8 |
| G-20 economies | –2.7 | –7.6 | –6.2 | –5.0 | –4.4 | –3.7 | 0.3 | –0.1 | –0.3 |
| Advanced | –4.3 | –9.6 | –8.2 | –7.2 | –6.3 | –5.0 | 0.1 | –0.3 | –0.3 |
| Emerging | –0.2 | –4.8 | –3.5 | –2.2 | –2.1 | –2.2 | 0.4 | 0.1 | –0.2 |
| **Cyclically adjusted balance** *(Percent of potential GDP)* | | | | | | | | | |
| Advanced economies | –3.6 | –5.9 | –5.9 | –5.2 | –4.3 | –3.3 | –0.4 | –0.5 | –0.4 |
| United States[1] | –5.0 | –7.5 | –7.8 | –7.2 | –5.9 | –4.4 | –0.8 | –0.9 | –0.7 |
| Euro area | –3.0 | –4.5 | –4.6 | –3.4 | –2.0 | –1.5 | –0.2 | 0.2 | 0.3 |
| France | –3.0 | –5.3 | –5.2 | –4.0 | –3.3 | –2.7 | 0.3 | 0.1 | 0.4 |
| Germany | –1.3 | –1.3 | –3.4 | –1.2 | –0.6 | –0.5 | 0.3 | 0.3 | 0.2 |
| Italy | –3.3 | –3.0 | –3.1 | –2.7 | –0.3 | 0.6 | –0.2 | 0.7 | 0.7 |
| Spain | –5.3 | –9.7 | –7.6 | –6.9 | –3.9 | –3.6 | –2.3 | 0.3 | 0.2 |
| Japan | –3.6 | –7.4 | –7.9 | –8.1 | –8.7 | –7.9 | –0.1 | –1.0 | –1.1 |
| United Kingdom | –6.5 | –9.0 | –7.8 | –6.3 | –5.1 | –3.8 | 0.0 | –0.4 | –0.8 |
| Canada | –0.6 | –2.5 | –4.1 | –3.6 | –2.8 | –2.2 | –0.6 | –0.9 | –1.2 |
| Others | 0.3 | –1.7 | –0.9 | –0.6 | –0.5 | 0.3 | 0.2 | –0.4 | 0.0 |
| Emerging economies | –1.9 | –4.1 | –3.5 | –2.3 | –2.2 | –2.1 | 0.8 | 0.5 | 0.1 |
| Asia | –2.5 | –4.5 | –3.6 | –2.6 | –2.4 | –2.3 | 1.0 | 0.4 | 0.0 |
| China | 0.0 | –2.4 | –1.5 | 0.0 | 0.0 | 0.2 | 1.8 | 0.9 | 0.3 |
| India | –9.3 | –10.8 | –9.7 | –9.1 | –8.8 | –8.7 | –0.8 | –0.8 | –0.8 |
| ASEAN-5 | –1.5 | –2.9 | –2.1 | –2.4 | –2.3 | –2.4 | 0.4 | 0.3 | 0.1 |
| Europe | –0.5 | –4.3 | –3.6 | –1.0 | –1.2 | –1.5 | 1.0 | 0.8 | 0.6 |
| Russia | 3.9 | –3.4 | –2.2 | 1.6 | 0.2 | –0.8 | 1.9 | 1.9 | 1.4 |
| Latin America | –1.5 | –2.6 | –2.9 | –2.6 | –2.0 | –1.9 | 0.1 | 0.4 | 0.2 |
| Brazil | –2.2 | –2.2 | –3.3 | –2.7 | –2.1 | –2.3 | –0.1 | 0.6 | 0.2 |
| Mexico | –1.3 | –3.8 | –3.8 | –3.2 | –2.3 | –2.1 | 0.2 | 0.8 | 0.7 |
| G-20 economies | –2.9 | –5.2 | –5.1 | –4.1 | –3.5 | –2.9 | 0.2 | –0.1 | –0.2 |
| Advanced | –3.7 | –5.9 | –6.2 | –5.5 | –4.6 | –3.5 | –0.4 | –0.6 | –0.5 |
| Emerging | –1.7 | –4.2 | –3.4 | –2.2 | –2.1 | –2.1 | 0.8 | 0.5 | 0.1 |
| **Memorandum items:** | | | | | | | | | |
| *World growth (percent)* | *2.8* | *–0.6* | *5.3* | *3.9* | *3.5* | *4.1* | *–0.1* | *–0.5* | *–0.4* |

Sources: IMF staff estimates and projections.

Note: All country averages are weighted by GDP at purchasing power parity using rolling weights, and calculated based on data availability. Projections are based on IMF staff assessment of current policies. ASEAN-5: Indonesia, Malaysia, the Philippines, Singapore, and Thailand; G-20: Group of Twenty.

[1]Excluding financial sector support.

**Table 2. Selected Advanced Economies: Gross Financing Needs, 2012–14**
*(Percent of GDP)*

| | 2012 | | | 2013 | | | 2014 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Maturing debt | Budget deficit | Total financing need | Maturing debt[1] | Budget deficit | Total financing need | Maturing debt[1] | Budget deficit | Total financing need |
| Japan | 49.1 | 10.0 | 59.1 | 50.8 | 8.7 | 59.5 | 50.0 | 7.9 | 57.9 |
| Italy | 26.4 | 2.4 | 28.7 | 22.4 | 1.5 | 23.9 | 22.6 | 1.6 | 24.2 |
| Portugal | 22.2 | 4.5 | 26.7 | 16.7 | 3.0 | 19.7 | 18.0 | 2.3 | 20.4 |
| United States | 17.7 | 8.1 | 25.8 | 19.9 | 6.3 | 26.2 | 20.1 | 4.9 | 25.0 |
| Spain | 14.9 | 6.0 | 20.9 | 15.8 | 5.7 | 21.5 | 14.7 | 5.2 | 20.0 |
| Belgium | 16.4 | 2.9 | 19.3 | 17.3 | 2.2 | 19.5 | 16.9 | 1.3 | 18.1 |
| France | 13.6 | 4.6 | 18.2 | 15.6 | 3.9 | 19.5 | 15.0 | 3.1 | 18.1 |
| Canada | 12.5 | 3.7 | 16.1 | 14.9 | 2.9 | 17.8 | 15.7 | 2.1 | 17.8 |
| Ireland[2] | 3.6 | 11.7 | 15.3 | 6.1 | 8.6 | 14.7 | 8.1 | 5.7 | 13.8 |
| Netherlands | 10.4 | 4.5 | 14.9 | 11.4 | 4.9 | 16.4 | 12.3 | 4.7 | 17.1 |
| United Kingdom | 6.9 | 8.0 | 14.8 | 7.3 | 6.6 | 13.9 | 9.1 | 5.0 | 14.2 |
| Germany | 8.1 | 0.8 | 8.9 | 8.0 | 0.6 | 8.5 | 5.5 | 0.3 | 5.8 |
| Finland | 7.2 | 1.4 | 8.6 | 7.2 | 0.8 | 8.0 | 7.5 | 0.3 | 7.9 |
| Australia | 2.4 | 2.5 | 4.9 | 2.9 | 0.6 | 3.6 | 3.0 | 0.3 | 3.3 |
| Sweden | 4.4 | 0.1 | 4.5 | 2.4 | –0.5 | 1.9 | 5.1 | –1.3 | 3.8 |
| Weighted average | 19.2 | 6.5 | 25.7 | 20.5 | 5.2 | 25.7 | 20.4 | 4.2 | 24.6 |

Sources: Bloomberg L.P.; and IMF staff estimates and projections.

Note: Averages are weighted by GDP at purchasing power parity using rolling weights. Data on maturing debt refer to government securities. For some countries, general government deficits are reported on an accrual basis.

[1]Assumes that short-term debt outstanding in 2012 and 2013 will be refinanced with new short-term debt that will mature in 2013 and 2014, respectively. Countries that are projected to have budget deficits in 2012 or 2013 are assumed to issue new debt based on the maturity structure of debt outstanding at the end of 2011.

[2]Ireland's cash deficit includes exchequer deficit, other government cash needs, and bank/credit union recapitalization.

will reduce the labor tax wedge, offset by increases in the value-added tax and taxes on capital revenue. As noted in the September 2011 *Fiscal Monitor*, such a reform can reduce the cost of exported goods (through lower labor taxes) and increase the relative price of imported goods to consumers (through the higher VAT), like a currency devaluation. In Italy, reforms in the areas of product market liberalization, infrastructure investment, and administrative simplification have been introduced, and the government has submitted to parliament a package of reforms aimed at making the labor market more flexible.

- In *Spain*, the authorities have announced in the budget for 2012 measures complementing the fiscal consolidation package of end-2011, in an effort to reach an overall deficit target of 5.3 percent of GDP for 2012. The new deficit target understandably aims for a very large consolidation and is broadly appropriate, although a slightly more moderate adjustment that better accommodated cyclical developments would have been preferable.
- In *Ireland* and *Portugal*, tax increases, revenue-enhancing measures, and expenditure cuts are being introduced to maintain the committed path of deficit reduction over the medium term.
- In *Greece*, in line with their commitment to return to a sustainable fiscal position in the medium term, the authorities approved additional fiscal measures amounting to 1.5 percent of GDP in the context of a new program and against the backdrop of a large debt-restructuring operation. The pace of fiscal consolidation, centered on a sizable reduction in public employment, pensions, and health spending, as well as the broadening of the VAT and personal income tax bases, would be more moderate than in 2010–11, with increasing emphasis on structural reforms to boost competitiveness and medium-term growth, including a 22 percent decline and subsequent three-year freeze in the minimum wage. The program also involves a renewed effort to fight tax evasion through stronger enforcement, aligning tax administration operations with international

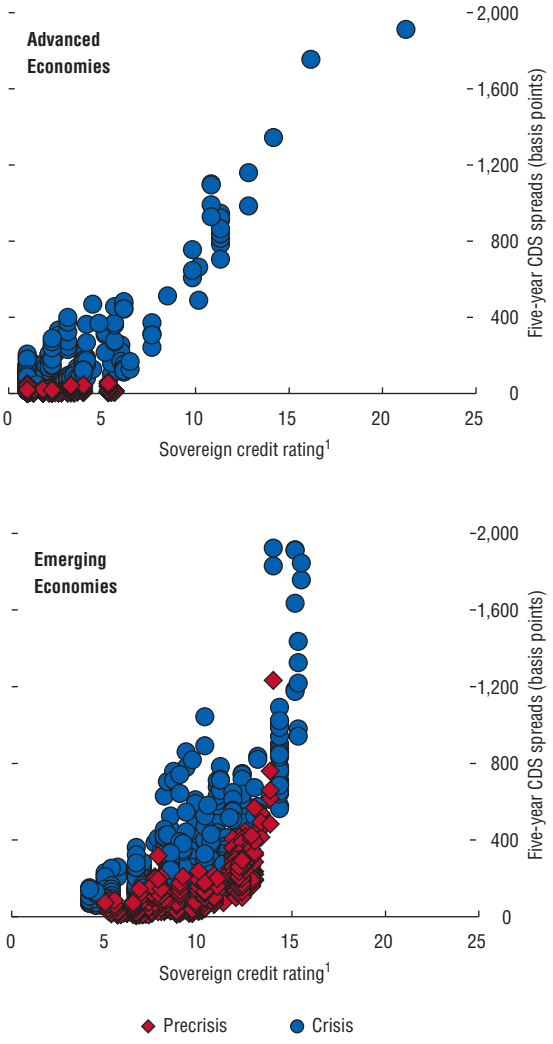
best practices, and raising social security collection compliance.

- *Japan* is the only advanced economy in which the cyclically adjusted deficit will increase further in 2012 before returning to slightly below the 2011 level next year.

Front-loaded adjustment in a few advanced economies is being undertaken in the context of severe market pressure, but—as noted in the January 2012 *Fiscal Monitor Update*—other advanced economies would seem to have more scope for discretion. Policymakers may be hesitant to exploit this apparent "fiscal space" out of concern regarding a potential market backlash to any policy change. This wariness is understandable: in practice, fiscal space is difficult to measure precisely (Box 1), and to the extent that it reflects market perceptions, it can be volatile. Prior to the crisis, there was little differentiation among sovereign bond spreads across advanced economies, but the dispersion and volatility of spreads has since increased markedly (see the April 2012 *Global Financial Stability Report*), complicating the task of policymakers, who must assess the extent to which policy can be eased without losing credibility (Figure 1). This is especially true because confidence can be more easily lost than restored. Of course, the general macroeconomic environment—such as the risk of overheating pressures—as well as the overall policy mix being implemented is also relevant in determining the appropriate course of fiscal policy. For example, in some economies, a loosening of monetary policy could prove more effective than additional fiscal stimulus at supporting demand. Nevertheless, in 2012 and 2013, advanced economies with fiscal space should at a minimum allow the automatic stabilizers to operate around their currently envisaged adjustment plans in the event that growth slows more than expected. Among these countries, those with a strong position, in terms of fiscal accounts and credibility with markets, can consider going further and slowing the pace of fiscal consolidation to reduce downside risks to growth. In some countries, market interest rates remain relatively high despite significant fiscal consolidation that has been implemented or is in the pipeline. The availability of adequate financing for countries that are undertaking adjustment could provide an important confidence boost while market perceptions gradually adjust to strengthened fundamentals. In this regard, the recently agreed-upon combination of the European Stability Mechanism and the European Financial Stability Facility, along with other recent European efforts, will strengthen the European firewall.

In emerging economies, only a modest tightening of fiscal policy is expected this year. In several coun-

**Figure 1. CDS Spreads and Sovereign Ratings**




Sources: Fitch Ratings; Markit; Moody's Analytics; Standard & Poor's; and IMF staff calculations.
Note: CDS: credit default swap.
[1] Sovereign credit ratings and outlooks from Fitch Ratings, Moody's Investor Services, and Standard & Poor's are converted to a linear scale, then averaged across the three agencies, with AAA equal to 1; data as of end-2011.

## Box 1. Measuring Fiscal Space: A Critical Review of Existing Methodologies

The notion of fiscal space is closely related to the concept of fiscal sustainability. The fiscal stance of a country is considered sustainable if the present-value budget constraint—in which the current debt is less than or equal to the discounted value of future primary surpluses—is satisfied at all times. In practice, policies aiming to maintain a stable debt ratio in the medium term are considered sustainable. However, when the debt ratio is unsustainable to start with, policies aimed at reducing it to a sustainable level are necessary. In the latter case, fiscal space may be limited even in the presence of a declining debt ratio.

Alternative methods have been proposed to measure fiscal space. One uses sustainability indicators (or fiscal gaps). The index of fiscal sustainability—proposed by Buiter (1985), Blanchard and others (1990), Buiter, Corsetti, and Roubini (1993), and Auerbach and Gale (2011)—compares the current and *n*-period-ahead debt using predefined projections for the overall balance, the discount rate, and the macroeconomic outlook. It then identifies the fiscal gap, based on the difference between the current balance and the constant balance that stabilizes debt over a medium-term horizon. Under this approach, changes in macroeconomic projections have an important impact on the size of fiscal gaps.

The main limitation of the fiscal gap approach is that its macroeconomic forecasts tend to rely on ad hoc assumptions rather than on a formal, testable model. Projections of government revenues and expenditures are often independent from each other and from private sector behavior, which limits the possibility of accounting for feedback effects between the private and public sectors or making the discount rate time-varying and endogenously determined. The methodology has, however, two main advantages. First, it is forward-looking and draws on the policy plans announced by the authorities. Second, it takes into account synergies between different sectors of the economy. The European Commission (2007) uses this approach for its S1 and S2 indicators. Similarly, the *Fiscal Monitor* regularly presents a measure of adjustment need (the inverse of fiscal space), calculated as the gap between the current primary balance and the balance needed to bring the debt-to-GDP ratio down to a specified level.

Another group of studies uses stationarity and structural tests of fiscal sustainability. Hamilton and Flavin (1986) show that fiscal policy is sustainable if both debt and primary deficit variables are stationary. Trehan and Walsh (1988) and Hakkio and Rush (1991) argue that if debt and primary deficit ratios are cointegrated, fiscal sustainability is maintained. Wilcox (1989) and Uctum and Wickens (2000) assume a time-varying discount factor and show that stationarity of the primary balance with zero mean is sufficient for fiscal sustainability. Structural tests proposed by Bohn (1998, 2005, 2007)—with recent applications by the IMF (2003), Mendoza and Ostry (2008), and Ostry and others (2010)—claim that fiscal sustainability is maintained if the primary surplus ratio tends to increase as needed when the debt ratio rises. These approaches add a behavioral dimension to the fiscal space assessment that the fiscal gap methodology lacks. But they also have drawbacks. First, they are based on past data, whereas the present-value budget constraint is a forward-looking concept. Hence, they do not consider an infinite horizon and rule out possible future changes in fiscal policy to satisfy the present-value budget constraint. Second, they assume that fiscal policy has been constant over the past (either sustainable or unsustainable), not allowing for the possibility of changes in policy stance over time (although Ostry and others [2010] attempt to address this problem by capping the possible future adjustment based on past experience). Relatedly, they do not provide information on the type of fiscal policy changes required to restore sustainability. And most importantly, with few exceptions (for example, Ostry and others [2010]) they cast as sustainable infinitely growing debt ratios, as long as they are supported by infinitely growing primary balances—which is hardly realistic.

Other recent studies have attempted to account for feedback effects between fiscal and macroeconomic variables using vector autoregression (VAR) models. One stream of studies imposes restrictions on the coefficients of the VAR to ensure the present-value budget constraint (for example, Chung and Leeper, 2007), while another stream attempts to assess from the data whether the present-value budget constraint holds (for example, Polito and Wickens, 2005, 2011; Giannitsarou and Scott, 2006). Although the VAR methodology incorporates interactions between sectors and thus captures the whole macroeconomic framework, it

**Box 1 *(concluded)***

is still backward-looking (relying on how policy was conducted in the past) and does not provide much guidance for future policy design. It is also susceptible to the Lucas critique, as economic agents can change their behavior in response to announced changes in future fiscal policy, making VAR coefficients derived from past data inapplicable for studying effects of future policy changes.

**Table 3. Selected Emerging Economies: Gross Financing Needs, 2012–13**
*(Percent of GDP)*

| | 2012 | | | 2013 | | |
|---|---|---|---|---|---|---|
| | Maturing debt | Budget deficit | Total financing need | Maturing debt | Budget deficit | Total financing need |
| Pakistan | 23.3 | 6.7 | 30.0 | 24.3 | 6.0 | 30.3 |
| Hungary | 16.3 | 3.0 | 19.3 | 17.1 | 3.4 | 20.5 |
| Brazil | 16.2 | 2.3 | 18.5 | 15.7 | 2.4 | 18.0 |
| Romania | 10.4 | 1.9 | 12.3 | 10.3 | 1.0 | 11.4 |
| India | 3.3 | 8.3 | 11.6 | 3.1 | 8.2 | 11.3 |
| Mexico | 8.4 | 2.4 | 10.8 | 8.0 | 2.2 | 10.1 |
| Poland | 7.2 | 3.2 | 10.5 | 7.1 | 2.8 | 9.9 |
| Philippines | 8.3 | 1.9 | 10.2 | 8.8 | 1.3 | 10.1 |
| Ukraine | 6.6 | 2.8 | 9.4 | 5.6 | 2.0 | 7.6 |
| China[1] | 7.8 | 1.3 | 9.1 | 5.3 | 1.0 | 6.2 |
| Thailand | 6.1 | 3.1 | 9.1 | 6.4 | 3.7 | 10.1 |
| Lithuania | 5.9 | 2.9 | 8.8 | 6.3 | 2.6 | 8.9 |
| Malaysia | 3.3 | 4.3 | 7.6 | 2.5 | 4.8 | 7.2 |
| Turkey | 5.7 | 1.7 | 7.5 | 6.5 | 2.0 | 8.5 |
| Latvia | 6.2 | 1.2 | 7.3 | 5.6 | 0.5 | 6.1 |
| Argentina[1] | 3.5 | 3.1 | 6.6 | 3.9 | 2.2 | 6.1 |
| South Africa | 1.9 | 4.3 | 6.2 | 2.3 | 3.7 | 6.0 |
| Bulgaria | 2.8 | 1.9 | 4.7 | 5.6 | 1.6 | 7.2 |
| Colombia | 2.5 | 1.4 | 3.9 | 2.7 | 1.4 | 4.1 |
| Indonesia | 2.0 | 1.0 | 3.0 | 1.5 | 1.0 | 2.5 |
| Russia | 3.1 | –0.6 | 2.5 | 2.5 | 0.3 | 2.8 |
| Peru | 2.5 | –1.1 | 1.4 | 2.2 | –1.0 | 1.2 |
| Chile | 1.0 | 0.3 | 1.3 | 1.3 | 0.2 | 1.5 |
| Weighted average | 6.9 | 2.6 | 9.5 | 5.8 | 2.5 | 8.3 |

Sources: IMF staff estimates and projections.
Note: Averages are weighted by GDP at purchasing power parity using rolling weights. For some countries, general government deficits are reported on an accrual basis.
[1]For details, see "Data and Conventions" in the Methodological and Statistical Appendix.

tries, including in Asia, policymakers are focusing on engineering a soft landing amid the expectation that demand growth, which had been fueled by domestic credit and/or high commodity prices, will taper off. In these economies, continued fiscal consolidation is broadly appropriate to safeguard against renewed inflationary pressures once growth resumes, but also to rebuild space to address future shocks. Rebuilding fiscal space is crucial for countries that can only borrow long term in foreign currency, or where nonresident holdings of debt are sizable, as these countries are much more vulnerable to shocks even if they have relatively low debt and deficits. However, if growth weakens further, emerging economies with relatively low debt and deficits, modest financing needs (Table 3), and strong external positions, particularly in Asia, may have space to provide more support to demand.

- In *China*, consolidation plans for 2012 have been deferred in response to slower growth, with gradual adjustment expected to resume in 2013.
- In *Mexico*, fiscal consolidation is expected to continue in 2012, benefiting from higher-than-expected oil revenues.
- In *Brazil*, the authorities remain committed to the primary surplus target of 3.1 percent of GDP for 2012 and 2013, consistent with the aim of using

monetary policy as the main countercyclical tool as economic activity slows.

- In *India*, a ½ percentage point improvement in the cyclically adjusted balance is expected in 2012, with a focus on containing nonpriority expenditure while boosting spending on public investment and health. This tightening is appropriate as the deficit—in headline and cyclically adjusted terms—and the debt ratio are likely to remain well above the emerging market average this year and next.
- In *Indonesia*, the cyclically adjusted deficit is projected to continue to decline in 2012 and 2013 and debt is on a declining path.
- In the *Russian Federation*, however, the overall surplus is expected to narrow substantially in 2012 as a result of spending increases. The relatively modest headline surplus masks a large—and growing—non-oil deficit, although the debt ratio remains very low.

Fiscal consolidation slowed in 2011 in low-income countries, partly under the weight of increased subsidies in response to the food and fuel price rises earlier in the year (Table 4). In 2012, fiscal deficits are projected to widen in most low-income countries, even though growth is projected to hold up relatively well. Revenue growth will be modest, as both commodity receipts and aid flows are expected to stall. Spending, meanwhile, is projected to accelerate, reflecting in part stepped-up infrastructure investment, particularly in Africa. Higher spending on infrastructure can boost growth, but appropriate investment selection and debt management processes must be in place (see the September 2011 *Fiscal Monitor*). If growth is sustained, low-income countries could aim at a more ambitious rebuilding of their fiscal policy buffers to reduce their vulnerability to future external shocks.

- *Bolivia* will continue to show a primary surplus of close to 2 percent of GDP thanks to high natural gas prices.
- In contrast, in *Cameroon*, declining oil revenues and substantial increases in fuel subsidies and capital expenditure will result in a deteriorating fiscal stance for 2012.
- In *Ghana*, stepped-up revenues, including for oil, and current spending containment will prevent a deterioration in the primary deficit despite a boost in externally financed capital spending.
- The primary balance will widen in *Vietnam* in 2012 as a continuing decline in capital spending and the projected increase in revenues will be more than offset by a sharp increase in current spending.

## 2. Debt Ratios Are Still on the Rise, but Peaks Are within Sight

On current plans, about two-thirds of the crisis-induced increase in global fiscal deficits will be unwound by the end of this year, but much higher debt ratios will remain a legacy of the crisis. Indeed, despite continued adjustment, general government debt in advanced economies is expected to increase by a further 5 percentage points of GDP to 109 percent of GDP on average by 2013 (Table 5). Most of this accumulation is driven by persistent primary deficits—close to 80 percent of advanced economies are projected to show a primary deficit in 2012, reflecting in part still-large output gaps, as GDP is expected to return to potential only gradually (Figure 2). Among advanced economies, the contribution of protracted primary deficits is highest in Japan, the United Kingdom, and the United States.

At the opposite end of the spectrum, primary surpluses are expected to push the debt ratios down in Germany and Iceland. Although the interest rate–growth differential ($r - g$) is also contributing to debt accumulation, its effect is smaller overall than during 2009–10. Low output growth and rising interest rates are the main factors behind the increase in debt ratios in many euro area economies, whereas in contrast, advanced economies in Asia tend to benefit from low $r - g$.

Debt ratios are expected to decline in most emerging economies, from 38 percent in 2011 to 35 percent in 2013 on average. In almost all emerging markets (especially India and Kenya), strong growth and low interest rates will continue to contribute to the decline in debt ratios, with the interest rate–growth differential negative in many cases

## Table 4. Low-Income Countries: Selected Fiscal Indicators, 2008–13

*(Percent of GDP)*

| | | | | | Projections | | Difference from September 2011 *Fiscal Monitor* | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2011 | 2012 | 2013 |
| **Overall balance** | | | | | | | | | |
| Low-income countries | –1.2 | –4.0 | –2.9 | –2.5 | –3.0 | –2.5 | 0.6 | –0.1 | 0.0 |
| Bolivia | 4.3 | 0.6 | 1.7 | 0.8 | 0.8 | 0.3 | –1.0 | –0.4 | –1.0 |
| Cameroon | 2.3 | –0.1 | –1.1 | –1.9 | –3.6 | –2.5 | –0.5 | –3.1 | –2.6 |
| Cape Verde | –1.4 | –6.3 | –10.6 | –8.9 | –8.8 | –7.4 | 1.4 | 0.2 | –0.8 |
| Congo, Democratic Republic of the | –3.8 | –5.1 | 1.5 | –6.4 | –5.2 | –4.2 | 1.4 | 1.0 | 0.8 |
| Ethiopia | –2.9 | –0.9 | –1.3 | –1.6 | –3.0 | –2.3 | 0.4 | 0.9 | 0.9 |
| Ghana | –8.5 | –5.8 | –7.2 | –4.3 | –4.9 | –4.0 | –0.1 | –2.6 | –2.4 |
| Haiti | –2.8 | –4.6 | 2.4 | –3.7 | –7.7 | –5.8 | –3.9 | –3.1 | –2.3 |
| Honduras | –1.7 | –4.7 | –2.9 | –2.8 | –2.4 | –2.0 | 0.2 | 0.1 | 0.5 |
| Maldives | –11.9 | –21.6 | –16.8 | –11.7 | –16.6 | –18.4 | 3.3 | –3.0 | –7.8 |
| Mozambique | –2.5 | –5.5 | –4.0 | –4.9 | –6.3 | –6.0 | 1.2 | 0.5 | 0.3 |
| Myanmar | –0.6 | –3.1 | –4.5 | –4.2 | –3.4 | –1.7 | –1.0 | –0.5 | 0.7 |
| Niger | 1.5 | –5.5 | –2.6 | –2.3 | –3.6 | –4.8 | –0.1 | –2.6 | –2.0 |
| Senegal | –4.7 | –4.9 | –5.2 | –6.1 | –5.8 | –4.4 | 0.1 | –0.3 | 0.2 |
| Sudan | –1.6 | –4.8 | –3.4 | –2.9 | –3.9 | –3.4 | –0.1 | –0.8 | –0.6 |
| Tanzania | 0.0 | –4.8 | –7.0 | –6.0 | –6.4 | –6.7 | 2.5 | 0.1 | –1.4 |
| Uzbekistan | 10.2 | 2.8 | 3.3 | 7.5 | 3.8 | 3.1 | 4.1 | –0.8 | –1.1 |
| Vietnam | –0.5 | –7.2 | –5.2 | –2.7 | –3.6 | –2.8 | 1.3 | 0.2 | 0.8 |
| Yemen | –4.5 | –10.2 | –4.0 | –4.4 | –5.0 | –5.6 | 2.7 | 1.1 | –0.6 |
| **Gross debt** | | | | | | | | | |
| Low-income countries | 39.1 | 41.3 | 38.6 | 38.2 | 39.5 | 38.5 | –3.5 | –1.8 | –2.8 |
| Bolivia | 37.9 | 40.5 | 39.1 | 32.9 | 31.5 | 30.3 | 0.5 | 0.1 | –0.3 |
| Cameroon | 9.5 | 10.6 | 12.1 | 12.9 | 18.6 | 20.1 | –1.7 | 3.9 | 5.1 |
| Cape Verde | 67.9 | 68.8 | 74.3 | 77.6 | 82.1 | 85.9 | 3.6 | 3.7 | 5.8 |
| Congo, Democratic Republic of the | 133.1 | 136.3 | 31.0 | 32.0 | 36.6 | 36.3 | –14.6 | –13.9 | –8.0 |
| Ethiopia | 33.0 | 32.2 | 36.7 | 37.3 | 31.2 | 28.0 | –2.2 | –2.9 | –5.4 |
| Ghana | 33.6 | 36.2 | 46.1 | 43.4 | 42.1 | 40.5 | 5.3 | 4.6 | 3.0 |
| Haiti | 37.8 | 27.7 | 17.1 | 10.6 | 16.3 | 19.8 | –2.0 | –2.7 | –4.4 |
| Honduras | 19.8 | 23.9 | 26.3 | 28.1 | 31.2 | 31.0 | 0.6 | 3.4 | 3.1 |
| Maldives | 35.9 | 53.9 | 61.9 | 69.1 | 79.0 | 92.2 | 6.2 | 8.5 | 16.5 |
| Mozambique | 42.1 | 40.1 | 39.5 | 33.2 | 40.0 | 42.3 | –5.8 | –2.7 | –4.0 |
| Myanmar | 42.4 | 44.6 | 42.9 | 44.3 | 45.7 | 44.2 | –0.8 | –2.0 | –4.9 |
| Niger | 13.9 | 15.7 | 16.4 | 18.9 | 21.6 | 24.9 | 1.2 | 3.8 | 6.0 |
| Senegal | 24.8 | 34.6 | 35.9 | 40.6 | 43.7 | 44.5 | 0.6 | 2.2 | 2.0 |
| Sudan | 75.2 | 77.2 | 71.7 | 73.1 | 109.0 | 104.9 | –5.1 | 21.7 | 14.4 |
| Tanzania | 35.0 | 37.1 | 39.9 | 44.4 | 47.7 | 48.8 | –0.6 | –1.1 | –1.4 |
| Uzbekistan | 12.7 | 11.0 | 10.0 | 9.1 | 8.8 | 8.5 | –3.5 | –5.3 | –7.0 |
| Vietnam | 31.9 | 38.4 | 38.3 | 38.0 | 37.3 | 36.5 | –12.4 | –10.8 | –10.8 |
| Yemen | 36.4 | 49.8 | 40.9 | 42.5 | 43.4 | 44.9 | –0.3 | –1.0 | –2.0 |

Sources: IMF staff estimates and projections.

Note: All country averages are weighted by GDP at purchasing power parity using rolling weights, and calculated based on data availability. Projections are based on IMF staff assessment of current policies.

(–5 percent on average in 2012–13).[2] Nonetheless, in some countries, including Latvia, South Africa, and Thailand, debt ratios are expected to increase.

[2] A negative $r - g$ in emerging economies and low-income countries is not uncommon. This could be due to a lack of financial development as well as financial repression and distortions, including captive domestic markets for government debt, directed lending, and government involvement in credit markets. See the April 2011 *Fiscal Monitor*.

Debt-to-GDP ratios are projected to rise in about half of low-income countries. This reflects continuing primary deficits and an increase in the effective interest rate as the share of grants in total aid declines and a growing number of countries contract nonconcessional loans to fund investments in infrastructure as well in the energy and mining transport sectors. Although debt ratios in most low-income countries are relatively modest, thanks in part to the debt relief received in the late 1990s and early 2000s,

## Table 5. General Government Debt, 2008–13

*(Percent of GDP)*

| | | | | | Projections | | Difference from September 2011 *Fiscal Monitor* | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2011 | 2012 | 2013 |
| **Gross debt** | | | | | | | | | |
| Advanced economies | 81.5 | 93.0 | 99.3 | 103.5 | 106.5 | 108.6 | 0.9 | 0.8 | 1.1 |
| United States | 76.1 | 89.9 | 98.5 | 102.9 | 106.6 | 110.2 | 2.9 | 1.6 | 1.2 |
| Euro area | 70.2 | 79.9 | 85.7 | 88.1 | 90.0 | 91.0 | –0.7 | –0.7 | 0.1 |
| France | 68.3 | 79.0 | 82.4 | 86.3 | 89.0 | 90.8 | –0.6 | –0.4 | 0.0 |
| Germany | 66.7 | 74.4 | 83.2 | 81.5 | 78.9 | 77.4 | –1.1 | –3.0 | –3.5 |
| Italy | 105.8 | 116.1 | 118.7 | 120.1 | 123.4 | 123.8 | –1.0 | 2.0 | 3.7 |
| Spain | 40.2 | 53.9 | 61.2 | 68.5 | 79.0 | 84.0 | 1.0 | 8.9 | 11.2 |
| Japan | 191.8 | 210.2 | 215.3 | 229.8 | 235.8 | 241.1 | –3.3 | –2.6 | –1.8 |
| United Kingdom | 52.5 | 68.4 | 75.1 | 82.5 | 88.4 | 91.4 | 1.7 | 3.6 | 5.4 |
| Canada | 71.1 | 83.6 | 85.1 | 85.0 | 84.7 | 82.0 | 0.8 | 0.5 | –0.3 |
| Emerging economies | 34.7 | 36.7 | 41.0 | 37.6 | 35.7 | 34.1 | –0.1 | 0.1 | 0.4 |
| Asia | 35.2 | 35.7 | 43.5 | 38.1 | 35.6 | 33.6 | 0.0 | 0.7 | 1.3 |
| China | 17.0 | 17.7 | 33.5 | 25.8 | 22.0 | 19.4 | –1.0 | –0.2 | 0.9 |
| India | 74.7 | 75.0 | 69.4 | 68.1 | 67.6 | 66.8 | 3.1 | 3.4 | 3.6 |
| ASEAN-5 | 37.0 | 39.5 | 37.8 | 36.3 | 36.1 | 35.5 | –2.6 | –2.1 | –2.2 |
| Europe | 23.5 | 29.1 | 30.3 | 28.7 | 27.4 | 26.5 | –1.4 | –2.5 | –3.3 |
| Russia | 7.9 | 11.0 | 11.7 | 9.6 | 8.4 | 7.9 | –2.1 | –3.7 | –4.7 |
| Latin America | 49.2 | 51.7 | 49.4 | 49.1 | 48.0 | 46.9 | 0.7 | 0.3 | 0.3 |
| Brazil | 63.5 | 66.9 | 65.2 | 66.2 | 65.1 | 63.1 | 1.2 | 1.1 | 0.6 |
| Mexico | 43.1 | 44.6 | 42.9 | 43.8 | 42.9 | 42.9 | 0.9 | –0.8 | –0.6 |
| Middle East and North Africa | 48.0 | 48.2 | 49.4 | 52.3 | 53.8 | 56.4 | 0.5 | –0.7 | 1.5 |
| Low-income countries | 39.1 | 41.3 | 38.6 | 38.2 | 39.5 | 38.5 | –3.5 | –1.8 | –2.8 |
| Oil producers | 22.0 | 24.2 | 24.0 | 22.6 | 21.9 | 21.4 | 0.2 | –0.7 | –1.1 |
| G-20 economies | 66.0 | 72.8 | 77.9 | 77.7 | 77.5 | 77.1 | 0.6 | 0.4 | 0.6 |
| Advanced | 87.0 | 99.3 | 105.9 | 110.3 | 113.2 | 115.4 | 0.9 | 0.6 | 0.7 |
| Emerging | 34.7 | 35.9 | 41.0 | 37.0 | 34.7 | 32.9 | 0.1 | 0.2 | 0.6 |
| **Net debt** | | | | | | | | | |
| Advanced economies | 52.0 | 61.3 | 66.7 | 72.4 | 75.9 | 78.4 | 1.8 | 1.3 | 1.4 |
| United States | 53.7 | 65.9 | 73.1 | 80.3 | 83.7 | 86.7 | 7.7 | 5.3 | 4.6 |
| Euro area | 54.0 | 62.2 | 65.8 | 68.4 | 70.3 | 71.5 | –2.4 | –2.5 | –1.9 |
| France | 62.3 | 72.0 | 76.6 | 80.4 | 83.2 | 84.9 | –0.6 | –0.4 | 0.0 |
| Germany | 50.0 | 56.6 | 56.8 | 56.1 | 54.1 | 53.4 | –1.1 | –2.9 | –3.2 |
| Italy | 88.8 | 97.1 | 99.0 | 99.6 | 102.3 | 102.6 | –0.9 | 1.6 | 3.0 |
| Spain | 30.8 | 42.5 | 49.7 | 56.9 | 67.0 | 71.8 | 0.9 | 8.3 | 10.4 |
| Japan | 95.3 | 106.2 | 112.8 | 126.6 | 135.2 | 142.7 | –4.0 | –3.8 | –3.7 |
| United Kingdom | 46.0 | 60.9 | 71.1 | 78.3 | 84.2 | 87.2 | 5.4 | 7.3 | 9.1 |
| Canada | 22.6 | 28.3 | 30.4 | 33.3 | 35.4 | 36.9 | –1.6 | –1.4 | –0.2 |
| Emerging economies | 23.4 | 27.1 | 28.0 | 27.0 | 25.3 | 23.7 | –1.2 | –1.7 | –2.5 |
| Asia | 54.6 | 57.0 | 57.9 | 56.8 | 58.5 | 57.0 | 2.6 | 4.5 | 3.7 |
| Europe | 24.1 | 30.4 | 32.8 | 32.3 | 31.2 | 30.4 | –0.7 | –1.6 | –1.8 |
| Latin America | 30.9 | 34.5 | 33.8 | 32.5 | 31.8 | 31.0 | –2.8 | –2.7 | –2.9 |
| G-20 economies | 52.7 | 61.6 | 66.1 | 70.7 | 73.0 | 74.8 | 2.6 | 1.7 | 1.5 |
| Advanced | 57.3 | 67.5 | 73.0 | 79.0 | 82.3 | 84.8 | 3.2 | 2.3 | 2.2 |
| Emerging | 26.4 | 29.1 | 28.5 | 27.6 | 25.3 | 23.7 | –0.3 | –1.2 | –2.1 |

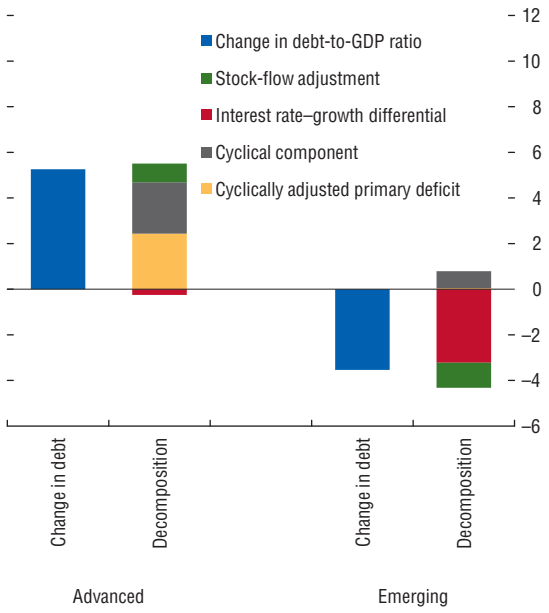
Sources: IMF staff estimates and projections.

Note: All country averages are weighted by GDP at purchasing power parity using rolling weights, and calculated based on data availability. Projections are based on IMF staff assessment of current policies. ASEAN-5: Indonesia, Malaysia, the Philippines, Singapore, and Thailand; G-20: Group of Twenty.

the increase in indebtedness in recent years, if sustained, could become a cause for concern. In Cameroon, Haiti, Maldives, and Mozambique, debt-to-GDP ratios are projected to rise by 5 percentage points of GDP or more in 2012 and (except in Cameroon and Mozambique) to be 20 percentage points or more above their 2008 levels.

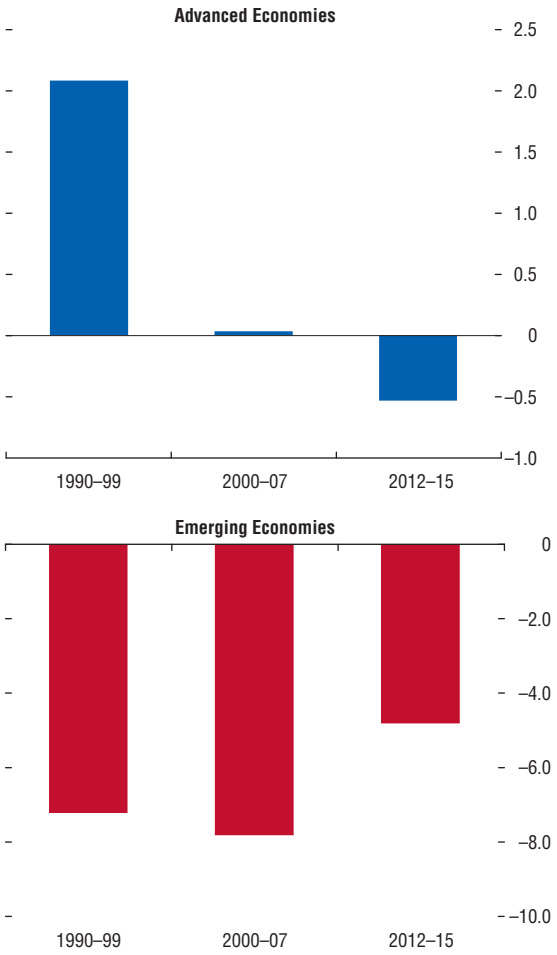
By 2015, debt ratios are expected to have stabilized or started to decline in 85 percent of the countries covered in the *Fiscal Monitor* and

**Figure 2. Decomposition of General Government Gross Debt Accumulation, 2012–13**
*(Percent of GDP)*




Sources: IMF staff estimates and projections.

**Figure 3. Interest Rate–Growth Differential (*r – g*)**
*(Percent)*



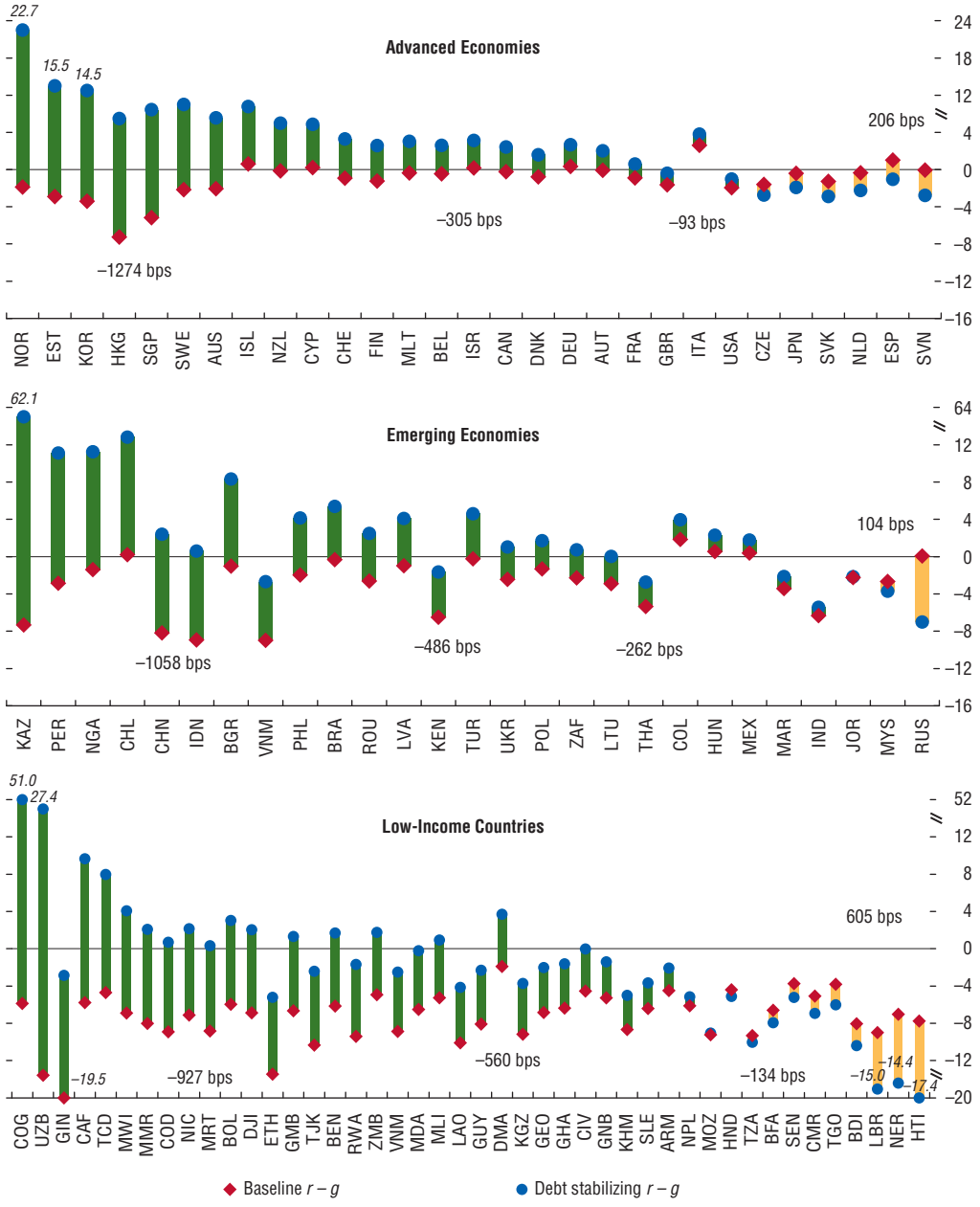

Sources: IMF staff estimates and projections.
Note: Weighted averages based on 2010 GDP at purchasing power parity. Interest rate–growth differential is defined as the effective interest rate (ratio of interest payments to the debt of the preceding period) minus nominal GDP growth.

80 percent of advanced economies. However, this is contingent in many cases upon the maintenance of a very favorable interest rate–growth differential over the next few years in most countries, in spite of the high levels of debt (Figure 3). As illustrated in Figure 4, for many advanced economies—including France, Italy, and the United Kingdom—only relatively small shocks to $r - g$ (smaller than those shown in Figure 5) would be sufficient to prevent debt from stabilizing over the medium term, notwithstanding substantial improvements in the primary balances slated through 2015. In a few other countries where primary deficits are expected to persist over the coming years (including Japan, the Slovak Republic, Slovenia, and Spain), the baseline $r - g$ is projected to exceed the level needed to stabilize the debt ratio, and debt ratios are therefore projected to continue to rise through 2017 (Statistical Table 7). For many advanced economies, then, stronger medium-term adjustment efforts could be called for to provide greater assurances about the resilience of the public finances.

Despite generally lower debt ratios and brighter growth prospects, several emerging economies also have little margin for slippages in fiscal outturns or for shocks to $r - g$, if they are to keep debt ratios from rising. In some cases this reflects primary deficits, and in others high real interest rates. Fiscal vulnerabilities in several of these countries are compounded by fading commodity revenue (for example, the Russian Federation) and relatively high interest rates (for example, Hungary). More broadly, many emerging economies, especially those with weaker fiscal positions, greater financial sector open-

## Figure 4. Difference between Baseline and Debt-Stabilizing Interest Rate–Growth Differential, 2015

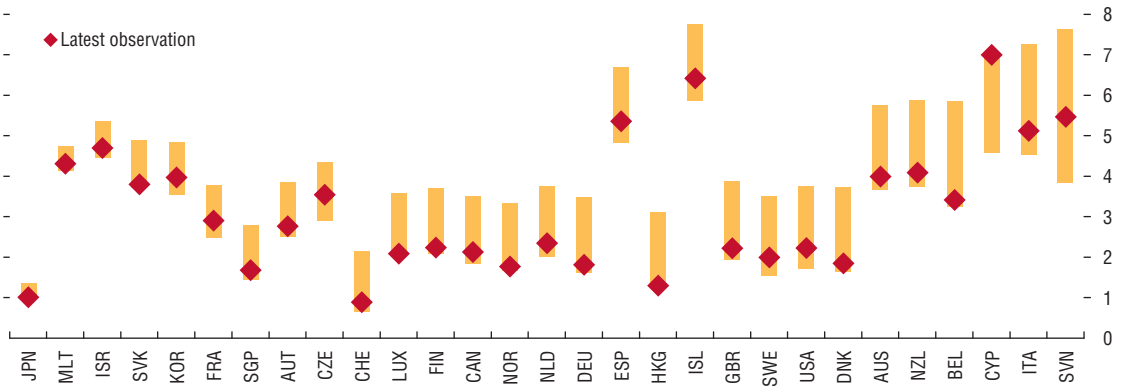
*(Percent)*




Sources: IMF, *International Financial Statistics*; and IMF staff estimates and projections.

Note: The debt-stabilizing interest rate is the real effective interest rate at which the 2015 debt-to-GDP ratio stabilizes, based on the IMF staff's real GDP, debt, and primary deficit forecasts. The green (yellow) bars indicate that the baseline interest rate–growth differential is below (above) the debt-stabilizing interest rate–growth differential. bps: basis points.

**Figure 5. Advanced Economies: Range of 10-Year Bond Yields in 2011–12**
*(Percent)*




Sources: Bloomberg L.P.; IMF, *International Financial Statistics*; and IMF staff estimates.
Note: Yellow bars show the range of 10-year bond yields observed since January 2011. Latest observation corresponds to end-March 2012.

ness, and larger current account deficits, are vulnerable to spillovers from advanced economies (Box 2). In many low-income countries, the lack of a fiscal consolidation strategy restricts policy options in spite of negative $r - g$, making these countries highly vulnerable to aid shortfalls. To reduce medium-term fiscal risks, the introduction of policies to enhance domestic revenue mobilization and channel public spending toward growth-enhancing investments remains essential.

As noted in previous issues of the *Monitor*, structural factors are in part behind the persistence of historically very low interest rates in the largest advanced economies despite sharp increases in their general government debt ratios. Econometric analysis suggests that among these factors, the availability of a stable investor base (Figure 6) is particularly important.[3] Institutional investors—such as national central banks, foreign central banks, and pension, insurance, and mutual funds—tend to be real-money investors and follow investment practices that would not typically result in abrupt shifts in their portfolios, helping contain the volatility of interest rates, although their presence should not be taken for granted (see the April 2012 *Global Financial Stability Report*). The positive effect of institutional investor holdings is found to go beyond that of merely reducing the overall supply of government bonds sold to the market, as the regression coefficient on this variable is larger than that on the debt ratio.[4]

## 3. Easy Does It: The Appropriate Pace of Fiscal Consolidation

Still-high deficits, rising debt ratios, and the volatility of financial markets all argue for continued fiscal consolidation, especially in advanced economies, but the weakened global outlook puts policymakers in a delicate position. Too little fiscal consolidation could roil financial markets, but too much risks further undermining the recovery and, in this way, could also raise market concerns. Are there reasons to fear that the growth impact of fiscal consolidation could be particularly acute in the current environment? What can the experience with the initial fiscal packages implemented by governments in response to the

[3] The analysis of financing costs that yielded this finding is based on a cross-sectional regression for a sample of 47 advanced and emerging economies, using as determinants the general government primary balance, general government gross debt, institutional investor holdings (all as a percentage of GDP), inflation, and a dummy for advanced economies (see Jaramillo, 2012).

[4] In other words, a country with a relatively low debt-to-GDP ratio could face higher financing costs than a country with a high ratio if, in the latter, institutional investors hold a large share of debt (in percent of GDP). The size and significance of the coefficients remain broadly unchanged even if Japan and the United States are excluded from the sample, meaning that the combination of low sovereign interest rates and large institutional investor presence in these two countries is not by itself driving the global result.

## Box 2. Fiscal Fundamentals and Global Spillovers in Emerging Economies

Although their fiscal conditions remain healthier than those in advanced economies, emerging economies would continue to be exposed to negative spillovers if global conditions deteriorate. In some cases, weak fiscal conditions would aggravate these spillovers.

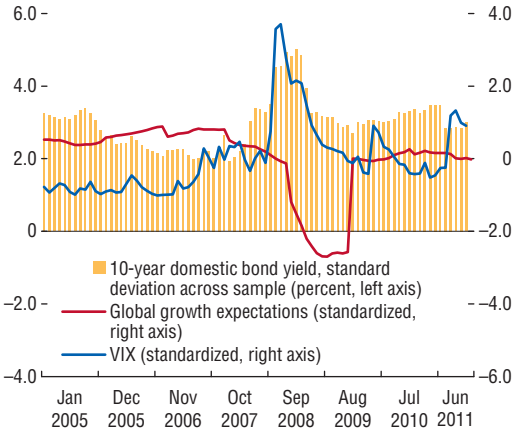
Previous research (see the September 2011 *Fiscal Monitor*) showed that the impact on domestic bond yields of market expectations of the fiscal deficit and government debt increases when global risk aversion is high. Jaramillo and Weber (2012) find that emerging economy vulnerability to global risks depends on country-specific characteristics closely related to initial fiscal conditions, as well as the degree of financial openness and the size of external imbalances.

A factor-augmented panel estimation—based on a monthly data set for 26 emerging economies between 2007 and 2011—first identifies the common global factors that affect domestic bond yields in all countries, with other country-specific conditions such as expected fiscal deficits and debt, inflation, and growth controlled for. These underlying factors are found to be associated with global risk aversion (proxied by the Chicago Board Options Exchange Volatility Index, or VIX) and global growth (proxied by market expectations of one-year-ahead real GDP growth in large advanced economies).

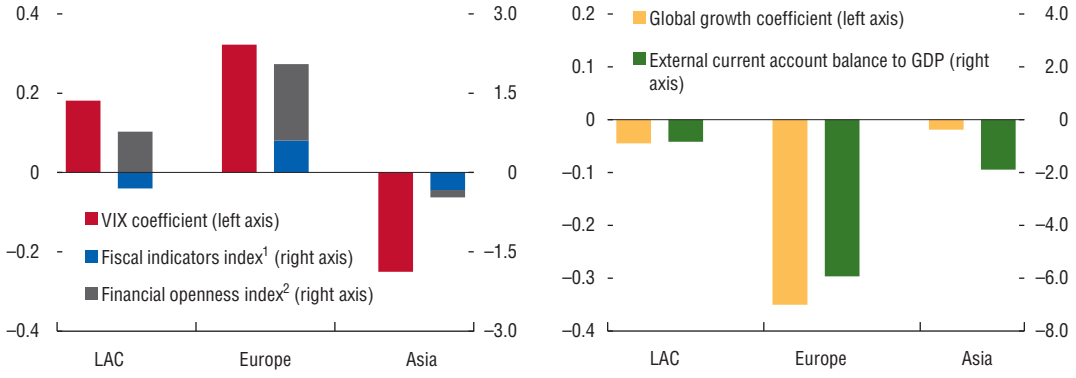
The model—recalculated to include the VIX and global growth as explanatory variables—goes on to show that the impact of these variables on financing costs varies across countries. Specifically, the coefficient on the VIX for each country is closely linked to the strength of that country's fiscal position and financial sector openness, as countries with weaker fiscal fundamentals and greater foreign participation in their local sovereign bond markets would consequently be more susceptible should markets suddenly retreat. In

### Emerging Economies: Global Factors and Country-Specific Characteristics

**Global Factors and Domestic Bond Yields**




**Global Factors, Fiscal Conditions, Financial Openness, and External Current Account**

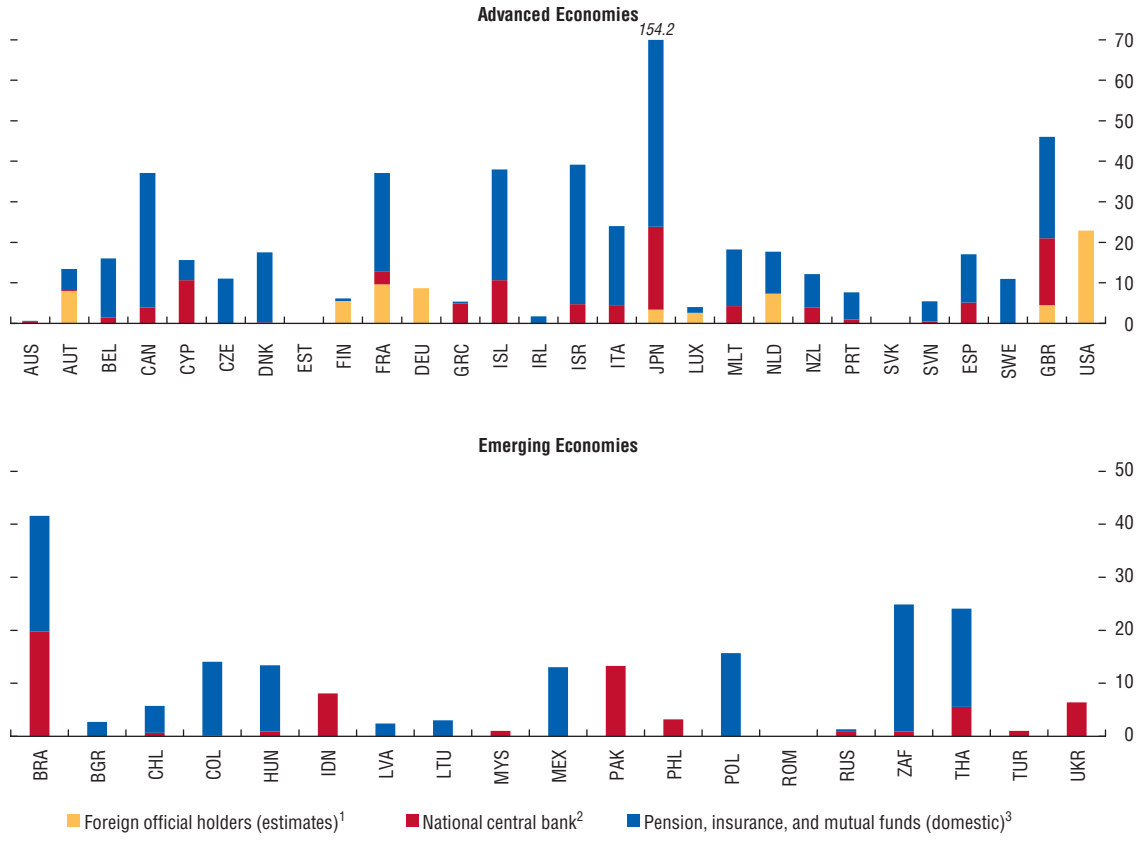



Sources: Baldacci and others (2011), Chinn and Ito (2008); Bloomberg L.P.; Consensus Economics; and IMF staff estimates.
Note: LAC: Latin America and the Caribbean; VIX: Chicago Board Options Exchange Volatility Index.
[1] Fiscal indicators index as measured by Baldacci and others (2011), standardized. Higher values indicate greater fiscal risk.
[2] Financial openness index as measured by Chinn and Ito (2008), standardized. Higher values indicate greater capital account openness.

## Box 2 *(concluded)*

addition, periods of global uncertainty (high VIX values) are generally associated with declines in commodity prices, which would have a greater impact on countries with weak fiscal positions. Meanwhile, the global growth coefficient for each country is found to be closely linked to its external current account deficit, as countries with greater public and private sector reliance on external financing would be faced with a sudden shortfall in available resources should growth abroad slow.

### Figure 6. Institutional Investor Holdings of Government Debt, 2011
*(Percent of GDP)*




Sources: European Central Bank; IMF, Currency Composition of Official Foreign Reserves (COFER) database; IMF, *International Financial Statistics*; national sources; and IMF staff estimates and projections.

Note: Data as of 2011:Q3 for Brazil, New Zealand, Spain, and the United States; 2011:Q2 for Australia, France, Iceland, Israel, Japan, the United Kingdom, and emerging economies; 2011:Q1 for Germany; and 2010:Q4 for the remaining countries. Refers to general government gross debt, except in the cases of Australia (Commonwealth government securities, including Treasury notes), Brazil (federal public debt), Canada (Government of Canada bonds and short-term paper, provincial and municipal paper), France (Obligations Assimilables du Trésor [OAT]), Iceland (Treasury bonds and bills), Israel (tradable government bonds), Japan (central government bonds), New Zealand (central government securities), Spain (marketable central government debt), the United Kingdom (central government gilts), and the United States (Treasury securities, including nonmarketable debt).

[1] For the United Kingdom and United States, foreign central bank holdings are those reported by the national authorities; for the remaining countries, it is estimated using the COFER database.

[2] Does not include European Central Bank.

[3] For Japan, also includes Japan Post Bank, 100 percent of which is held by J.P. Holdings, 100 percent of which in turn is held by the government.

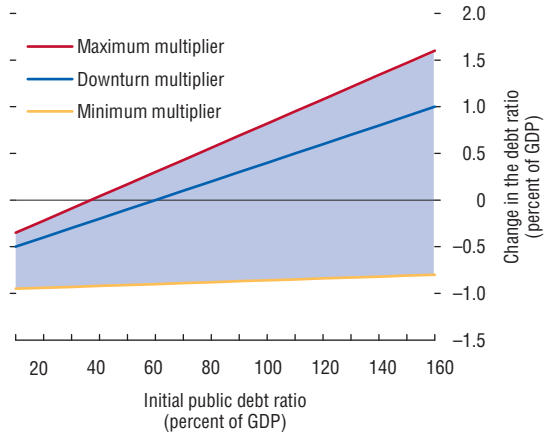
economic crisis tell policymakers about how to craft "second-generation" packages?

Fiscal tightening can generally be expected to reduce short-term growth, but the negative impact of tightening may be amplified by some features of the current economic landscape. In other words, fiscal multipliers—which measure the ratio of a change in output to the discretionary change in the fiscal deficit that caused it—can for many reasons be expected now to be above the average multipliers identified in earlier studies.[5] In particular, households are facing liquidity constraints, there is excess capacity in many countries, and there is little room for monetary policy to become more accommodative. In the euro area, the share of trade denominated in the single currency is high, and governments are relying heavily on spending cuts instead of revenue increases given the high level of taxation, the international mobility of tax bases, and age-related spending pressures.

In addition, fiscal adjustment is likely to have a larger adverse impact on economic activity when implemented while output gaps are negative than when gaps are positive. In downturns, fiscal consolidation measures reinforce the economic cycle and thereby exacerbate the slump in growth, making an up-front fiscal contraction particularly harmful. As illustrated in Appendix 1, for an average of Group of Seven (G-7) economies, simulations show that when the output gap is initially negative, fiscal adjustment implemented gradually has a smaller negative impact on growth (cumulative over two and one-half years) than does an up-front consolidation of the same overall size. This suggests that when feasible, a more gradual fiscal consolidation is likely to prove preferable to an approach that aims at "getting it over with quickly."

Simulations also suggest that when multipliers are large and/or the initial level of public debt is high, fiscal adjustment may affect debt ratios only with a lag and may even appear counterproductive in the short run. Figure 7 shows the hypothetical change in the public debt ratio with respect to the baseline after a government introduces a package of discretionary fiscal measures of 1 percentage point of GDP.[6] Assuming an average first-year fiscal multiplier of 1.0, in countries where government debt is above 60 percent of GDP, the direct effect of fiscal consolidation on the debt ratio is likely to be more than totally offset in the first year by the indirect effect of a lower GDP.

**Figure 7. Impact on the Debt Ratio in the First Year of a 1 Percent Package of Discretionary Fiscal Measures**



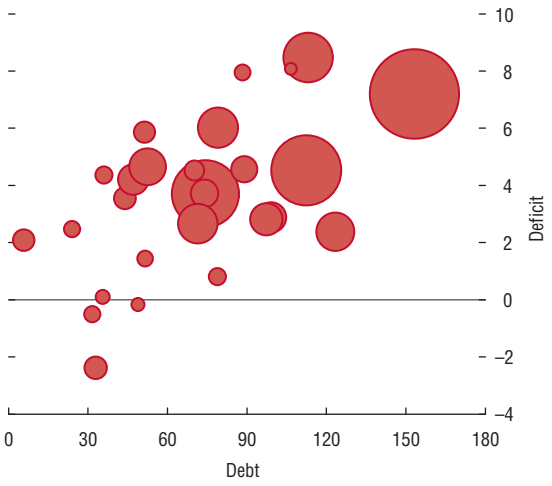

Source: IMF staff estimates.
Note: The simulations depicted in the figure measure the change in the debt ratio relative to the baseline. Multipliers refer to discretionary fiscal measures. First year: maximum multiplier = 1.3; downturn multiplier = 1.0; minimum multiplier = 0.1.

Relatedly, it may take time for financial markets to reward fiscal tightening. Fiscal fundamentals are key determinants of market confidence, as countries with low debts and deficits have typically been spared a sharp rise in financing costs (Figure 8). Nonetheless, recent announcements of austerity packages, in particular by some euro area countries, were not immediately greeted with a corresponding reduction in bond spreads. Analytical work by the IMF staff on the short-run determinants of credit default swap (CDS) spreads in advanced economies shows that when countries tighten fiscal policy and

[5] Average first-year multipliers in the existing literature equal 0.7 for spending and –0.1 for revenue measures in Europe and 0.9 for spending and 0.5 for revenue measures in the United States. See Baunsgaard and others (2012).

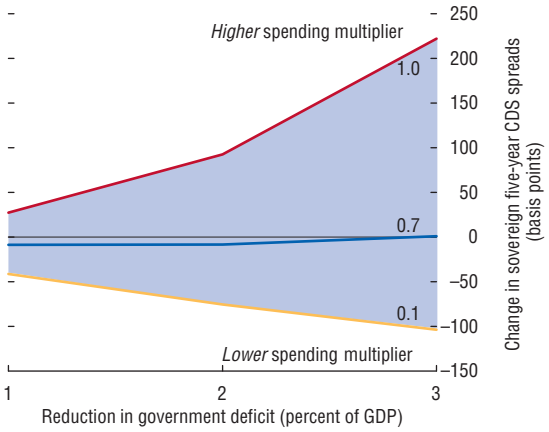
[6] Simulations use maximum and minimum multipliers derived from the empirical literature. A weighted average of spending and revenue multipliers in G-7 economies in downturns yields an overall fiscal multiplier of about 1.0 (Appendix 1). The calculations assume that other factors remain constant, in particular, interest rates.

**Figure 8. Advanced Economies: General Government Deficit and Debt, 2012**
*(Percent of GDP)*




Sources: Markit; and IMF staff estimates and projections.
Note: Bubble size represents five-year credit default swap spreads as of March 2012.

**Figure 9. Fiscal Adjustment and CDS Spreads with Alternative Fiscal Multipliers**




Sources: IMF staff estimates and projections.
Note: The figure illustrates the relationship between fiscal adjustment and changes in sovereign credit default swap (CDS) spreads based on a regression estimated for 31 advanced economies. It is based on a representative country with a debt-to-GDP ratio of 100 percent, a primary deficit of 3.5 percent of GDP, and annual GDP growth of 1.5 percent. Each graph line represents the relationship between adjustment and spreads based on a different assumption about the multiplier for spending (that is, the impact of discretionary fiscal tightening on growth), ranging from 0.1 to 1.0. A larger multiplier weakens—or even fully reverses, for larger adjustments—the impact of lower deficits and debt on CDS spreads.

the fiscal multiplier is high, some of the gains in terms of market credibility from lower deficits are lost through the impact on spreads of any initial rise in the debt ratio and of lower short-term growth.[7] Therefore, if growth falls enough as a result of a fiscal tightening, borrowing costs could actually rise as the deficit narrows. This relationship is found to be nonlinear, as spreads are more likely to increase when growth is already low and the fiscal tightening is greater (Figure 9).

Recent experience with large fiscal consolidations points to additional implementation challenges. Although it is still too early to draw fully fledged empirical conclusions, some common features do emerge from a review of recent experience (Appendix 2). For example, the size of the required adjustment has often had to be revised upward shortly after the launching of fiscal consolidation plans. This has mostly been due to overly optimistic growth forecasts, but also to the materialization of sizable contingent liabilities (for example, in Ireland and Portugal) and substantial statistical revisions (most prominently in Greece). The authorities have then had to select and put in place stopgap measures that in most cases shifted, even if temporarily, the composition of the adjustment mix, putting pressures on the timetable of the consolidation plan, its equity objectives, and the political support for it. Although shocks are often unforeseen, comprehensive taxation and expenditure reviews (as in Ireland) could enhance the quality of fiscal adjustment and avert the need to resort to quick fixes in response to surprises, by providing policymakers with a menu of quality measures that could be quickly mobilized.

Policymakers may also want to pay increased attention to the way they communicate their policies and targets to markets and the broader public. Some countries have stepped up their communication strategies to counter the risk that policy slippages or unmet fiscal targets will erode confidence and credibility. Measures to this end have included increased transparency and broadened access to fiscal data, efforts to build political consensus behind specific "headline" measures, and the introduction of commitment controls. Cyclically adjusted indicators of performance can reduce undue focus on short-term fiscal management, but they raise their own com-

[7] For more details, see Cottarelli (2011, 2012).

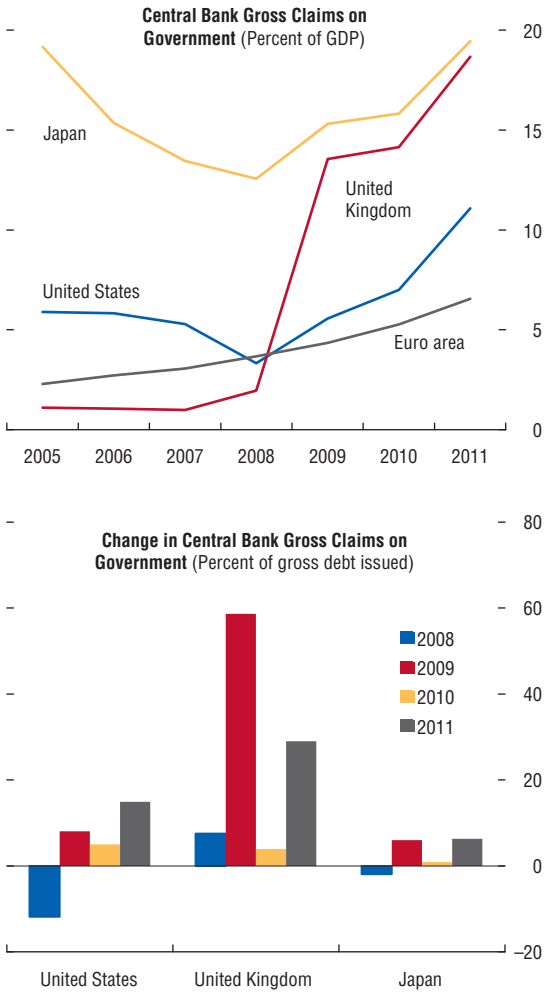
munication challenges. These targets are harder for the public to understand and monitor than are headline numbers, and if not explained carefully, can provoke suspicions of data manipulation. A transparent methodology, possibly backed by independent certification, and extensive dissemination efforts can help facilitate the acceptance of such indicators. The application of a common methodology across countries, as in the European Union, can also help in this regard.

## 4. High Gross Debt Levels May Overstate Challenges in the Short Run . . .

The focus on headline debt ratios may also overstate—in some cases, by sizable margins—the degree of short-term financial pressure faced by some governments. This is the case, for example, when the central bank is pursuing an expansionary monetary policy. Specifically, quantitative easing strategies undertaken for monetary policy purposes by the Bank of England, the Bank of Japan, and the U.S. Federal Reserve have led to a notable increase in central banks' holdings of government securities, both as shares of total issues and as shares of GDP (Figure 10). The Eurosystem of central banks' holdings of sovereign debt are at 6.5 percent of GDP, of which about one-third (2.2 percent of GDP) is due to monetary policy operations under the Securities Market Program and the balance is held in the investment portfolios of national central banks. In 2011, central bank purchases accounted for 27 percent of sovereign debt issues in the United Kingdom, 15 percent in the United States, and 6.1 percent in Japan—with the stock of central bank claims on the government reaching 18.4, 11.1, and 19.4 percent of GDP, respectively (Table 6). If they are not sterilized, these purchases reduce the *gross consolidated* government debt and the central bank debt by the same amount.[8]

[8] Sterilization operations appear as an increase in the central bank's nonmonetary liabilities, offsetting the increase in central bank assets due to the purchases of government paper.

**Figure 10. Trends in Central Bank Claims on Government**




Sources: National authorities; and IMF staff estimates.
Note: Based on latest data available.

Moreover, some of the rise in gross debt ratios has been associated with the acquisition of claims vis-à-vis the private sector, meaning that net debt ratios are sometimes considerably lower than gross ratios. As a result, the strain on the public finances associated with higher gross debt could be overstated. Several countries have accumulated a large stock of financial assets during the crisis (Figure 11); in many European countries, these reach more than 10 percent of GDP. The stock of government financial assets mainly corresponds to holdings of shares and other equity in totally or partially state-owned com-

**Table 6. Components of Consolidated Government and Central Bank Debt, 2011[1]**
*(Percent of GDP)*

| | Gross general government debt | Gross consolidated government and central bank debt[2] | Net general government debt[3] | Central bank nonmonetary liabilities | Central bank net claims on government | Central bank net foreign assets | Central bank claims on other sectors | Net consolidated government and central bank debt |
|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (3)+(4)–(5)–(6)–(7) |
| United States | 102.9 | 91.9 | 80.3 | 0.0 | 10.5 | 0.5 | 6.5 | 62.8 |
| Japan[4] | 229.8 | 210.3 | 126.6 | 0.0 | 15.8 | 1.4 | 11.1 | 98.3 |
| Euro area | 88.1 | 104.1 | 68.4 | 22.5 | 5.9 | 5.2 | 30.1 | 49.7 |
| Austria[5] | 72.2 | 86.1 | 52.5 | 19.6 | 5.1 | 4.5 | 22.5 | 39.9 |
| Belgium[5] | 98.5 | 112.7 | 83.2 | 20.0 | 5.2 | 4.6 | 31.8 | 61.6 |
| France[5] | 86.3 | 101.6 | 80.4 | 21.6 | 5.6 | 5.0 | 28.9 | 62.5 |
| Germany[5] | 81.5 | 97.4 | 56.1 | 22.4 | 5.8 | 5.2 | 22.6 | 44.8 |
| Ireland[5] | 105.0 | 120.3 | 95.9 | 21.6 | 5.6 | 5.0 | 86.6 | 20.3 |
| Italy[5] | 120.1 | 137.1 | 99.6 | 24.0 | 6.3 | 5.6 | 34.0 | 77.8 |
| Netherlands[5] | 66.2 | 80.4 | 31.8 | 20.0 | 5.2 | 4.6 | 18.2 | 23.7 |
| Portugal[5] | 106.8 | 128.7 | 100.4 | 30.9 | 8.1 | 7.2 | 41.5 | 74.6 |
| Spain[5] | 68.5 | 85.1 | 56.9 | 23.5 | 6.1 | 5.4 | 37.8 | 31.1 |
| Australia | 22.9 | 19.8 | 7.8 | 0.0 | 1.6 | 3.1 | 0.0 | 3.1 |
| Canada | 85.0 | 81.4 | 33.3 | 0.1 | 3.5 | 0.2 | 0.1 | 29.5 |
| Denmark | 46.4 | 54.8 | 2.6 | 8.4 | –12.5 | 26.8 | 4.0 | –7.3 |
| Korea, Republic of | 34.1 | 33.4 | 32.9 | 0.6 | 0.7 | 28.1 | 0.3 | 4.3 |
| New Zealand[4] | 37.0 | 34.4 | 8.3 | 0.0 | –7.3 | 13.4 | 0.4 | 1.9 |
| Sweden | 37.4 | 37.4 | –21.4 | 0.0 | –2.5 | 9.2 | 0.0 | –28.1 |
| Switzerland | 48.6 | 56.3 | 6.4 | 7.9 | 0.2 | 55.9 | 2.9 | –44.7 |
| United Kingdom | 82.5 | 63.8 | 78.3 | 0.0 | 18.7 | –0.5 | 0.1 | 60.0 |

Sources: European Central Bank; IMF, *International Financial Statistics*; and IMF staff estimates and calculations.

[1]Net consolidated government and central bank debt is computed as the net debt of the general government (excluding central bank net claims on the government) plus nonmonetary liabilities of the central bank (excluding currency in circulation and reserves) minus central bank assets (foreign assets and central bank claims on other sectors). The nonmonetary liabilities of the central bank consist of deposits that are not part of base money and central bank securities. See Buiter (1995, 2010).

[2]Excludes central bank gross claims on government and includes central bank nonmonetary liabilities, for example, deposits not part of base money or central bank securities.

[3]Gross general government debt minus financial assets, excluding shares and other equity and financial derivatives.

[4]Central bank data based on latest available.

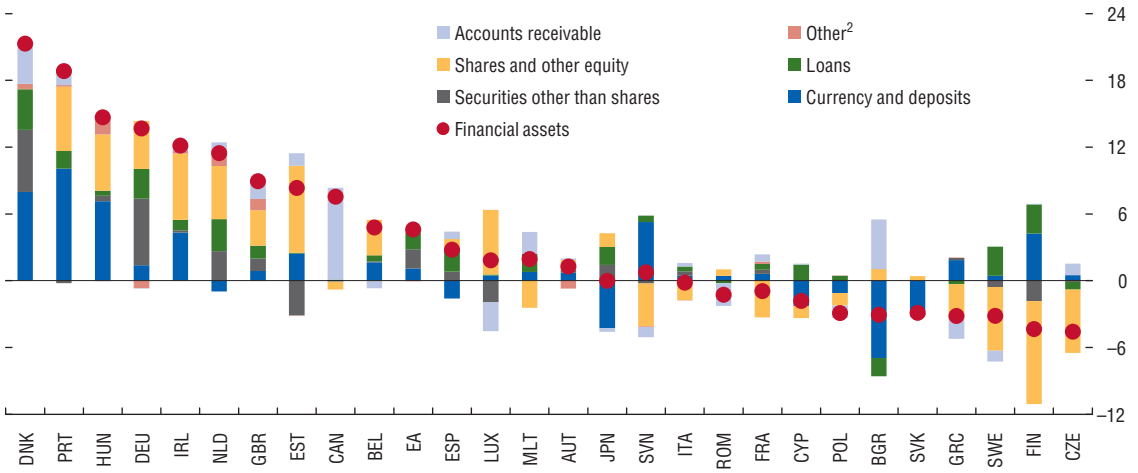
[5]In the Eurosystem, profits and losses from most monetary policy operations are pooled and shared among national central banks according to their respective capital shares in the European Central Bank. For calculation of the net consolidated debt of euro area countries, the assets and liabilities of the consolidated Eurosystem are split among individual member states, on the basis of their capital shares. The only exception is the liquidity assistance provided by the national central banks to domestic banks, which is excluded from these sharing arrangements.

panies. In some countries, these shares are sizable, either in publicly traded or in nonlisted companies (Box 3). But government purchases of securities issued by financial institutions have increased notably in some countries, often as part of support packages for the financial sector, for example, in Germany and the Netherlands. Furthermore, some central banks also scaled up their lending to financial and other private sectors in an effort to provide liquidity during the crisis (for example, in the euro area, Japan, and the United States). In several other countries (Denmark, the Republic of Korea, Sweden, and Switzerland), central banks' net foreign assets expanded significantly. As a result, the increase in *net consolidated* debt since 2007 has in some cases been much more modest than the increase in gross debt.[9] For example, the net consolidated debt of the United Kingdom increased by only 22 percentage points of GDP between 2007 and 2011, about half the 38 percentage point rise in gross general government debt. Net consolidated debt declined in the Republic of Korea, Sweden, and Switzerland, as a result of the substantial accumulation of central bank net foreign assets (Figure 12). Net consolidated debt remains elevated in Japan and the United

[9]Net consolidated government and central bank debt is computed as gross consolidated debt minus government financial assets (excluding shares and other equity, and financial derivatives) and central bank assets (net foreign assets and claims on other sectors). See also Buiter (1985, 2010), Buiter, Rahbari, and Michels (2011), Burnside (2006), and Anand and van Wijnbergen (1989).

## Figure 11. Change in General Government Financial Assets since 2007[1]

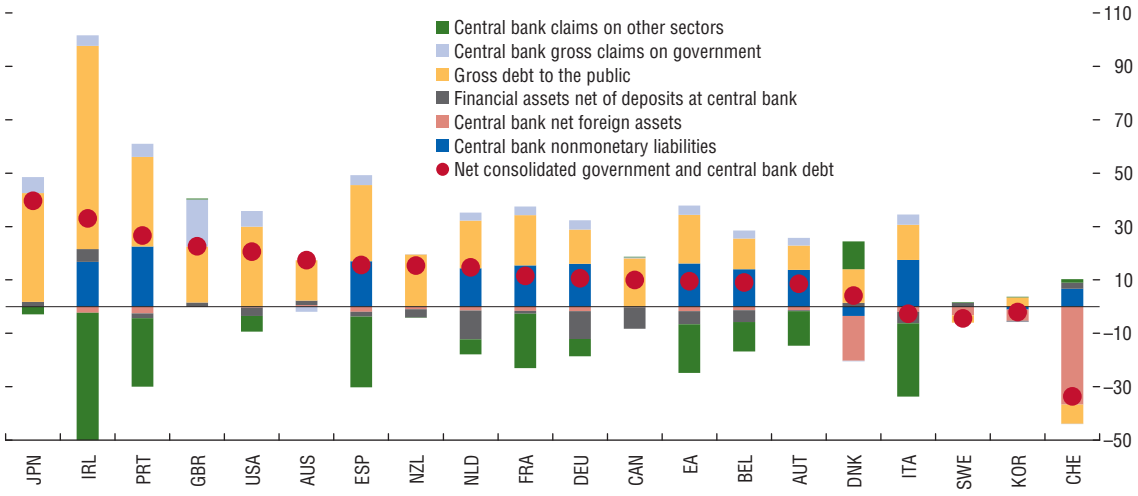
*(Percent of GDP)*




Sources: IMF, *Government Finance Statistics*; and IMF staff estimates.
Note: EA: euro area.
[1] For France, Germany, and Japan, data as of 2010. For all other countries, stock as of end of third quarter of 2011 in percent of 2011 GDP.
[2] Includes monetary gold and Special Drawing Rights, financial derivatives, and insurance technical reserves.

## Figure 12. Change in Net Consolidated Government and Central Bank Debt, 2007–11

*(Percent of GDP)*




Sources: European Central Bank; IMF, *International Financial Statistics*; and IMF staff estimates.
Note: The change in net consolidated government and central bank debt is decomposed into the change in general government gross debt to the public (excluding gross central bank claims on government), the change in nonmonetary debt of the central bank, changes in the assets of the central bank (net foreign assets and claims on other sectors), and the change in government financial assets (excluding government deposits at the central bank). See Buiter (2010). Negative changes in the assets of the central bank or government represent an increase since 2007 levels. Based on latest data available. EA: euro area.

## Box 3. Government Shares in Publicly Listed Companies

Shares held by the government in firms publicly listed on stock markets represent an important subset of a government's financial assets and net worth. Information on the value of such shares is timely, reliable, and readily observable, particularly for countries with liquid and efficient markets. This said, the information does not cover government holdings in non-publicly-traded companies, which are even larger in several countries.

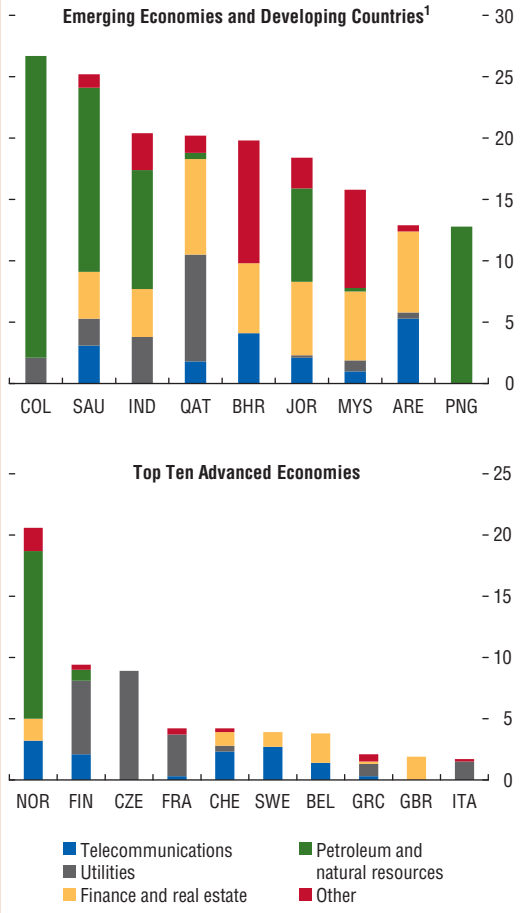
Government shares in partially privatized companies listed on stock markets are estimated to exceed $1.8 trillion worldwide.[1] More than four-fifths of the combined market value of these assets is concentrated in large stakes exceeding $3 billion each. Statistical Table 11 provides the combined market value of all government-owned stakes by country.

In some emerging and developing economies, the total value of government stakes in listed companies exceeds 10 percent of GDP, mainly in the petroleum and natural resources (Colombia, India, Papua New Guinea, and Saudi Arabia), telecommunications (mostly for Bahrain and the United Arab Emirates), and finance and real estate sectors.

In some advanced economies, governments also hold large stakes in these sectors, with a combined value estimated at about $700 billion. Norway tops the list for this group, with assets in excess of 20 percent of GDP, concentrated in the petroleum sector. The Czech Republic and Finland hold about 10 percent of GDP (all in a utility company for the former and in utilities, telecommunications, and petroleum sectors for the latter). For the other advanced economies, the total value of government holdings in companies listed on stock markets is equivalent to less than 5 percent of GDP. For some countries (for example, Denmark, the Netherlands, and Spain), available data may not show any stake in listed companies, and yet shares represent an important portion of their financial assets.

[1] Data are drawn from Thomson Reuters Datastream and refer to July 2011. The data cover essentially all publicly listed assets in a select number of countries. However, government-related assets included in Thomson Reuters Datastream may not be those covered by the general government definition in some countries. Moreover, holdings acquired in the context of exceptional intervention associated with the global financial crisis are not necessarily reflected. Government-owned (partly or fully) companies are not included if they did not have an initial public offering.

### Government Ownership of Securities by Sector
*(Percent of GDP)*




Sources: Thomson Reuters Datastream; and IMF staff estimates.
Note: As of June 2011.
[1] With ownership greater than 10 percent of GDP.

States, at 102 and 60 percent of GDP, respectively, but is still lower than gross general government debt.

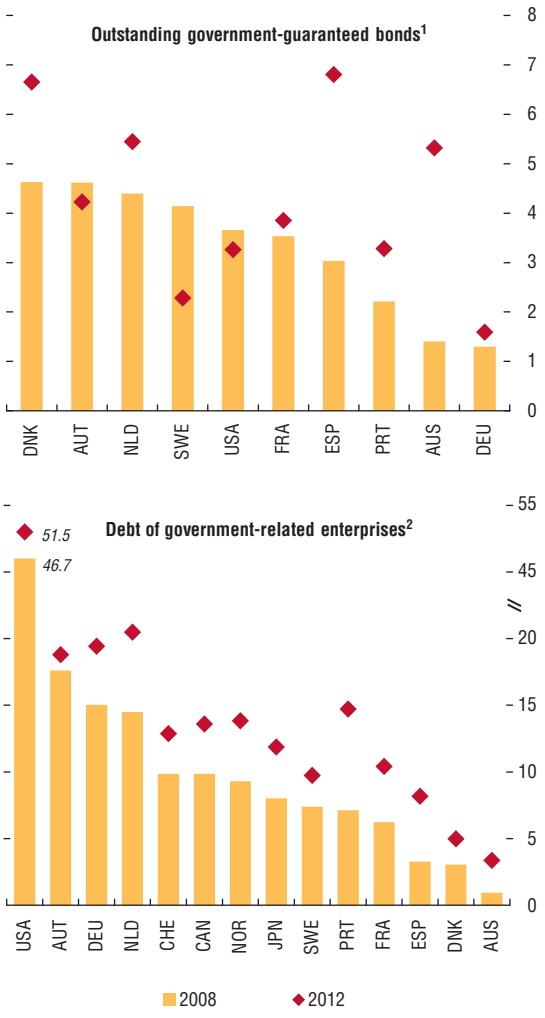
Large central bank purchases of government debt and other assets may have cushioned the impact of rising debt and deficits, but they will provide only a temporary respite. If these holdings are to be wound down over time as market conditions normalize and demand for base money returns to more normal levels, governments either will have to reduce their financing needs to allow central-bank-owned debt to be repaid or will need to roll maturing obligations over into the private sector. Indeed, although these purchases have so far been associated with a large increase in revenue from printing money (seigniorage) and little inflationary pressure (Box 4), this is unlikely to continue in the long term.

In addition, some public financial assets, especially if sizable, may be difficult to liquidate at times of fiscal stress, and their market values may be low. They could also entail large contingent liabilities. On top of those embedded in government-guaranteed bonds, additional liabilities could stem from enterprises that, although not included in the general government, fall into the spectrum of the public sector because of explicit ownership or implicit guarantee schemes (Figure 13). Preliminary IMF staff estimates put the outstanding debt of these enterprises at about $11 trillion. About 70 percent of the total ($8 trillion) corresponds to debt and guarantees of the U.S. government-sponsored enterprises although, clearly, only a fraction of these could result in fiscal outlays.[10] Elsewhere, the largest shares also come from financial institutions, including development banks (Germany) and housing agencies (Canada, Japan).

Finally, government support to the financial sector may have to be expanded, which could further impair public balance sheets down the road. New financial sector support measures since the September 2011 *Fiscal Monitor* have been limited, with the exception of those in Belgium—where Dexia Bank was nationalized, costing the state 1.1 percent of GDP; Greece—where Agricultural Bank of Greece, National Bank of Greece, and Piraeus have received capital injections amounting to 0.8 percent of GDP; and Spain—where the state

[10] Fiscal outlays regarding government-sponsored enterprises have been small so far (about 1 percent of GDP net of dividend payments). According to the Federal Housing Finance Agency, under a negative house price scenario, cumulative Treasury draws could reach 2.1 percent of GDP. However, uncertainty remains as these enterprises are undercapitalized.

**Figure 13. Outstanding Government-Guaranteed Bonds and Debt of Government-Related Enterprises**
*(Percent of GDP)*




Sources: Dealogic; and IMF staff estimates.
Note: In some countries, amounts are likely to be underestimated given data constraints.
[1] Outstanding government-guaranteed bonds correspond to bonds that are issued by private and public banks and financial institutions and carry state guarantees. Short-term debt is not included.
[2] Bonds issued by government-owned or government-related institutions; includes both financial and nonfinancial institutions, subject to data availability. For the United States, includes mortgage-backed securities and other guarantees of government-sponsored enterprises.

## Box 4. The Evolution of Seigniorage during the Crisis

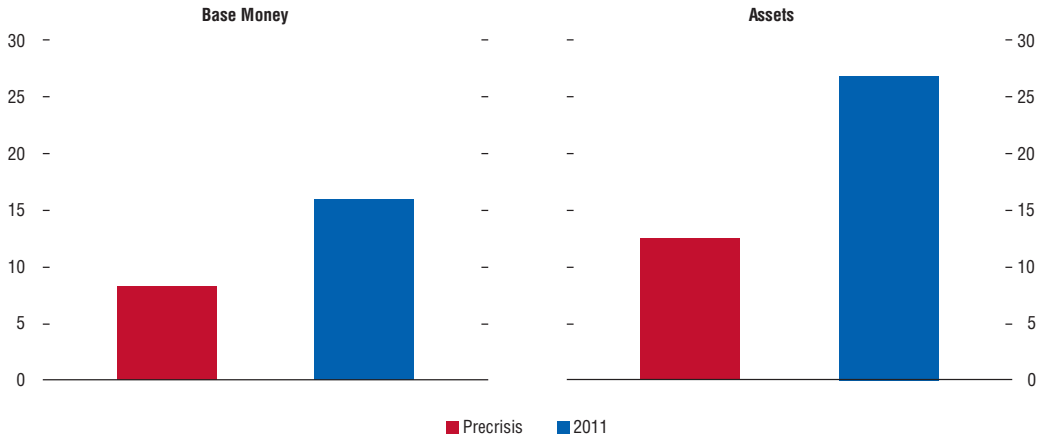
Central banks have expanded their balance sheets significantly in response to the crisis, mostly by stepping up purchases of sovereign and bank debt. On average, this expansion has been financed by an increase in base money, which nearly doubled as a percentage of GDP over 2007–11. Substantial purchases of assets by the central bank to provide liquidity to financial markets have two consequences for the government. Such purchases support demand for sovereign bonds and also boost government revenues through the collection of higher seigniorage—the revenue from printing money (Anand and van Wijnbergen, 1989; Buiter, 2007). Seigniorage revenues have been sizable as a result of quantitative easing strategies in the context of the crisis, with little impact so far on inflation expectations. However, governments cannot rely on these revenues indefinitely, as the central bank may need to unwind its positions as market conditions improve and money demand returns to more normal levels.

Seigniorage can be decomposed into "pure seigniorage" and an "inflation tax."[1] Pure seigniorage is not inflationary; it is derived from the increase in real base money associated with increased demand for such money as a consequence of economic growth and other factors. The inflation tax equals the amount of additional nominal money the private sector needs to accumulate so as to offset the impact of inflation on the real value of its stock of money over time. It is like a regular tax, because it requires agents to forego consumption in order to increase the nominal (and maintain the real) value of their stocks of money.

In the aftermath of the global financial crisis, seigniorage revenues have risen rapidly as central banks have expanded their balance sheets through quantitative easing and bank support to counteract the impact of the crisis. In advanced economies, the total cumulative seigniorage revenue collected during 2008–11 reached 8 percent of GDP—more than five times the precrisis level. Most of the expansion took place in the form of pure seigniorage, whereas revenues from the inflation tax were limited. This can be explained in part by the surge in demand for reserve currencies (mainly the euro, the Japanese yen, the

[1] Some definitions of the inflation tax also include the erosion in the real value of government debt that arises from higher inflation. The unexpected rise in the inflation rate would lead to a substantial reduction in the real value of public debt in advanced economies, where debt is long-term, nonindexed, and in local currency. However, this would also result in higher long-term rates, therefore increasing the cost of new borrowing. See Cottarelli and Viñals (2009).

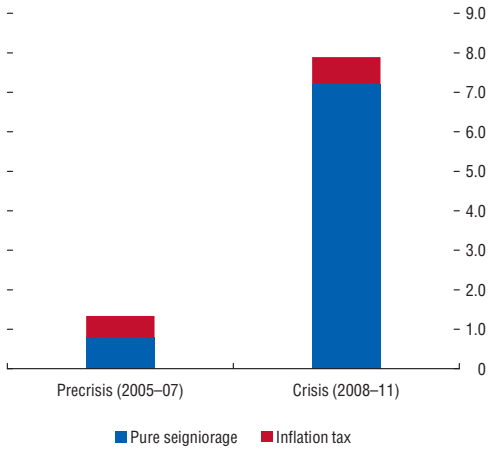
**Selected Advanced Economies: Change in Base Money and Central Bank Assets**
*(Percent of GDP)*




Sources: IMF, *International Financial Statistics*; and IMF staff estimates.
Note: Weighted averages based on 2011 GDP at purchasing power parity; includes Australia, Canada, the Czech Republic, Denmark, the euro area, Japan, the Republic of Korea, New Zealand, Sweden, Switzerland, the United Kingdom, and the United States.

## Box 4 *(concluded)*

**Selected Advanced Economies: Seigniorage**
*(Percent of GDP)*




Sources: IMF, *International Financial Statistics*; and IMF staff estimates.
Note: Weighted averages based on 2011 GDP at purchasing power parity; includes Australia, Canada, the Czech Republic, Denmark, the euro area, Japan, the Republic of Korea, New Zealand, Sweden, Switzerland, the United Kingdom, and the United States.

Swiss franc, the British pound, and the U.S. dollar) amid flight-to-quality effects following the crisis.

With impaired credit markets, the inflationary risk posed by such deficit financing is very low in the near term. The relationship between seigniorage revenues and changes in one-year-ahead inflation expectations has weakened since the onset of the crisis. A predominant part of the expanded balance sheets has accumulated as excess reserves, which are either nonremunerated or remunerated at a very low interest rate.[2] In advanced economies, the inflation tax accounted for less than 0.7 percent of GDP, a level comparable to the inflation tax collected in the precrisis period.

[2] As a result, central bank profits have increased substantially (for example, the U.S. Federal Reserve transferred to the Treasury profits amounting to about ½ percent of GDP in 2011). Most of these revenues will disappear once central banks shrink their balance sheets to their normal level.

### Table 7. Selected Advanced Economies: Financial Sector Support

*(Percent of 2011 GDP, except where otherwise indicated)*[1]

| | Impact on gross public debt and other support | Recovery | Impact on gross public debt and other support after recovery |
|---|---|---|---|
| Belgium | 7.0 | 0.3 | 6.7 |
| Ireland[2] | 41.2 | 2.7 | 38.5 |
| Germany[3] | 12.2 | 1.1 | 11.1 |
| Greece | 6.1 | 3.4 | 2.7 |
| Netherlands | 14.1 | 9.2 | 4.9 |
| Spain[4] | 3.8 | 2.6 | 1.3 |
| United Kingdom | 6.8 | 1.1 | 5.7 |
| United States | 5.3 | 2.1 | 3.2 |
| Average | 6.8 | 2.1 | 4.7 |
| In $US billions | 1,716 | 517 | 1,198 |

Sources: National authorities; and IMF staff estimates.

Note: Fiscal outlays of the central government, except in the cases of Germany and Belgium, for which financial sector support by subnational governments is also included.

[1] Cumulative since the beginning of the crisis—latest available data, ranging between end-December 2011 and February 2012.

[2] Direct support does not include asset purchases by the National Asset Management Agency (NAMA), as these are not financed directly through the general government but with government-guaranteed bonds.

[3] Support includes here the estimated impact on public debt of liabilities transferred to newly created government sector entities (10¼ percent of GDP), taking into account operations from the central and subnational governments. As public debt is a gross concept, this neglects the simultaneous increase in government assets. Taking this effect into account, the net debt effect amounted to just 1.4 percent of GDP, which was recorded as deficit. The EU commission has assessed the aid element of these transfers at about 0.8 percent of GDP.

[4] Direct support includes total capital injections by the Fondo de Reestructuración Ordenada Bancaria (FROB) and liquidity support.

bank support vehicle, the Fondo de Reestructuración Ordenada Bancaria (FROB), injected capital into various banks, and credit lines were committed amounting to 0.8 percent of GDP (Table 7). In addition, existing guarantee schemes for credit institutions have been extended or reintroduced (Greece, Ireland, Italy, Poland, Portugal, and Spain) for precautionary reasons and, in some cases, in view of continued funding pressures, and Germany has reestablished a temporary facility (the Sonderfonds Finanzmarktstabilisierung, or Special Financial Market Stabilization Funds—SoFFin II) to provide up to 15 percent of GDP in guarantees and up to 3 percent of GDP in capital until end-2012 should this become necessary.

Thus, looking at both net and consolidated debt ratios can provide important additional information that is not available solely from gross debt ratios. However, over time it will still be necessary for advanced and emerging market economies to bring gross debt ratios down to more appropriate levels. Gross general government debt will therefore remain an indispensible indicator for assessing the overall fiscal health of the government, especially in the longer term.

## 5. . . . But Long-Run Debt-Related Challenges Remain Large

Unfortunately, most advanced economies and several emerging economies will need to undertake substantial adjustment over the coming decade if gross general government debt ratios are to be brought to more appropriate levels. Figure 14 presents illustrative simulations of the amount of fiscal adjustment that will be required between now and 2020, and then sustained for a decade beyond that, to bring debt ratios to 60 percent of GDP in advanced economies and 40 percent of GDP in emerging economies and low-income countries.[11]

Among the advanced economies, adjustment needs (compared to the 2011 outcome) amount on average to a challenging 8 percent of GDP—although individual country situations vary widely. Japan and the United States continue to have the largest required adjustments under this illustrative scenario, underscoring for both of these countries the need for medium-term strategies to put their public finances on a more sustainable path. In the United States, any credible strategy will need to include entitlement reforms to address the growth of age-related spending, but other spending cuts, as well as revenue measures, will also be needed. The series of automatic spending cuts scheduled to be triggered by the failure of the congressional Joint Select Committee on Deficit Reduction to agree on a consolidation program is no substitute for a credible medium-term adjustment plan. In Japan, the authorities need to adopt a more ambitious strategy that aims at reducing the debt ratio by the middle of this decade, including through tax reform that leads to a gradual increase in the consumption tax rate, beyond current plans, as well as entitlement reform. Several emerging economies also face relatively sizable long-term adjustment needs, because of too-modest adjustment plans (India, Malaysia) or high initial debt levels (Hungary). Long-term fiscal adjustment needs also loom large for many low-income countries, including some recipients of significant debt relief.

Containing the increase in pension spending remains one of the key challenges on the long-term fiscal agenda. In advanced economies, new projections show pension spending rising by an average of 1 percentage point of GDP over the next two decades (see IMF, 2011b). Several advanced economies are aggressively tackling pension reform, including through increases in retirement ages (France, Italy, Spain, United Kingdom), reduced incentives for early retirement (Denmark, Italy), and increased taxation of high pensions (Greece, Italy). Some emerging economies are also taking steps to address the sizable increase projected in their pension spending (1 percentage point of GDP on average). In emerging Europe, Bulgaria has accelerated increases in retirement ages, and Ukraine is set to equalize the retirement ages of men and women and increase the number of years in the workforce required to receive a full pension. In other emerging economies, efforts to increase coverage continue. For example, Peru introduced a pilot means-tested social pension for uninsured individuals age 65 and older aimed at reducing old-age poverty.

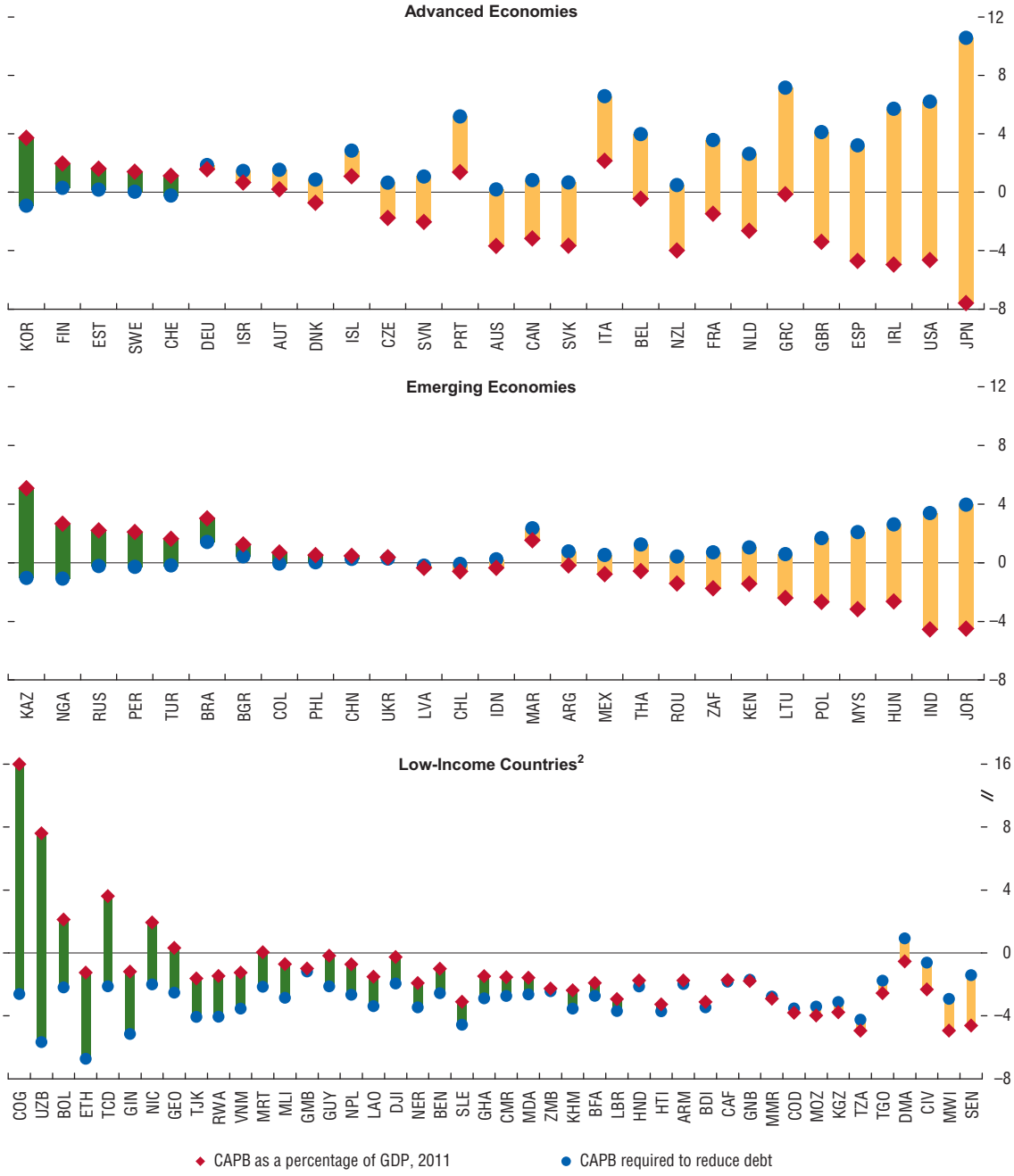
Health care reform remains a challenge for both advanced and emerging economies.[12] In advanced economies, the challenge is to contain the growth of public health spending. As part of recent fiscal consolidation efforts, Ireland has reduced both pay and nonpay outlays in the health sector (including through voluntary redundancy schemes and reduced fees), and Greece and Portugal have advanced reforms of their health care systems with a view to containing spending. However, the long-term effect of these measures remains uncertain. In emerging economies, the challenge is to improve access to health care in a fiscally sustainable manner. Recently, Kosovo proposed new framework legislation for a comprehensive health

[11] These calculations follow the standard *Fiscal Monitor* methodology, according to which adjustment needs are equal to the distance between the 2011 cyclically adjusted primary balance and that needed to reduce the general government debt ratio to 60 percent of GDP in advanced economies and to 40 percent of GDP in emerging economies and low-income countries by 2030 (or to 2012 levels, if these were lower than the 60 and 40 percent benchmarks). For Japan, a net debt target of 80 percent of GDP is assumed. In addition, the estimates for advanced economies now take into account the endogenous (dynamic) impact of debt levels on the interest rate–growth differential. Initial country-specific interest rate–growth differentials (based on *Fiscal Monitor* projections) converge over a five-year period to model-based country-specific levels, derived from empirical estimates of the effect of public debt on economic growth (Kumar and Woo, 2010) and interest rates (Baldacci and Kumar, 2010). For further details see Statistical Table 10a.

[12] See IMF (2010) and Clements, Coady, and Gupta (2012).

## Figure 14. Difference between 2011 Cyclically Adjusted Primary Balance and That Required to Reduce Debt[1]

*(Percent of GDP)*




Sources: IMF staff estimates and projections.

Note: Cyclically adjusted primary balance (CAPB) is calculated as cyclical balance plus interest expenditure in percent of GDP. See Statistical Tables 10a and 10b for calculations of CAPB required to reduce debt. The green (yellow) bars indicate that the CAPB in 2011 is above (below) the CAPB required to reduce debt.

[1] The CAPB required to reduce debt and its comparison to the 2011 CAPB is a standardized calculation, and policy recommendations for individual countries would require a case-by-case assessment.

[2] For low-income countries, primary balance is used instead of CAPB. The primary balance required to reduce debt to 40 percent of GDP by 2030 assumes that the interest rate–growth differential is constant from 2012 to 2021 (at each country's 2012–17 average) and converges gradually to zero by 2041. See Guerguil, Poplawski-Ribeiro, and Shabunina (2012).

care reform. This reform is still in its early stages, and its impact remains to be seen. Chile has reduced health care contributions for low-income pensioners.

## 6. Anchoring Medium-Term Fiscal Credibility: The Second Generation of Fiscal Rules

In recent years, many countries have renewed efforts to strengthen fiscal frameworks, in particular, fiscal rules and budgetary frameworks. Although rules cannot substitute for long-term resolve to implement prudent fiscal policies, they can strengthen the credibility of policymakers and anchor near-term policies to avoid dangerous currents that may otherwise be difficult to resist.

The most commented-upon move toward institutional strengthening involved wide-ranging reforms at the national and supranational level in the European Union, as agreed under the "Fiscal Compact" and the "six pack" (Box 5). Some countries in the euro area have already taken steps to implement these reforms, including Italy, where the structural budget balance rule is making progress in parliament; Portugal, where a new Budget Framework Law was adopted in May 2011; and Spain, where a constitutional budget balance rule was passed (with operational details still to be determined). Many countries outside the European Union have also started to reform existing fiscal rules or have introduced new ones, with a view to providing a stronger medium-term framework for policy decisions, supporting credible long-term adjustment efforts, and ensuring fiscal sustainability (Table 8 presents selected country examples). Overall, the average number of fiscal rules has increased in advanced as well as emerging economies since 2010. So too have their design features, as measured by a new index taking into account their legal basis, coverage, flexibility, enforcement mechanisms, and supporting procedures and institutions (Figure 15).[13]

[13] See Schaechter and others (2012) and IMF (2009).

Reflecting both the fiscal legacy of the crisis and pervasive economic uncertainty, these "next-generation" fiscal rules try to be more flexible and more binding at the same time. Most combine the sustainability goal with the flexibility to accommodate the economic cycle by setting budget targets in cyclically adjusted terms (Table 9), following the examples of rules adopted earlier in Switzerland and Germany, or account for the business cycle in other ways (for example, those in Colombia, Portugal, Serbia, Spain, and the United Kingdom; the euro area–wide commitment to a balanced budget is also defined in structural terms).[14] But some also correct automatically for past deviations with a view to avoiding the "ratcheting up" effects of debt (for example, the "debt brakes" in Germany and Switzerland). Others combine new expenditure rules with new or existing debt rules, thereby providing operational guidance as well as a link to debt sustainability (for example, those in Israel and Poland).

As a result, the new rules are significantly more complex than their predecessors, raising new implementation and enforcement challenges. As many countries now have different rules in place, some at both the national and supranational levels, they also need to take into account, in early phases of policy design, possible interactions among the different rules. The opportunities raised and constraints imposed by such rules are much more difficult to explain to the public at large, and compliance is more difficult to monitor. This could reduce the expected benefits in terms of confidence and credibility if significant investments are not made in communication and monitoring mechanisms.

Fiscal councils can play an important role on both accounts. In a number of countries (for example, Ireland, Portugal, the Slovak Republic, Slovenia, and the United Kingdom), recent governance reforms have set up, or adopted plans for, independent fiscal councils. Such bodies can raise voters' awareness regarding the consequences of certain policy paths, helping them reward desirable options and sanction poorer ones.

[14] Cyclically adjusted balances correct the overall balance for the nondiscretionary fiscal response to fluctuations in the business cycle. Structural balances also correct for one-off and other factors, such as asset and commodity prices and output composition effects.

## Box 5. The "Fiscal Compact": Reforming EU Fiscal Governance

On March 2, 25 members of the European Council signed an intergovernmental treaty, the so-called Fiscal Compact (formally, the Treaty on Stability, Coordination and Governance in the Economic and Monetary Union)—an important tool, if implemented effectively, to help ensure fiscal sustainability. In particular, the Fiscal Compact introduces several new elements for fiscal rules at the national level and reinforces the framework of fiscal governance included in the Stability and Growth Pact (SGP). Countries are expected to adopt the new provisions by 2014.[1]

*National structural budget balance rules*: The main innovation of the Fiscal Compact is the requirement to adopt in legislation national rules that limit annual structural deficits to a maximum of 0.5 percent of GDP (1 percent of GDP for countries with debt levels below 60 percent and low sustainability risks). A transition period to the new deficit limits will be agreed upon with the European Commission. The Fiscal Compact may imply an upward revision of the so-called medium-term objectives, already in place under the SGP.

*Stronger enforcement of national rules*: To ensure enforceability, countries need to establish automatic correction mechanisms at the national level, to be triggered in the event of deviations from the structural budget balance rules. The European Court of Justice will verify the transposition of structural budget balance rules to national legislation; it will not, however, verify compliance.

*New debt rule at the supranational level*: The Fiscal Compact also includes a commitment to continuously reduce the public-debt-to-GDP ratio to the threshold of 60 percent of GDP. The annual pace of debt reduction in a country should be no less than one-twentieth of the distance between the observed level and the target, starting three years after the country has left the current excessive deficit procedure (EDP). This will ensure an asymptotic convergence to the 60 percent debt threshold.

*Broader criteria and more automatic process to open an EDP*: In addition to noncompliance with the existing deficit rule, countries can now also be placed in an EDP—by a qualified majority of the Economic and Financial Affairs Council—when they do not comply with the debt rule. In case of noncompliance with the deficit rule, the Fiscal Compact should in principle allow for a more automatic triggering of EDPs, as it would happen at the suggestion of the Commission unless a qualified Council majority blocks it (so-called reverse qualified majority).

The Fiscal Compact is unlikely to require fiscal consolidation efforts that go beyond the existing SGP commitments. But these fiscal consolidation plans, set some time ago, could prove increasingly tight for some countries as real GDP growth falls short of projections. Enforcement criteria for the new debt benchmark appear in principle sufficiently flexible to avoid endangering economic growth through too much austerity. However, to avoid uncertainty, enforcement principles should be clarified, communicated, and consistently applied.

The Fiscal Compact provides an opportunity to firmly anchor fiscal governance at the national level. Enforceable structural budget balance rules, which combine the sustainability goal with room for adjustment to the economic cycle, can go a long way toward contributing to responsible fiscal policy in the medium term. This requirement thus adds importantly to the reforms that focus on greater enforcement at the supranational level. But countries need to get the specific design of the rules right and ensure that the rules are underpinned by supporting reforms to budgetary institutions and procedures.

[1] The Fiscal Compact complements and reinforces earlier EU fiscal governance reforms introduced as part of the "six pack," which took effect in December 2011 (see Box 4.1 of the April 2011 *Fiscal Monitor* for details).

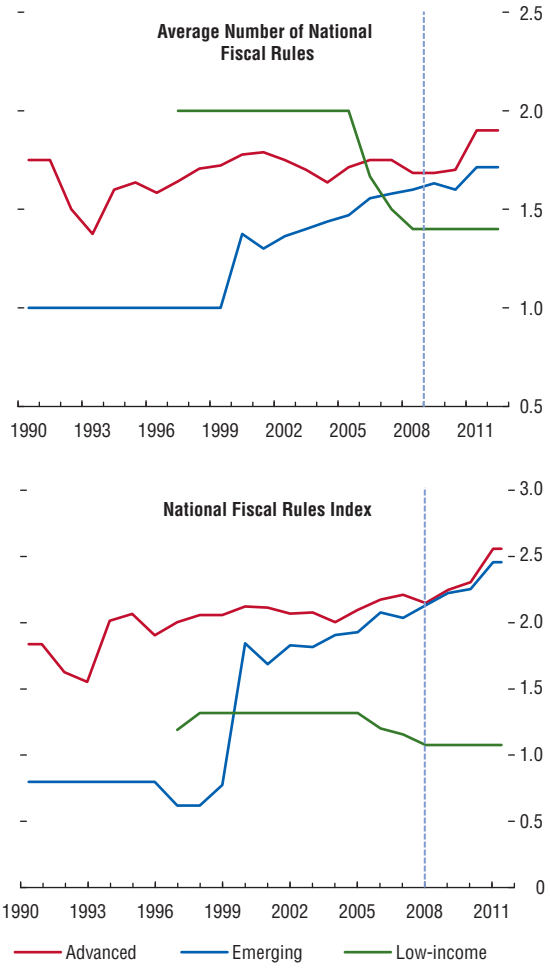
New empirical analysis (Debrun, Gérard, and Harris, 2011) looks at the intensity of fiscal council citations in the press and concludes that fiscal councils indeed seem to deliver their messages in an effective and timely fashion. However, so far there is little evidence that such messages trigger policy changes, except when the objectives and preferences of the fiscal council and the government are perfectly aligned. Thus, the existence of fiscal councils alone, and their ability to increase public awareness, may not be sufficient to achieve good outcomes, but combined with fiscal rules, they can potentially raise the reputational risk

## Table 8. New Fiscal Rules Adopted since 2010

| Country | Description of rules |
|---|---|
| Austria | Parliament passed on December 7, 2011, an amendment to the federal budget law stipulating that, from 2017 onward, the structural deficit at the federal level (including social insurance) shall not exceed 0.35 percent of GDP. The amendment is conceptually similar to the German debt brake rule but has so far not been able to be anchored in the constitution. Operational details are still being prepared in separate laws and regulations. |
| Colombia | A structural budget balance rule for the central government was approved by Congress in June 2011. It sets a path that lowers the structural deficit to 2.3 percent of GDP by 2014 and provides a ceiling of 1 percent of GDP effective in 2022. The rule allows for fiscal expansion when the expected output growth rate is at least 2 percentage points lower than the long-term rate and creates a sovereign wealth fund. |
| Ecuador | A new expenditure rule was adopted in 2010 and took effect in 2011, but the existing budget balance and debt rules were dropped. The expenditure rule states that current expenditure cannot be higher than permanent income including oil revenue. External financing and oil revenues are to be used only to finance public investment. |
| Israel | A debt-to-GDP ratio of 60 percent was introduced in 2010, and the expenditure rule adjusted to achieve this target. Of the two rules, the deficit ceiling path takes precedence. |
| Japan | The Fiscal Management Strategy, which includes a pay-as-you-go rule, was adopted in 2010 (by cabinet decision). The rule implies that any measure that involves increases in expenditure or decreases in revenue needs to be compensated for by permanent reductions in expenditures or permanent revenue-raising measures. A Medium-Term Fiscal Framework, including a limit on expenditure, was also introduced. |
| Namibia | An expenditure rule took effect in 2010 that caps the ratio of expenditures to GDP at 30 percent. |
| Poland | A new expenditure rule (from 2011) limits the increase in central government discretionary spending and all newly enacted spending to 1 percent in real terms (based on consumer price index inflation) (defined in 2011 budget law). |
| Portugal | The new budgetary framework law (May 2011) approved a fiscal rule establishing that the general government structural balance cannot be less than the medium-term objective in the Stability and Growth Pact. It also includes requirements for a correction of the multiannual plan whenever deviations from the target occur. The rule will come into effect in 2015. |
| Romania | From 2010 general government expenditure growth should not exceed projected nominal GDP for three years until the budget balance is in surplus. Moreover, personnel expenditure limits are binding for two years. |
| Serbia | In October 2010, Serbia introduced fiscal responsibility provisions in the budget system law from 2009. These include numerical fiscal rules and the adoption of a fiscal council. The fiscal rules comprise a budget balance rule that corrects for past deficit deviations and allows a partial operation of automatic fiscal stabilizers. A debt rule provides a ceiling on general government debt of 45 percent of GDP. |
| Slovak Republic | In December 2011, a constitutional bill was adopted, taking effect March 1, 2012, which caps public debt at 60 percent of GDP. Automatic adjustment mechanisms take effect when the debt-to-GDP ratio reaches 50 percent. The bill also calls for setting up a Fiscal Council to monitor and evaluate fiscal performance. |
| Spain | A constitutional amendment (2011) and its corresponding organic legislation (2012) require that the structural deficit for all levels of government stay within the limits set by the European Union, and set debt limits for each level of government. The rules will enter into force from 2020, with transition rules in effect until then. The amendment also introduces expenditure ceilings and constrains growth in expenditure for all levels of government. |
| United Kingdom | The new cyclically adjusted budget balance rule, from 2010, aims to achieve cyclically adjusted current balance by the end of the rolling five-year forecast period (currently by FY2016/17). The new debt rule (from 2010) targets a falling public sector net-debt-to-GDP ratio by FY2015/16. |
| United States | Statutory pay-as-you-go rules for revenue and mandatory spending were reinstated in February 2010 but are subject to important exemptions. In August 2011, Congress enacted discretionary spending caps, saving about $900 billion over the next decade. Additional automatic spending cuts (sequesters) are scheduled to take effect from January 2013 to produce savings of $1.2 trillion over a decade, with one-half coming from defense spending and the other half from domestic programs, excluding Social Security, Medicaid, parts of Medicare, and certain other entitlement programs. |

Sources: National authorities; and IMF staff assessments.

### Figure 15. Trends in National Fiscal Rules




Source: Schaechter and others (2012).
Note: The figure captures only those rules that had taken effect by end-March 2012. The national fiscal rules strength index is calculated by accounting for a number of characteristics, such as legal basis, coverage, flexibility, enforcement, and supporting procedures and institutions. The index has been standardized and ranges between zero and five, with higher values indicating more of these features in place.

of noncompliance for governments and provide an additional tool of enforcement.

In another legacy of the crisis, the search for more flexible fiscal rules has spread to subnational governments. The great recession had a negative impact on subnational government finances, as local revenues declined while demand for social and welfare programs increased markedly (Appendix 3). National stimulus packages, implemented in the initial phase of the crisis, were crucial in avoiding

### Table 9. Type of Recently Adopted National Fiscal Rules (since 2010)

| Type of rule | Countries |
|---|---|
| Budget balance rule[1] | Austria, Colombia, Portugal, Serbia, Spain, United Kingdom |
| Pay-as-you-go rule | Japan, United States |
| Debt rule | Israel, Serbia, Slovak Republic, Spain, United Kingdom |
| Expenditure rule | Ecuador, Israel, Japan, Namibia, Poland, Romania, Spain, United States |

Sources: National authorities; and IMF staff assessments.
Note: Rules include those that have been adopted but have not yet taken effect.
[1]All budget balance rules included here account for the economic cycle.

a massive reduction in subnational government expenditures. However, empirical analysis suggests that transfers from central governments did not fully offset the procyclicality of subnational government fiscal positions. This raises the question of whether subnational governments should have a greater role in macroeconomic stabilization, in particular, by allowing them greater flexibility to manage "rainy day" contingency funds. More importantly, as countries are moving from stimulus to consolidation, there may be a need to strengthen intragovernmental fiscal coordination to give subnational governments a more active role in fiscal adjustments.

## 7. Conclusion and Risk Assessment

The foregoing analysis suggests that fiscal risks remain elevated, but they are less acute than six months ago. Looking at the previous discussions through the prism of the multidimensional indicator of risks developed in the April 2011 *Fiscal Monitor* indicates that while long-term fiscal and policy pressures may be abating, albeit still modestly (Table 10), vulnerabilities remain high for the near and medium term. Overall, risks have declined modestly among advanced economies, but remain at a historically very high level, and have further eased in emerging markets as well (Figure 16). Risks in emerging Europe, however, have trended upward and significantly exceed those in Latin America or Asia (Figure 17).

- *Macroeconomic uncertainty.* As discussed in greater detail in the April 2012 *World Economic Outlook*, global prospects seem to be gradually strengthen-

## Table 10. Assessment of Fiscal Sustainability Risks, 2012

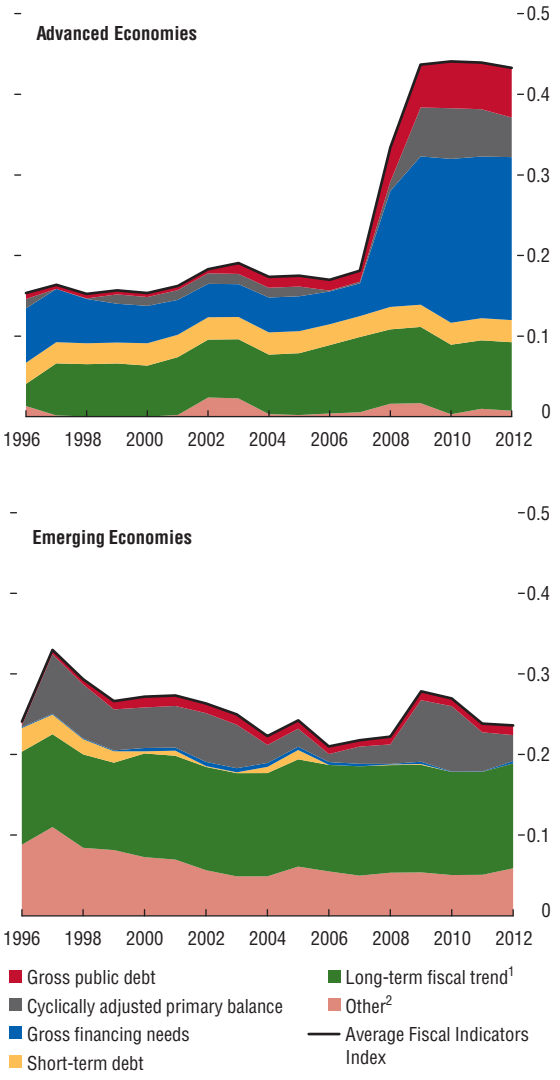
| | Advanced | Emerging |
|---|---|---|
| Short- and medium-term fiscal indicators | → | → |
| Long-term fiscal challenges | ↘ | → |
| Liability structure | ↘ | ↘ |
| Macroeconomic uncertainty | → | → |
| Policy implementation | ↓ | → |
| Financial sector risks | ↓ | → |

Source: IMF staff estimates.

Note: Directional arrows → and ↓ indicate on average unchanged and lower risks, respectively; ↘ indicates moderate declines in levels of risk.

## Figure 16. Components of the Fiscal Indicators Index, 1996–2012

*(Scale, 0–1)*




Sources: Baldacci and others (2011); and IMF staff calculations.

Note: 2009 GDP weights at purchasing power parity used to calculate weighted averages. Larger values of the index suggest higher fiscal risk.

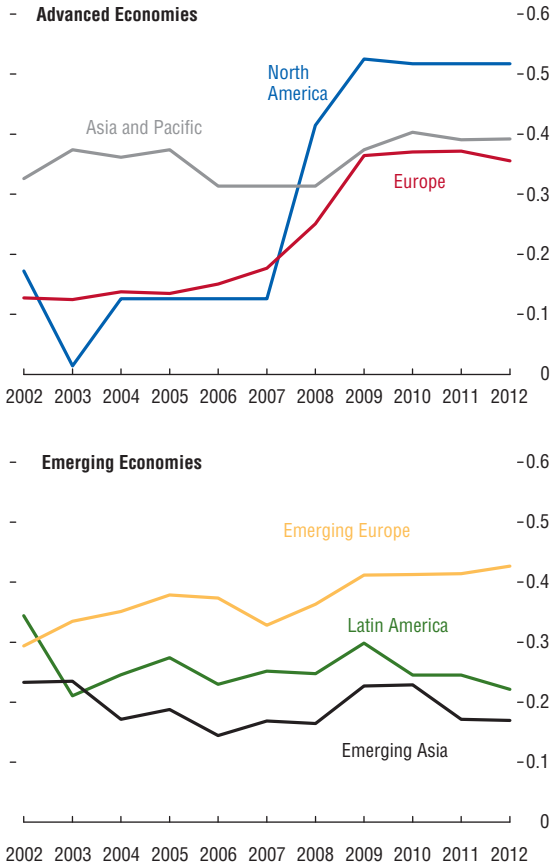
[1] Includes fertility rate, dependency ratio, and pension and health spending.

[2] Includes interest rate–growth differential, average debt maturity, and debt held by nonresidents (for advanced economies) and foreign-currency-denominated debt and short-term external debt to reserves (for emerging economies).

ing, but downside risks remain elevated, especially among the advanced economies. Moreover, some of the downside risks noted in the September 2011 *World Economic Outlook* have materialized, leading to a baseline outlook that is in some respects weaker than was projected six months ago.

- *Financial sector risks.* Although financial market risks remain elevated, especially in the euro area, markets have taken a step back from the precipice on which they stood six months ago, with interest rates for some countries under market scrutiny having receded notably in recent weeks, though markets remain volatile. To a large extent, this reflects a positive market reaction to the European Central Bank's long-term refinancing operations and to the recently agreed-upon financing package for Greece. Emerging markets have substantial buffers and policy space to deal with potential shocks, but some regions—especially central and eastern Europe—continue to be exposed to potential negative spillovers from advanced economies. These developments are reviewed comprehensively in the April 2012 *Global Financial Stability Report.*
- *Short- and medium-term fiscal indicators.* These continue to show a high degree of risk. Despite substantial fiscal consolidation efforts, cyclically adjusted deficits continue to be elevated in many advanced and some emerging economies, and in the short run debt ratios are still rising in many cases. Although conditions are in place for a stabilization of debt ratios in many advanced economies over the next few years, in some cases countries have little margin for error in fiscal outturns or little space in current policies to absorb growth or interest rate shocks without the debt ratio's continuing to rise. Debt ratios are decelerating in emerging economies, but remain higher than in the precrisis period. Overall, risks in this area remain broadly unchanged from six months ago, with both deficits and debt ratios evolv-

**Figure 17. Fiscal Indicators Index by Region, 2002–12**
*(Scale, 0–1)*




Sources: Baldacci and others (2011); and IMF staff calculations.
Note: 2009 GDP weights at purchasing power parity used to calculate weighted averages. Larger values of the index suggest higher fiscal risk.

ing more or less in line with expectations at that time, on average, in both advanced and emerging economies.

- *Liability structure*. Risks in this area have improved somewhat in both advanced and emerging economies, although more in the latter. In advanced economies, gross financing needs as a percentage of GDP are expected to stabilize in 2012—as slightly higher maturing debt is offset by narrowing deficits—although these are still at historically high levels. In a number of advanced economies, the impact of higher debt ratios on financing costs has so far been muted. This may reflect the fact that a significant share of public debt has been purchased by their central banks as part of the conduct of monetary policy. However, this will provide only temporary breathing space, as these central bank holdings will need to be unwound over time as base money demand returns to more normal levels. In emerging economies, overall deficits are broadly unchanged with respect to 2011, and rollover needs are expected to fall. Nonetheless, risks of excessive reliance on foreign currency debt and large short-term debt relative to international reserves are rising in several small emerging economies.
- *Long-term fiscal challenges*. As discussed earlier, some advanced economies, especially in Europe, have taken positive steps in addressing pension- and health-related expenditure as part of fiscal consolidation packages to put their fiscal positions on a stronger footing. Nevertheless, long-term fiscal challenges remain an important source of risk in many countries.[15] Early action to address these would be helpful on two fronts: not only would it arrest the buildup of public sector liabilities and so reduce the cost of future adjustment, but it could also send an important signal to financial markets about the commitment of country authorities to long-term sustainability of the public finances in an environment in which the amount of adjustment required to restore debt ratios to more moderate levels is in many countries already substantial, even in the absence of pressures from entitlements.
- *Policy implementation risks.* Policy implementation risk has decreased in advanced economies, reflecting policy action, which will lower deficits in 2012 and 2013. Moreover, fiscal institutions are being strengthened. In particular, as mentioned earlier, several countries are adopting fiscal rules, removing a potential element of political risk. In addition, the Fiscal Compact recently agreed to in Europe marks an important step forward in ensuring greater fiscal discipline within the euro area, if implemented effectively. It also constitutes a framework onto which further reforms, like the

[15] See the April 2012 *Global Financial Stability Report* for a discussion of risks stemming from people living longer than expected (longevity risk).

enhanced risk sharing the monetary union needs, can be grafted over time. Many second-generation fiscal rules are more complicated than earlier ones, seeking to build in greater flexibility to respond to cyclical developments (allowing governments to capitalize on short-term fiscal space) while ensuring that ground ceded in the short term is recovered later (with no permanent sacrifice of longer-term space). The more-complicated nature of these new rules means that stepped-up communication efforts to ensure that citizens and markets fully understand the objectives and mechanics of these rules will greatly enhance their effectiveness. Unfortunately, efforts to define a credible medium-term adjustment program are still lagging in Japan and the United States.

Looking beyond this framework, a key risk relates to the interplay of macroeconomic, financial sector, and policy implementation risks. In particular, there are grounds for concern that in an environment of high financial market volatility, policymakers could feel themselves compelled to adopt excessive short-term fiscal consolidation in the face of slowing growth, out of fear that a failure to achieve headline deficit targets could provoke an outsized market reaction. The implications of fiscal tightening in the teeth of an economic downturn could be particularly severe and even perverse, leading to higher rather than lower interest rates and to a worsening rather than an improvement in the debt ratio, at least in the short run. Caution is warranted to avoid an undue acceleration of the pace of fiscal consolidation, and should growth falter, policymakers with the space to do so should let the automatic stabilizers operate and allow the deficit to rise as revenue falls and spending increases as a result of lower growth. Those countries benefiting from sufficient policy space can consider going further and slowing the pace of underlying fiscal consolidation to support demand.

However, an equally important risk is that these short-term considerations are taken as an excuse to postpone fiscal consolidation until a dangerous adverse market reaction forces the issue. Thus, the decision to exploit short-term fiscal space and slow the pace of near-term fiscal adjustment should not undermine the medium-term fiscal consolidation process that is needed to restore long-term fiscal space in many countries. Bringing forward much-needed structural reforms, particularly in entitlement spending, can reassure markets if a more gradual pace of short-term fiscal consolidation becomes necessary. In addition, clear communication of policies and objectives will be critical for providing assurance that even if immediate outturns change to accommodate short-term developments, medium- and longer-term policy objectives will remain unaltered.

# Appendix 1. Fiscal Multipliers in Expansions and Contractions

There is an extensive and—since the economic crisis—rapidly expanding empirical literature that tries to estimate fiscal multipliers. However, only a few empirical studies have so far analyzed the links between fiscal multipliers and the underlying state of the economy. New research (Baum, Poplawski-Ribeiro, and Weber, 2012) finds that the position in the business cycle affects the impact of fiscal policy in G-7 economies: on average, government spending and revenue multipliers tend to be larger in downturns than in expansions. This asymmetry has implications for the desirability of up-front fiscal adjustment versus a more gradual approach.

## What are fiscal multipliers and how large are they?

Fiscal multipliers are typically defined as the ratio of a change in output to an exogenous and temporary change in the fiscal deficit with respect to their respective baselines (Spilimbergo, Symansky, and Schindler, 2009). There is not just one fiscal multiplier, and the theoretical and empirical literature suggests that multipliers differ across countries and time. In line with the theory, fiscal multipliers tend to be smaller in more open economies and in countries with larger automatic stabilizers and higher financing costs (Figure A1.1).

In spite of extensive studies, there is still no consensus regarding the size of fiscal multipliers. Studies using linear approaches, which do not take into account the possibility of a change in multipliers according to the underlying state of the economy, appear to indicate a range of government spending multipliers between 0.0 and 2.1 during the first year after fiscal measures are taken (Table A1.1). The United States tends to have larger government spending multipliers than Europe. This could be

### Table A1.1. First-Year Fiscal Multipliers: Summary of Findings from Previous Literature

**a. Size of Government Spending Fiscal Multipliers**

| | All Samples | | United States | | Europe | |
|---|---|---|---|---|---|---|
| | VAR | DSGE | VAR | DSGE | VAR | DSGE |
| Mean | 0.9 | 0.7 | 1.0 | 0.7 | 0.8 | 0.6 |
| Median | 0.8 | 0.6 | 0.9 | 0.7 | 0.6 | 0.5 |
| Mode | 0.6 | 0.5 | 0.6 | 0.0 | 0.5 | 0.5 |
| Maximum | 2.1 | 1.9 | 2.0 | 1.6 | 1.5 | 1.5 |
| Minimum | 0.4 | 0.0 | 0.4 | 0.0 | 0.5 | 0.1 |

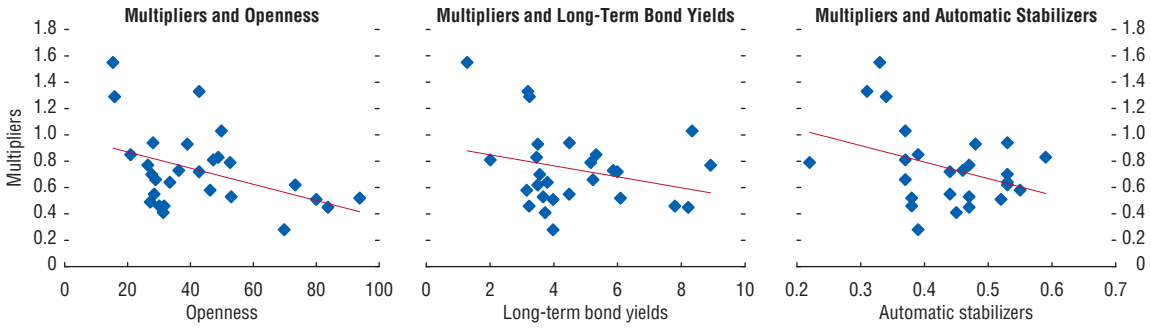
**b. Size of Government Revenue Fiscal Multipliers**

| | All Samples | | United States | | Europe | |
|---|---|---|---|---|---|---|
| | VAR | DSGE | VAR | DSGE | VAR | DSGE |
| Mean | 0.2 | 0.3 | 0.7 | 0.3 | –0.3 | 0.1 |
| Median | 0.3 | 0.2 | 0.7 | 0.2 | –0.3 | 0.1 |
| Mode | 0.7 | 0.2 | 0.7 | 0.2 | . . . | 0.1 |
| Maximum | 1.4 | 1.0 | 1.4 | 1.0 | 0.4 | 0.3 |
| Minimum | –1.5 | 0.0 | –0.7 | 0.0 | –1.5 | 0.0 |

Source: Based on Baunsgaard and others (2012).

Note: VAR denotes summary statistics from linear vector autoregressive models, and DSGE denotes results from dynamic stochastic general equilibrium models. The summary statistics reflect results from 34 studies between 2002 and 2012 with large outliers excluded.

### Figure A1.1. Country Characteristics and Multipliers




Sources: IMF, Fiscal Affairs Department Fiscal Rules database and Fiscal Transparency database; Organization for Economic Cooperation and Development (OECD); and IMF staff estimates.

Note: The fiscal spending multipliers are extracted from Box 3.1 (on fiscal stimulus) of the March 2009 *OECD Economic Outlook Interim Report*. Openness is measured by import penetration, that is, the 2008–11 average of Imports/(GDP – Exports + Imports)*100. For long-term bond yields, 10-year average sovereign bond yields between 2008 and 2011 are taken (in percent). Automatic stabilizers are measured as the semielasticity of the budget balance and are extracted from Girouard and André (2005). The negative correlations in the panel are robust to outliers being removed using an automated Stata procedure based on leverage (a measure of how far an independent variable deviates from its mean) and residual in the equation.

partly because Europe is more open, and therefore the leakage to imports is larger, and because automatic stabilizers play a larger role in Europe than in the United States (Coenen and others, 2010). Government revenue multipliers estimated with linear approaches range from about –1.5 to 1.4. Revenue multipliers tend to be negative in Europe, and the difference between Europe and the United States in regard to those multipliers is larger than that for government spending multipliers.

## Do multipliers differ in downturns and expansions?

Although most studies do not distinguish between multipliers according to the underlying state of the economy, the effects of fiscal policy shocks on economic activity are likely nonlinear, and multipliers could be significantly larger in downturns than in expansions. In times of a negative output gap, the traditional crowding-out argument—that higher government spending displaces private spending—is generally less applicable, since excess capacities are available in the economy. Moreover, the proportion of credit-constrained households and firms, which adjust spending in response to a rise in disposable income, is higher. The possibility of such nonlinearities needs to be taken into account in the econometric specification.

### *Methodology and data*

Baum, Poplawski-Ribeiro, and Weber (2012) investigate the effects of fiscal policy on output depending on the underlying state of the economy. The contribution of this work is twofold. First, it is the first study to develop a set of quarterly data on government expenditure and revenue for six of the G-7 economies back to the 1970s.[16] Second, country-by-country estimation allows the explanatory variables (government spending and revenue) to have differing regression slopes, depending on whether the chosen threshold variable—the output gap—is above or below a particular level, which is chosen to maximize the fit of the model. The analysis employs a nonlinear threshold vector autoregressive model,[17] which separates observations into different regimes based on a threshold variable. Within each regime, the model is assumed to be linear. However, after a fiscal shock is implemented, the regimes are allowed to switch, depending on the level of the output gap. As a result, the effects of fiscal policy shocks on economic activity depend on their size, direction, and timing with respect to the business cycle. Although a few existing studies have tried to distinguish between multipliers in recessions and expansions, so far, these have either focused on a single country (Germany: Baum and Koester, 2011; United States: Auerbach and Gorodnichenko, 2012a) or employed a panel data approach, thereby providing average multipliers across countries, which may mask important heterogeneities in the estimation process (Auerbach and Gorodnichenko, 2012b).[18]

The vector autogression has three variables (real GDP, real net revenue, and real net expenditure) along the lines of the seminal paper by Blanchard and Perotti (2002). The net revenue series consists of general government revenues minus net transfers, and government spending is equal to general government investment and general government consumption. All series are deflated with the GDP deflator.

Drawing from the information in IMF (2010b), the change in the net revenue and expenditure series is corrected to eliminate, to the extent possible, cases of large changes in government revenue and spending that are not necessarily linked to fiscal policy decisions and that cyclical adjustment methods may fail to capture (for example, large

[16] The countries included are Canada, France, Germany, Japan, the United Kingdom, and the United States. Data sources include the Organization for Economic Cooperation and Development, the IMF's *International Financial Statistics*, and Eurostat, as well as national account data. Fiscal data cover the general government. There are some caveats regarding the data sources, as in the case of those for France and Japan, for which data were interpolated for some years (see also Perotti, 2005).

[17] Based on the methodology developed by Tsay (1998), Hansen (1996, 1997), and Koop (1996) and applied to Germany, using the output gap as the threshold variable, by Baum and Koester (2011).

[18] Afonso, Baxa, and Slavik (2011) also use the threshold vector autoregressive technique to check the effects of fiscal multipliers on economic activity. However, those authors apply the analysis only for Germany, Italy, the United Kingdom, and the United States and use the Cholesky identification instead of a structural identification to generate their impulse responses. They also approximate fiscal policy using the public debt ratio rather than distinguishing between revenue and expenditure measures.

movements in asset or commodity prices). This removes the largest—but not all—measurement errors, as identified episodes refer to cases of fiscal consolidation since 1980, on an annual basis, and thus cover only part of the data set.[19]

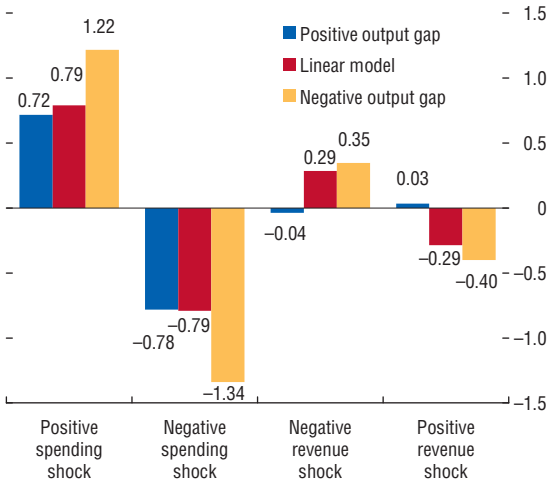
A structural identification procedure is used in line with Blanchard and Perotti (2002). Discretionary fiscal policy shocks are identified through exogenously determined revenue and expenditure elasticities that account for the impact of automatic stabilizers.[20] This involves a two-step procedure. First, revenue elasticities with respect to GDP are extracted from Organization for Economic Cooperation and Development calculations (Girouard and André, 2005). The shares of direct and indirect taxes, social security contributions, and social spending (transfers) of total net revenue are then determined and multiplied by their respective elasticities to construct quarterly weighted elasticities. The robustness of the analysis is checked by employing an alternative identification approach, that of Cholesky.

### *What is the evidence?*

The model finds significant evidence that the impact of fiscal policy on economic activity varies with the business cycle and that the effect of fiscal policy on output is nonlinear.[21] Average fiscal multipliers in G-7 countries are significantly larger in times of negative output gaps than when the output gap is positive (Figure A1.2). Results from a simple linear model are very much in line with averages identified in the previous literature, as shown in Table A1.1. Assuming, in line with recent fiscal adjustment packages in advanced economies, that two-thirds of the adjustment comes from spending measures, a weighted average of spending and revenue multipliers in downturns yields an overall fiscal multiplier of about 1.0.

In line with the bulk of the previous literature (including the survey by Spilimbergo, Symansky, and Schindler, 2009), short-term spending multipliers are found to be significantly higher than revenue multipliers. This can be explained with basic Keynesian theory, which argues that tax cuts are less potent than spending increases in stimulating the economy, since households may save a significant portion of the additional after-tax income. However, a number of earlier studies have shown that expenditure-based fiscal consolidations have a more favorable effect on output than revenue-based consolidations, in spite of the standard multiplier analysis (see, for example, Alesina and Ardagna, 2010). Chapter 3 of the October 2010 *World Economic Outlook* reaches the same conclusion (IMF, 2010b) and notes that this result is partly because, on average, central banks lower interest rates more in the case of expenditure-based consolidations

**Figure A1.2. Fiscal Multipliers in G-7 Economies**




Source: IMF staff calculations.

Note: Cumulative multipliers are standardized multipliers over four quarters. The average multiplier for six of the Group of Seven (G-7) economies (Canada, France, Germany, Japan, the United Kingdom, and the United States) is computed using a threshold vector autoregression for each country that incorporates possible nonlinearities of fiscal policy's impact on economic activity. Only statistically significant multipliers are included in the average. Average revenue multipliers exclude France, for which the outliers are large and data limitations are particularly severe. Quarterly data for most countries are available beginning in the mid-1970s.

[19] To the extent possible, when large discrepancies are observed between the IMF (2010b) "action-based" measure of policy changes and the cyclically adjusted primary balance, the component of revenue and expenditure changes unrelated to output developments and discretionary measures is removed from the quarterly net revenue and expenditure series. This yields a "cleaned" series wherein changes in revenue mainly reflect changes related to output and policy measures.

[20] Based on the methodology developed by Blanchard and Perotti (2002).

[21] The threshold that determines the level of the output gap above and below which the coefficients differ lies close to zero. The discussion that follows refers to the two regimes as the positive and negative output gap regimes or simply as expansions and downturns.

(perhaps because they regard them as more long-lasting).[22] However, when interest rates are already low, the interest rate response becomes less relevant, which may imply that, in the current environment, the standard fiscal multiplier prediction prevails. Results from short-term multipliers should in any case not be used to conclude whether revenue- or expenditure-based consolidations are preferable, since the size of the short-run multiplier is not the only thing that matters in designing a fiscal adjustment package. Long-term effects on potential output are also important, and the already-high tax pressure in some countries (particularly in Europe) implies that the bulk of the fiscal adjustment should be on the expenditure side (although revenue increases may be inevitable when the targeted adjustment is large).

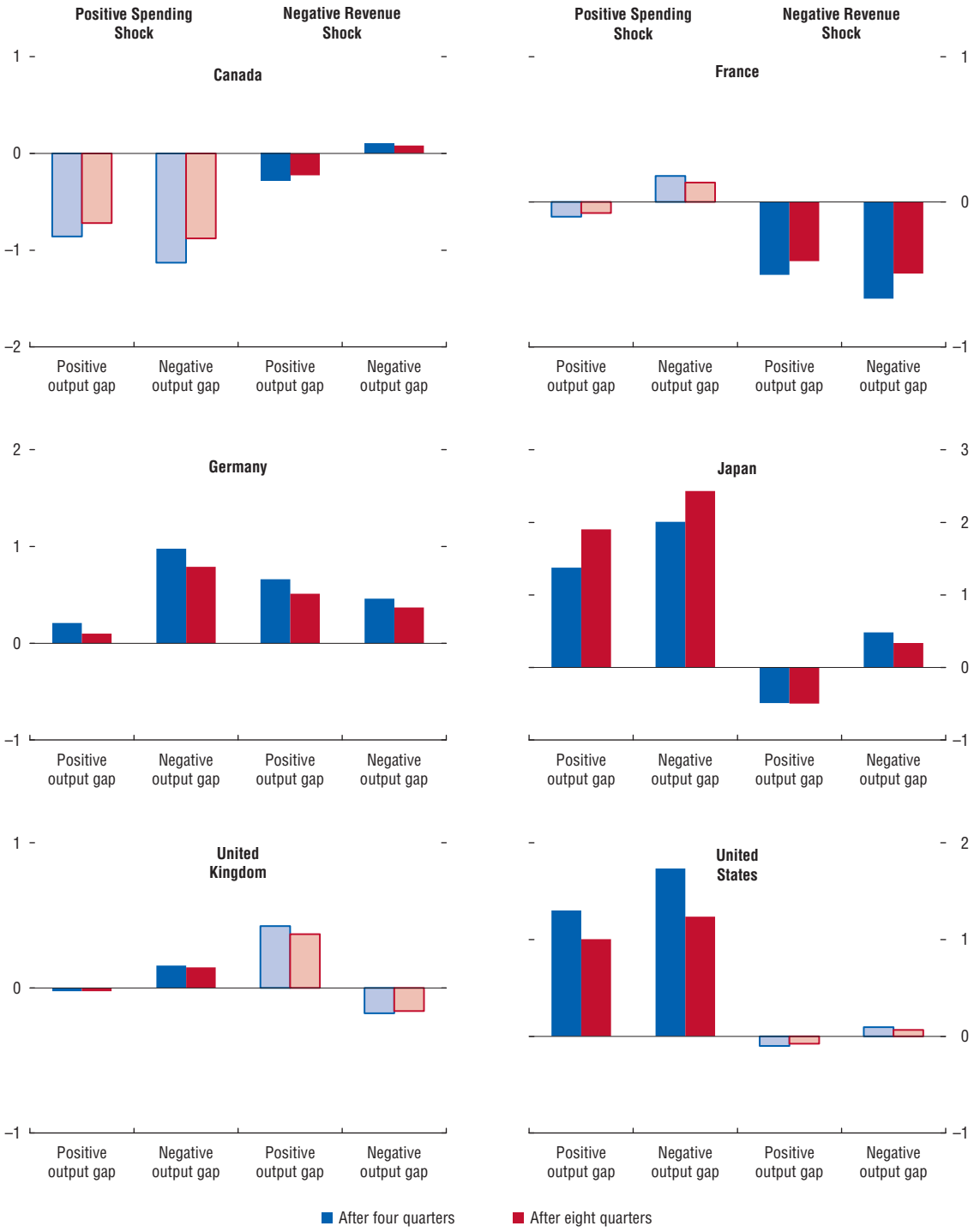
Results for individual countries show significant heterogeneities. In those countries where spending impact multipliers are found to be statistically significant and sizable (Germany, Japan, and the United States), spending shocks have a significantly larger effect on output when the output gap is negative than when it is positive (Figures A1.3 and A1.4). The results are generally less conclusive for revenue multipliers. The impact is statistically significant for Canada, France, Germany, and Japan. In Germany, revenue multipliers are slightly higher in "good times" than in "bad times," which could suggest that individuals and firms are more willing to spend additional income when market sentiment is positive, thereby becoming less Ricardian. In Canada and Japan revenue measures work as a countercyclical tool only when the output gap is negative.

An important policy implication of these asymmetries is that when the output gap is negative initially, at the time the fiscal shock is implemented, an up-front negative fiscal spending shock will have a larger impact on output in the short term than a more gradual spending adjustment. Figure A1.5 illustrates this for an average of the six G-7 economies in the sample. The figure shows the impact of a one-unit (or "euro") front-loaded improvement in the fiscal deficit versus a more gradual one-unit (or "euro") improvement in the fiscal deficit that is spread evenly over two years. When the output gap is initially negative, a more gradual fiscal adjustment hurts growth less in the first two and one-half years of the simulation period. Conversely, when the output gap is initially positive, a more front-loaded shock has a smaller cumulative impact on growth. An explanation for this finding lies in the nonlinear nature of the impulse response functions employed in the analysis. These allow the regime to switch after the impact of the shock. Thus, if the shock initially occurs in a negative output gap regime, over the course of the tightening there is some probability of moving into a positive output gap regime in which multipliers are lower. With a longer fiscal consolidation period, the probability of this occurring is higher. Conversely, if the impact of the shock initially occurs in a positive output gap regime, then policymakers should use the favorable conditions and tighten up front. Eventually, the impact of the shock on output dies away given the mean-reverting nature of the impulse response functions, and therefore in the long run the differences between an up-front and more gradual adjustment diminish.

The heterogeneity of the multipliers for each country calls for a tailored use of fiscal policies and a country-by-country assessment of their effects. This is in line with other recent empirical literature (see Favero, Giavazzi, and Perego, 2011; Perotti, 2005). The results of the study presented here confirm the sizable spending multipliers that have been found in the previous literature for the U.S. economy, whereas they show lower multipliers for other G-7 countries. For Canada and the United Kingdom, Perotti (2005), using a structural identification approach as proposed by Blanchard and Perotti (2002), finds that multipliers have decreased significantly since the 1980s. Moreover, the finding that revenue multipliers in the United States and United Kingdom are very small and not statistically significant upon impact could be due to a change in the impact of revenue measures on output over time. Perotti (2005) shows that prior to the 1980s, tax cuts had a significant positive impact on GDP,

[22] IMF (2010b) shows that in the case of tax-based programs, the effect on GDP of a fiscal consolidation of 1 percent of GDP is –1.3 percent after two years, whereas for spending-based programs, the effect is –0.3 after two years and not statistically significant.

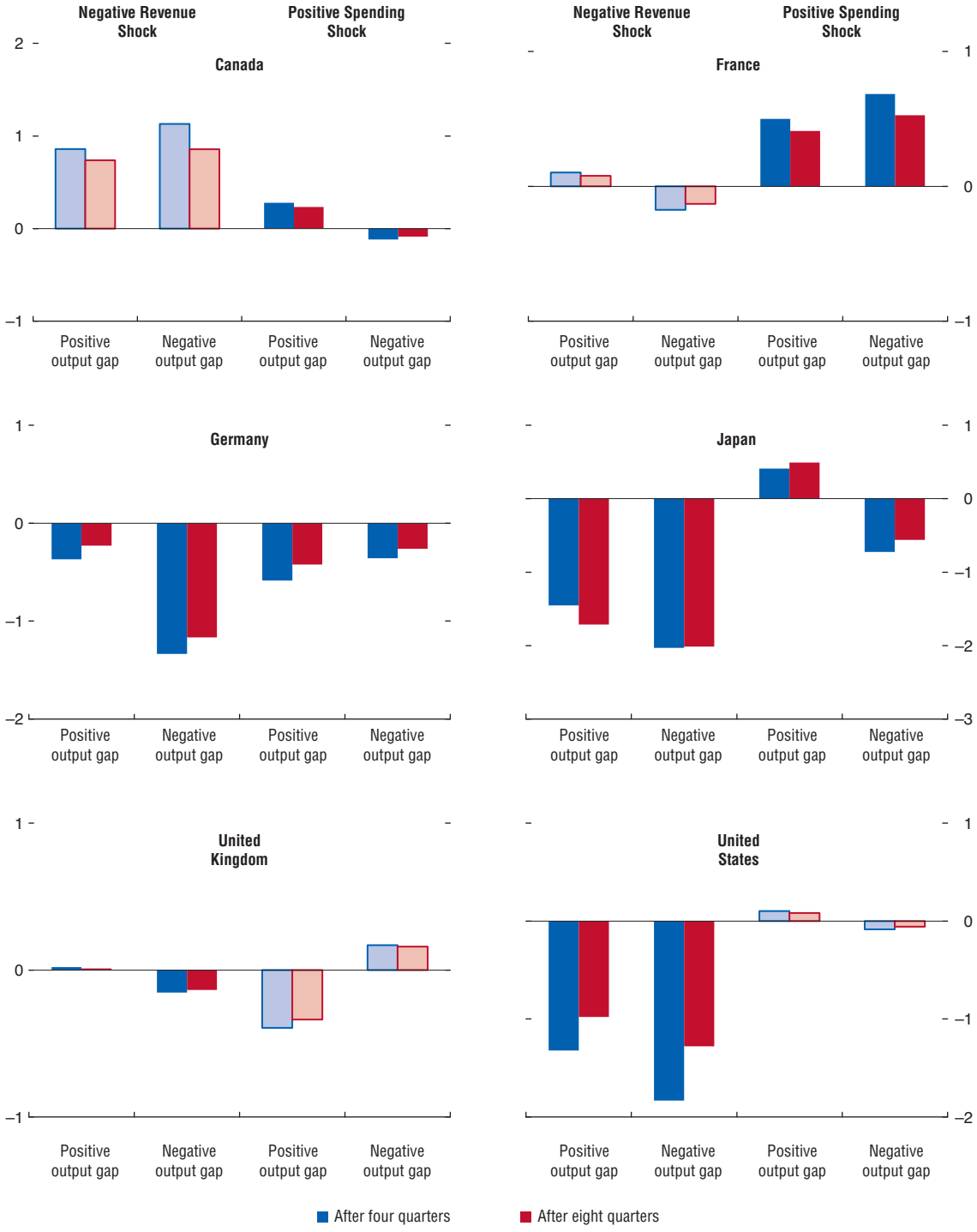
## Figure A1.3. Cumulative Fiscal Multipliers: Fiscal Expansion




Source: IMF staff estimates.

Note: Cumulative multipliers are normalized multipliers and describe the ratio of the change in output to an exogenous change in the fiscal deficit. A 1 percent fiscal shock in quarter 1 is assumed. The lighter-shaded bars correspond to those measures for which no significant impact multiplier is found, based on results from a linear model, for which the computation of confidence intervals is possible. For the nonlinear model, the computation of confidence intervals is currently not possible because of programming limitations. This is an important caveat, since in different regimes, the significance of shocks could change.

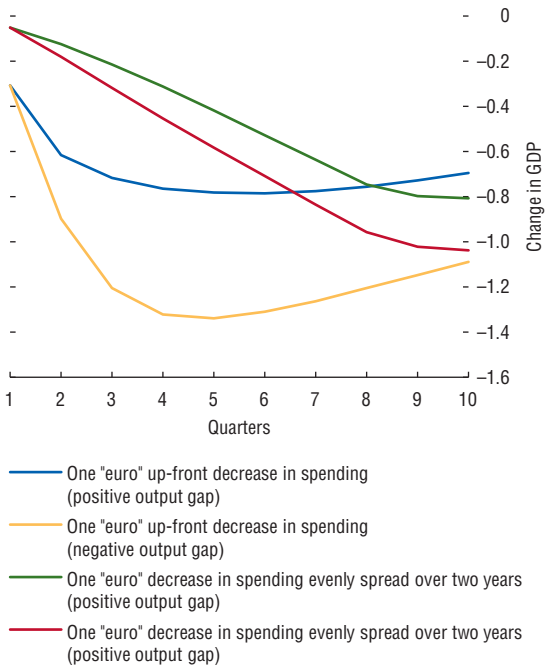
## Figure A1.4. Cumulative Fiscal Multipliers: Fiscal Contraction




Source: IMF staff estimates.

Note: Cumulative multipliers are normalized multipliers and describe the ratio of the change in output to an exogenous change in the fiscal deficit. A 1 percent fiscal shock in quarter 1 is assumed. The lighter-shaded bars correspond to those measures for which no significant impact multiplier is found, based on results from a linear model, for which the computation of confidence intervals is possible. For the nonlinear model, the computation of confidence intervals is currently not possible because of programming limitations. This is an important caveat, since in different regimes, the significance of shocks could change.

**Figure A1.5. G-7 Economies: Cumulative Impact on Output from a Negative Discretionary Fiscal Spending Shock**




Sources: Baum, Poplawski-Ribeiro, and Weber (2012); national sources; and IMF staff estimates.

Note: Estimates are from a threshold vector autoregression, with the output gap as the regime-switching variable. A threshold of zero is endogenously determined within the model. Quarterly data from the 1970s are used. The figure shows average multipliers for Group of Seven (G-7) countries with significant impact multipliers.

but in the period after 1980, this effect became negative. However, the results contradict the findings of Romer and Romer (2010) for the United States and Cloyne (2011) for the United Kingdom, which document significant revenue multipliers. This could be due to various factors, such as different sample periods and methodologies. Romer and Romer (2010), using quarterly data for the United States from 1945 to 2007, look at official reports to classify changes in tax rates as endogenous or exogenous. The exogenous changes are then used as a measure of discretionary policies, and their effects on output are investigated. Cloyne (2011) applies the same narrative approach to the United Kingdom using data for 1945–2009. Chahrour, Schmitt-Grohé, and Uribe (2010) show that the Blanchard and Perotti (2002) structural vector autoregression identification approach is subject to less small-sample uncertainty than the narrative approaches, suggesting that conditional on the ability of both models to identify discretionary revenue measures correctly, the Blanchard and Perotti model delivers a more efficient estimate of multipliers than the narrative approach.

There are several important caveats regarding the analysis. First, the model looks at only three variables and does not take into account possible interactions with monetary policy and public debt. For instance, Auerbach and Gorodnichenko (2012b) find that the size of government debt reduces the response of output to government spending shocks. Thus, the analysis presented here could have overestimated fiscal multipliers, especially in high-debt countries.[23] Second, some of the country heterogeneities could be the result of differences in data sources. Data limitations are particularly severe for France, for which true quarterly data are available only since the 1990s. Previous empirical studies of fiscal multipliers also highlight the sensitivity of results to the identification method used. The Cholesky decomposition has also been applied, and the results with respect to spending multipliers remained robust.[24]

[23] Whether taking into account interactions between fiscal and monetary policy would likely lead to an under- or overestimation of multipliers is ambiguous. In periods in which fiscal and monetary policies were not coordinated, the effect of fiscal policy may have been even greater than the model presented here suggests. Conversely, in periods in which there was policy coordination, multipliers may have been overestimated, since monetary policy may have also contributed in the same direction to changes in output. More recently, the zero lower bound on interest rates has been binding, and some studies have argued that fiscal multipliers became much larger than unity once this happened (Christiano, Eichenbaum, and Rebelo, 2011).

[24] However, the Cholesky identification is unable to identify revenue shocks correctly, as it does not account for the effects of automatic stabilizers. That is, since the revenue series is moving procyclically with the GDP series (and in comparison to the Blanchard and Perotti [2002] methodology, the tax-to-GDP elasticity is not accounted for), the resulting multipliers under the Cholesky decomposition are exclusively positive.

# Appendix 2. Early Lessons from Experiences with Large Fiscal Adjustment Plans

A number of large fiscal adjustment plans have recently been introduced in the context of the global crisis and the associated upsurge in government deficits and debts. Although it may be too soon to definitively assess these plans, distilling early lessons could help guide future fiscal strategies.

This appendix looks at fiscal consolidation plans introduced since 2009 in eight European countries (Greece, Iceland, Ireland, Latvia, Lithuania, Portugal, Romania, and Spain). The selected plans aimed at ex ante improvement in the structural primary balance of at least 5 percent of (potential) GDP over three to five years. Plans overlapped to incorporate significant revisions in terms of the size of the fiscal consolidation, the expenditure-revenue mix, the phasing, and even the time horizon (Table A2.1).

**Table A2.1. Fiscal Adjustment Plans**

| Country | Adjustment plan | Period of consolidation |
|---|---|---|
| Iceland | Late 2008 (IMF SBA) | 2009–12 |
| | Mid-2009 (SBA first review) | 2009–13 |
| | Mid-2010 (SBA third review) | 2010–13 |
| | August 2011 (SBA sixth review) | 2011–14 |
| Ireland | Spring 2009[1] | 2009–13 |
| | December 2009 Stability Program Update | 2010–13 |
| | December 2010 (National Recovery Plan) | 2011–14 |
| | November 2011 (Medium-Term Fiscal Statement) | 2012–15 |
| Greece | May 2010 (EC/ECB/IMF) | 2010–13 |
| | March 2011 (EC/ECB/IMF) | 2011–14 |
| | November 2011 (EC/ECB/IMF) | 2011–14 |
| Latvia | January 2010 Convergence Program | 2009–12 |
| | April 2011 Convergence Program | 2010–14 |
| Lithuania | March 2010 Convergence Program | 2010–12 |
| | April 2011 Convergence Program | 2011–14 |
| Portugal | Early 2010 Stability and Growth Program | 2010–13 |
| | Mid-2010 (Midyear Budget Review) | 2010–13 |
| | IMF/EC/ECB Program (as of May 2011) | 2011–13 |
| | August 2011 (Medium-Term Fiscal Strategy) | 2011–15 |
| Romania | Early 2009 (IMF SBA) | 2009–11 |
| | July 2009 (SBA first review) | 2009–11 |
| | July 2010 (SBA fifth review) | 2010–12 |
| Spain | Early 2010 Stability Program Update | 2010–13 |
| | Mid-2010 (Midyear Budget Review) | 2010–13 |
| | Early 2011 Stability Program | 2011–14 |

Sources: National sources; and IMF staff assessments.

Note: EC: European Commission; ECB: European Central Bank; SBA: Stand-By Arrangement.

[1]Spring 2009 combines measures taken in February 2009 and the Supplementary Budget of April 2009.

The analysis is based on quantitative and qualitative dimensions. First, fiscal adjustment plans for a selected group of countries are identified and assessed on the basis of large envisaged reductions in government deficits, and their ex post outcomes are compared with ex ante plans to help track deviations from targets and the factors underlying such deviations. Since plans tended to be reformulated over time in response to changing circumstances, this analysis is undertaken also from a "dynamic" perspective, that is, looking at the changes across plans, including the presence of "base effects" (which reflect errors in the estimates of the economy's initial situation) and "implementation surprises" (which may reflect exogenous shocks or implementation slippages during the course of the plan).[25] The qualitative analysis draws from surveys of the type of measures adopted in each plan and their implementation.

## Changes in the size and composition of fiscal consolidation plans

Decomposing the causes of deviations from projected results reveals large negative base effects: that is, the starting deficit was generally larger than initially estimated, by an average of ¾ percentage point of GDP, with wide variations across the sample (Table A2.2). These may reflect initial expenditure slippages (for example, in early plans in Portugal), as well as reclassifications and one-off surprises (Greece, Portugal). In the initial phases of fiscal consolidation, these base effects were fully compensated for with additional adjustment measures. In the latter phases, the size of base effects tended to decline, together with the size of compensatory measures. In addition to negative base effects, fiscal slippages can also explain deviations from projected results. In Spain, for instance, sizable fiscal slippages (mostly of revenues) at all government levels explain a worsening fiscal performance in 2011.

The fiscal adjustment mix also changed across time in most cases. Initially, about 60 percent of the adjustment was expected from expenditure compression, a focus justified by the large size of

[25]A similar methodology was applied in Mauro (2011).

### Table A2.2. Differences between Planned and Actual Adjustment in the Structural Primary Balance

*(Percent of potential GDP)*

| | Actual minus planned balance[1] | Base year effect[2] | Actual minus planned adjustment[3] |
|---|---|---|---|
| Average base year effects | –0.8 | –0.7 | –0.1 |
| Largest negative base year effects | –0.8 | –5.1 | 4.3 |
| Largest positive base year effects | –0.9 | 2.0 | –2.9 |

Source: IMF staff estimates.

Note: Based on 20 large fiscal adjustment plans in Europe (see Table A2.1 for details).

[1]Difference between actual and planned structural primary balance in 2011.

[2]Actual minus estimated base year structural primary balance in percent of potential GDP.

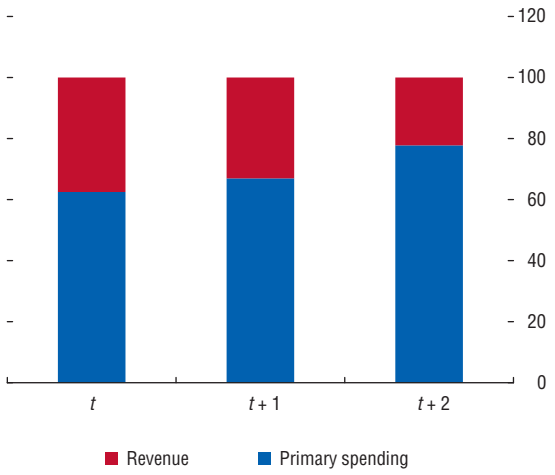
[3]Actual minus planned adjustment in the structural primary balance in percent of (potential) GDP. A positive number indicates structural adjustment larger than planned. See Mauro (2011) for the methodology.

governments in Europe and the rapid disappearance of tax revenue bases. Some plans, however, tried to protect investment expenditure. Revenue measures, in turn, focused mostly on indirect taxation; only in Iceland and Ireland did fiscal consolidation include significant reforms to income taxation. In Greece, Portugal, and Spain, fiscal consolidation was significantly front-loaded, with a view to restoring confidence amid deteriorating market conditions.

The role of revenue measures has generally been declining over time, to about 22 percent in the later phases of the plans, owing to a mix of lower-than-expected yields from tax measures and political resistance to their implementation (Figure A2.1). In Iceland, the most recent plan has relied less on permanent tax revenue improvements, partly as a result of political opposition to tax increases. In Greece, revenue projections were reassessed and reduced over time, and expenditure compression took a more prominent role. In contrast, in Romania, political and legal obstacles to pension cuts led the government to rely on an increase in the VAT. In Portugal, additional revenue measures were introduced to offset initial expenditure slippages, but the adjustment mix subsequently shifted to focus more on spending cuts.

### Figure A2.1. Average Composition of Recent Fiscal Adjustment Plans by Vintage

*(Percent of GDP)*




Sources: National sources; and IMF staff calculations.

Note: Plan composition is measured as the ratio of the average expected contribution (across plans) of primary spending cuts to the expected change in the primary balance over the whole period of the consolidation plan, on the basis of expected changes in the ratios of revenue and primary spending to GDP. The same calculation is repeated after each significant revision of a plan, taking again into account the whole period of the revised plan. The contribution is averaged across plans according to the plans' vintage.

## Managing uncertainty and one-off surprises

The uncertain environment puts a high premium on the authorities' ability to respond flexibly to unexpected shocks and demands, including

- *Weaker-than-expected growth and the presence of large negative base effects.* Although the magnitude of the crisis was difficult to anticipate at its initial stages, many plans seem to have relied on more optimistic assumptions than other publicly available forecasts.[26] In some cases, dramatic shifts in financial market access narrowed the range of available policy options.
- *The materialization of large public contingent liabilities* (for example, linked to the banking system in Ireland and to public sector entities in Portugal). These often increased the size of the required adjustment and/or reduced the yields of planned revenue and expenditure measures.
- *The emergence of large statistical revisions* in general government deficit and gross debt (Table A2.3).

[26]This is also supported by the evidence presented in Bornhorst and others (2010) and in the November 2010 *Fiscal Monitor*.

**Table A2.3. Government Deficit and Debt Revision: Overview**

| | |
|---|---|
| **Greece** | *Deficit*<br>(1) Upward revision for 2008 (2.7 percentage points of GDP) and 2009 (9.9 percentage points of GDP) in October 2009, before the request for a Stand-By Arrangement (May 2010) and reflecting data misreporting.<br>(2) Upward revision for 2007 (1.3 percentage points of GDP), 2008 (1.8 percentage points of GDP), 2009 (1.8 percentage points of GDP), and 2010, in October 2010, before the second review of the Stand-By Arrangement (December 2010) and reflecting reclassification of public enterprises.<br>*Debt*<br>(1) Upward revision for 2008 and 2009 (15.5 percentage points of GDP) in October 2009, before the request for a Stand-By Arrangement (May 2010) and reflecting data misreporting.<br>(2) Upward revision for 2007 (9.2 percentage points of GDP), 2008 (11.1 percentage points of GDP), 2009 (11.5 percentage points of GDP), and beyond, at the time of the second review of the Stand-By Arrangement (December 2010) and mainly reflecting reclassification of public enterprises. |
| **Iceland** | *Deficit*<br>(1) Upward revision for 2008 and 2009, at the time of the first review of the Stand-By Arrangement (October 2009) and reflecting larger write-off of claims on banks.<br>(2) Successive downward revisions for 2009, at the time of the third (October 2010), fourth (January 2011), and fifth (June 2011) reviews and reflecting smaller write-off of claims on banks.<br>*Debt*<br>(1) Upward revision for 2008, at the time of the second review of the Stand-By Arrangement (April 2010) and reflecting higher local government debt.<br>(2) Successive downward revisions for 2009, at the time of the third (October 2010), fourth (January 2011), and fifth (June 2011) reviews and reflecting smaller Icesave accounts payments. |
| **Ireland** | *Debt*<br>Downward revision for 2010 (2.3 percentage points of GDP) in November 2011, just before the fourth review (December 2011), to correct for double counting. |
| **Portugal** | *Deficit*<br>(1) Upward revision for 2007 (0.4 percentage point of GDP), 2008 (0.6 percentage point of GDP), and 2009 (0.8 percentage point of GDP) in April 2011, before the Stand-By Arrangement (June 2011) and reflecting reclassification of public corporations.<br>(2) Upward revision for 2010 (0.6 percentage point of GDP), before the second review (December 2011), to correct Madeira misreporting.<br>*Debt*<br>(1) Upward revision for 2007 (5.5 percentage points of GDP), 2008 (6.3 percentage points of GDP), and 2009 (6.9 percentage points of GDP) in April 2011, before the Stand-By Arrangement (June 2011) and reflecting reclassification of public corporations.<br>(2) Upward revision for 2010 (0.5 percentage point of GDP), before the second review (December 2011), to correct Madeira misreporting. |

Source: IMF staff estimates.

These reflected data reclassification (for example, the inclusion of public enterprises in the fiscal accounts), methodological uncertainties (related, for example, to the costs of bank restructuring in Iceland), or improper reporting of information to Eurostat (most prominently in Greece).

In this context, the use of prudent macroeconomic assumptions (including realistic measures of revenue elasticities and fiscal multipliers) can enhance the credibility of fiscal consolidation plans as well as the chances of their successfully meeting their targets. Increased transparency and well-designed communications strategies can also help counter the potential for declining confidence resulting from slippages and data revisions. For example, Portugal has increased its reporting and coverage of public sector data. Spain has stepped up outreach efforts to counter negative market sentiment, including starting a website dedicated exclusively to communicating the government's economic policy and data in English, and increasing access to subnational and other data.

## Defining good-quality stopgap measures

In most plans, shocks or weaker-than-anticipated outcomes required the midcourse introduction of stopgap measures. These included, among other things, VAT increases in all countries, tax amnes-

ties (Greece, Latvia), asset sales (Greece, Portugal), transfer of private pension assets to the state as capital revenue (Portugal), extraction of greater dividends from state-owned enterprises (Lithuania), and delaying investment plans and shifting subsidies (Latvia). But one-off measures have their drawbacks. For example, as market conditions have deteriorated, asset sales have become less reliable as sources of revenues (Greece, Portugal, and Spain abandoned or pared down planned asset sales). The transfer of assets or dividends from other sectors is likely to have an impact on their financial soundness, particularly if banks are targeted. Some stopgap measures may yield quick results but at the cost of lower economic efficiency (for example, ad hoc tax increases); they may also stray from the initial objectives in terms of growth and equity, potentially undermining political support.

Unsurprisingly, countries with well-established fiscal institutions and processes were able to draw on them to select and implement stopgap measures of a relatively higher quality (Box A2.1). For instance, a report on taxation and review of expenditure in Ireland provided policymakers with a menu of high-quality measures that could eventually be quickly mobilized. Medium-term expenditure ceilings helped anchor the fiscal consolidation path and motivate spending units to identify properly costed priorities over a longer horizon.

## Addressing equity concerns

In theory, embedding equity considerations in fiscal adjustment plans can help ensure stronger political support and better chances for success. In practice, however, equity considerations seem to have been embedded in most plans only in a limited and nonsystematic way. Only in Ireland was this issue tackled systematically, and detailed distributional assessments of fiscal plans suggest that discretionary budgetary measures have been strongly progressive during the recent crisis. Other plans have relied on a more ad hoc approach to ensure that the most vulnerable maintain access to social benefits and to achieve better targeting. In Greece, Portugal, and Romania, for example, cuts in social spending have been accompanied by increased means testing and measures to reduce abuse. Governments have also made attempts to protect the education sector from cuts and improve job prospects for the young (for example, in Iceland). In the context of increasing joblessness, specific measures were introduced in some plans to assist the unemployed. For instance, Latvia provided a minimum level of social support at the federal level coupled with government-supported employment programs, while allowing local governments to provide social support. Wage cuts have often excluded the lower salary levels (for example, in Greece, Lithuania, Portugal, and Romania). On the revenue side, most plans have focused tax measures on higher income brackets. For example, Greece and Portugal have increased taxes proportionately more in the higher brackets, Spain reintroduced a wealth tax, and Greece scaled up property taxation.

As for intergenerational equity, pension reform, although included in most of the initial plans, has proven politically challenging. Spain froze pensions for one year (2011) and introduced a landmark pension reform, with gradual implementation over 15 years. A pension reform was approved in Greece in 2010. Pension cuts were introduced in Greece and Portugal, with protection for minimum pensions. Pension cuts were more limited in Iceland, where the public social security system is only a small part of total pensions (mostly coming from privately managed pension funds). Latvia and Lithuania attempted to cut pensions, but their courts reversed the decisions, although Lithuania actually implemented the cuts for two full years, before reversing them this year. Ireland increased minimum pensions in 2008 (along with some other welfare rates), but implemented structural reforms in 2011 (increase in retirement age from 65 to 68 by 2028; single less-generous public service pension scheme for new entrants) to rein in the long-term cost of aging.

## Other implementation challenges

Across-the-board downsizing, sometimes resulting from the need for immediate fiscal consolidation, can conspire against improvements in public sector efficiency. Most plans (for example, those in Iceland,

## Box A2.1. Experience with Large Fiscal Adjustment Plans in Ireland and Portugal

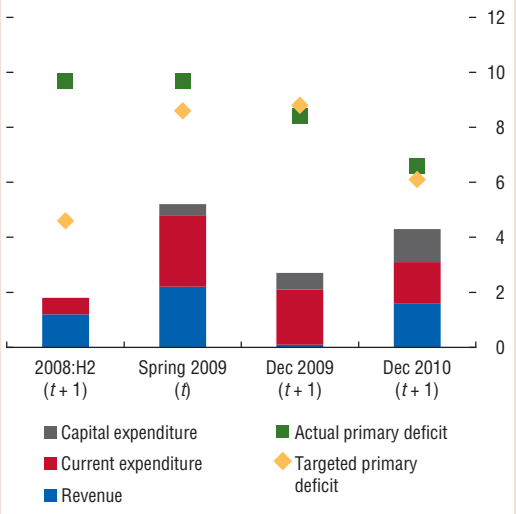
*Plans responded to changes in the political and economic context.* In both Ireland and Portugal, the size and horizon of planned fiscal consolidations reflected the state of the economy and market confidence. Accordingly, what emerged was a succession of plans (sometimes more than one a year), focusing mostly on the near term, although later plans included greater specificity on medium-term fiscal consolidation measures. Changes in government necessitated a recalibration of previously announced plans. In Ireland, a new government was sworn in months after the four-year National Recovery Plan 2011–14 was announced in November 2010; in Portugal, a new government took office two months after the approval of the IMF/European Commission/European Central Bank–supported program (May 2011).

*The composition of plans reflected fiscal consolidation imperatives, but also the authorities' preferences.* Plans were front-loaded and expenditure-based (in both cases, two-thirds of the adjustment was initially expected from spending cuts). In Ireland, the history of successful expenditure-based fiscal consolidation in the 1980s and 1990s ensured that plans remained expenditure-led throughout, with revenue raising playing a lesser role. In Portugal the deteriorating macroeconomic environment tilted the composition mix more toward revenue, but this is being reversed with the implementation of a strongly expenditure-focused budget.

*Plans in both countries paid attention to equity considerations in order to support social cohesion.* Although the adjustment packages included cuts in social benefits, education, and health, lower-income earners were largely shielded, and the fiscal consolidations remained progressive cumulatively. This was a result of the implementation of large up-front progressive cuts in wages (and in the case of Portugal, also in pensions); strengthened means testing; maintenance of tax deductions for the lowest personal income tax brackets while abolishing them for upper brackets; and in Portugal, the introduction of "social tariffs" to compensate for the increase in transport and energy costs.

The experience in both countries confirms that strong institutions are a key requirement for the success of large fiscal consolidation plans. Ireland had a well-established institutional framework in place when the crisis hit, strengthening the country's capacity to deliver on its targets and providing a firm control over local government spending. The timely publication (in mid-2009) of the Commission on Taxation report and the McCarthy review of spending provided a menu of high-quality measures which have been implemented progressively in the last three budgets. Moreover, public finance management, revenue administration, and the debt management agency have been proactive, anticipating problems and implementation challenges, and recalibrating policies accordingly. In contrast, Portugal started the fiscal consolidation process with a larger institutional gap. The prospective public wage cuts and promotion freezes further magnified the challenges associated with implementation of a far-reaching reform program. Nonetheless, quite substantial and quick progress was made on the institutional front. For example, a new revenue administration agency was created

**Ireland Fiscal Consolidation Plans[1]**
*(Percent of GDP)*

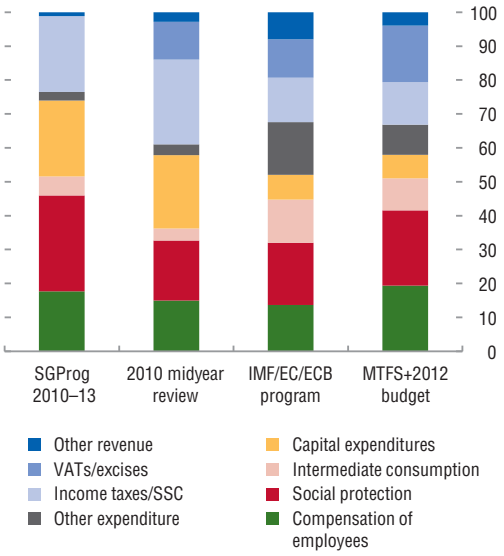



Sources: National sources; and IMF staff calculations.
[1] 2008:H2 combines measures taken in July and October 2008 (Budget 2009). Spring 2009 combines measures taken in February 2009 and the Supplementary Budget of April 2009. *t* or *t* + 1 indicates the year impacted by the measures. The bars report full-year yields (in percent of impact year GDP). The targeted primary deficit-to-GDP ratios are as announced, and the actual primary deficit-to-GDP ratios are as per latest (March 2012) IMF Staff Report.

**Box A2.1 *(concluded)***

**Portugal: Composition of Fiscal Adjustment Plans**

*(Percent of total adjustment)*




Sources: National sources; and IMF staff calculations.

Note: Blue shading refers to revenue (income taxes/social security contribution (SSC), value-added taxes (VATs)/excises, and other revenue) and the rest to expenditure (compensation of employees, social protection, intermediate consumption, capital expenditures, and other expenditure). EC: European Commission; ECB: European Central Bank; MTFS: medium-term financial strategy; SGProg: Stability and Growth Program.

through the successful merger of the tax, customs, and information technology agencies; a tight law on commitment control was introduced and is already being applied; and a significant streamlining of the public administration (with a reduction in the number of administrative units and in management positions of 40 and 27 percent, respectively) and public enterprises (including a well-defined privatization plan) is well on course.

Ireland, Portugal, and Romania) have envisaged substantial across-the-board reductions in public administration personnel, though in Ireland, personnel reduction did not include mandatory layoffs. At the same time, those countries are undertaking substantial fiscal reform agendas. In that context, losses of trained personnel could jeopardize institutional capacity and the incentives to design and execute those reforms properly. One particular area worth mentioning is revenue administration: the success of fiscal adjustments depends critically on continued (or improved, as in the case of Greece) capacity to collect tax revenues, particularly as economic crises usually translate into lower tax compliance. Downsizing revenue administration should therefore be approached with care.

A second source of tensions is between the need to deliver quickly and the time it takes to build consensus to pass a reform. In Iceland, the patient process of consensus building has given way to shorter parliamentary deadlines for proposed reforms, partly as a result of flaws in the budget preparation process. In Spain, the pension reform was passed by decree law after more than a year of negotiations among social partners (labor, business, and the government) stalled. Some governments are using legal and institutional commitment devices to gain credibility and time. These can range from relatively softer commitments (for example, drafting an initial law and allowing legislation to fill in the gaps later, introducing a medium-term budget framework) to more formal and binding (fiscal councils, constitutional fiscal and debt rules, binding expenditure ceilings).

# Appendix 3. The Impact of the Global Financial Crisis on Subnational Government Finances

The global financial crisis had a negative impact on subnational government finances, as the decline in local revenues was amplified by cuts in tax revenues shared with the center, while demand for social and welfare programs increased markedly. Although national stimulus packages helped avoid a massive reduction in subnational government expenditures in the first phase of the crisis, empirical analysis suggests that transfers from central governments did not fully offset the procyclicality of subnational government fiscal positions. This raises the question of whether subnational governments should have greater flexibility to manage "rainy-day" contingency funds and the desirability of strengthening coordination between central and subnational authorities in the face of the anticipated withdrawal of stimulus packages in the second phase.

## Background

The structure and institutional framework of subnational and central government finances differ markedly. First, as expenditures are more decentralized than revenues in many countries, most subnational governments rely on intergovernmental transfers or revenue sharing as an important part of their revenue (Eyraud and Lusinyan, 2011). Second, unlike central governments, many subnational governments operate under balanced budget rules and can borrow only for investment purposes (the so-called golden rule). The existence of balanced budget rules complicated the design of an independent countercyclical response by subnational governments during the crisis. Indeed, if the rules were strictly applied, fiscal policy in subnational governments would be procyclical in the absence of increased transfer payments from the central government or of rainy-day funds, with spending cuts during downturns due to falling revenues.

Subnational governments have assumed a significant role in public policymaking, driven by decentralization efforts over the last several decades.[27] However, evidence on the impact of the crisis on subnational governments is limited. The existing literature is largely focused on aggregate consolidated fiscal indicators for subnational governments (Blöchliger and others, 2010; Dexia, 2011; Escolano and others, 2012; OECD, 2010, 2011; Ter-Minassian and Fedelino, 2010), which do not allow a distinction between common shocks and region-specific shocks.

## How did subnational government finances perform during the recent crisis?

The global crisis severely affected subnational government finances, reducing revenues and increasing cyclically related expenditures. In all countries, the impact of the crisis was uneven across regions. Even at the height of the crisis, some regions in Australia, Canada, and the United States experienced positive growth rates, whereas some regions in China suffered declines in 2010 despite the positive growth recorded nationally. In general, subnational governments in emerging economies were less affected than those in advanced economies (Figure A3.1). However, regional differences within emerging economies are larger than those in advanced economies, in part reflecting less-developed transfer mechanisms in emerging economies.

In general, the deterioration in subnational government overall balances was relatively small, constrained as they were by the balanced budget rule requirements. Revenues fell sharply, but the shortfall was partially compensated for by transfers from central governments. Although definitions of the overall balance vary across subnational governments and countries, preliminary calculations suggest that the median subnational government balance-to-GDP ratio was close to zero in both pre- and postcrisis periods (Figure A3.2). In Australia, Canada, and Spain, most subnational governments registered persistent deficits, likely reflecting a different degree of flexibility in their institutional arrangements.

[27] For example, in OECD countries, subnational governments currently account for 30 percent of general government expenditures (equivalent to 15 percent of GDP) and 64 percent of total public investment (OECD, 2011).

## Figure A3.1. Growth Rates of Subnational Government Real Per Capita GDP, Own Revenues, Total Expenditures, and Central Government Transfers

*(Percent)*

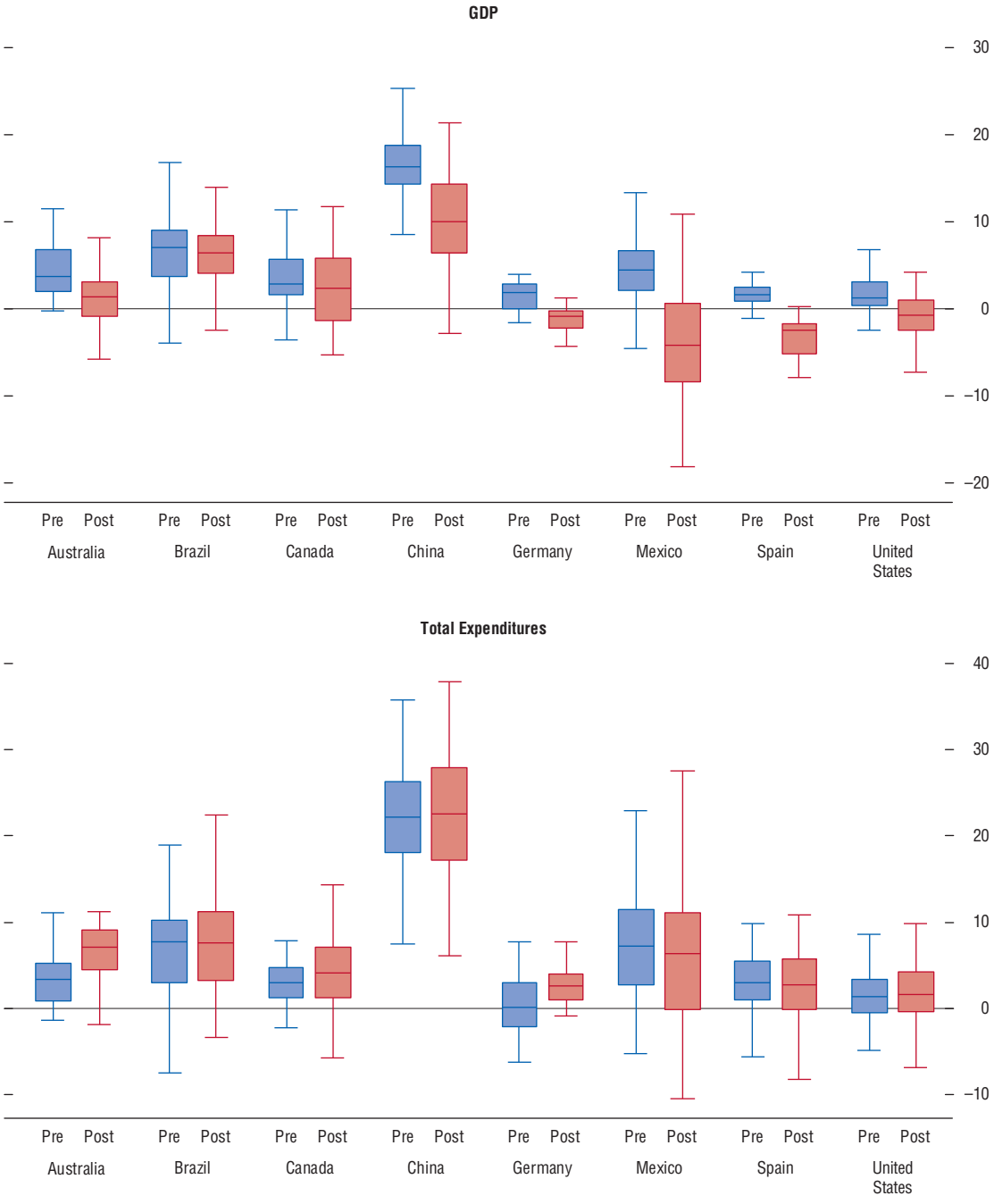
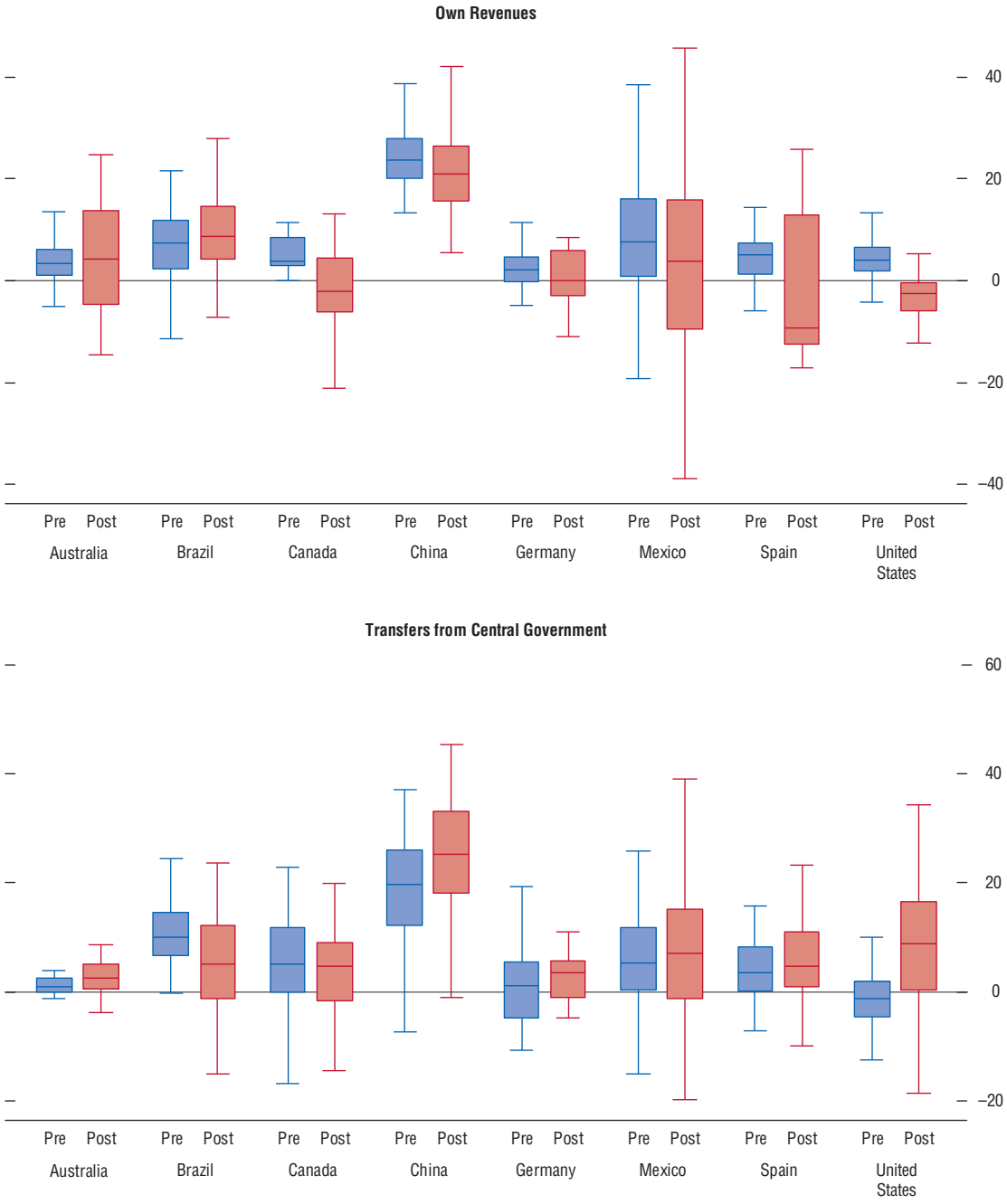


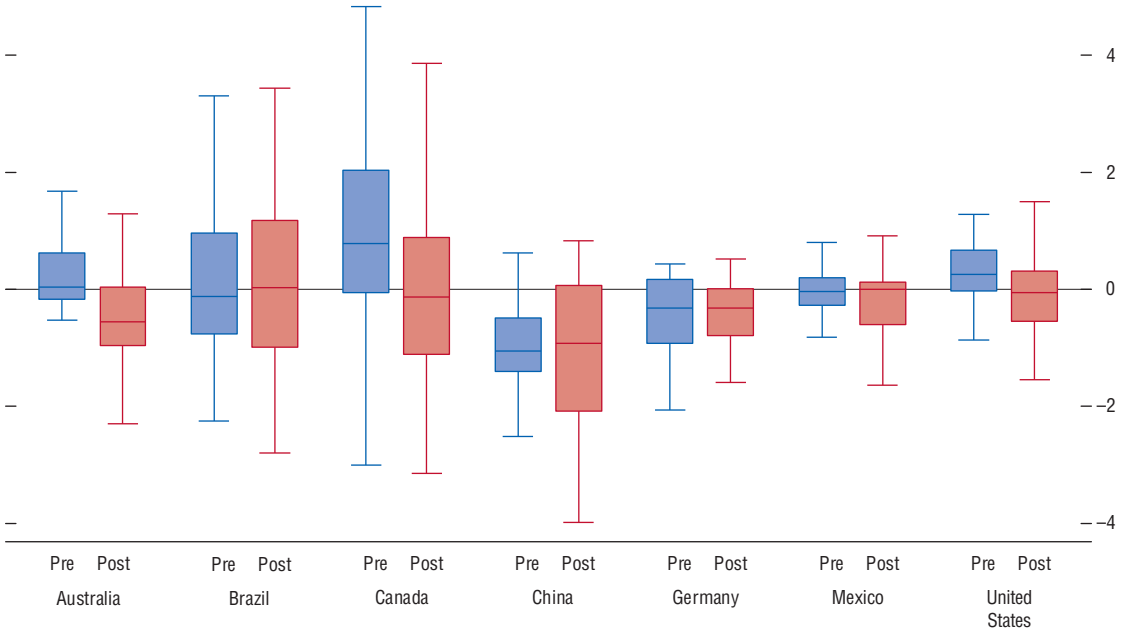
**Figure A3.1** *(concluded)*




Sources: National statistical agencies; and IMF staff calculations.

Note: Reported are the annual growth rates: "Pre" refers to the precrisis period (2005–07), and "Post" refers to the crisis period (2008–10). The whiskers of the plot denote the minimum and maximum values of variables for each state within a country. The edges of the box denote the 25th and 75th percentiles of the distribution. The line splitting the box denotes the median.

**Figure A3.2. Overall Balance as a Percentage of GDP**
*(Percent)*




Sources: National statistical agencies; and IMF staff calculations.
Note: Reported are the annual ratios: "Pre" refers to the precrisis period (2005–07), and "Post" refers to the crisis period (2008–10). Data are not sufficient to calculate the overall balance ratio for Spain. The whiskers of the plot denote the minimum and maximum values of variables for each state within a country. The edges of the box denote the 25th and 75th percentiles of the distribution. The line splitting the box denotes the median.

Most subnational governments saw a decline in their own revenues, but the size varied markedly across and within countries in the sample. In Australia and Brazil, GDP and subnational government revenues recovered quickly, so the crisis impact was comparatively small. Even in countries strongly affected by the crisis, such as Spain, the decrease in revenue varied from zero to around 1 percentage point of regional GDP in 2008, with half the regions showing moderate increases in this ratio in 2009. In the United States, the fall in subnational government revenue was steep but still less pronounced than the fall in central government tax revenue, reflecting the higher share of less cyclically sensitive property taxes and discretionary revenue-raising policies by some subnational governments. Some U.S. states mitigated revenue shortfalls by drawing on the reserves accumulated in rainy-day funds (with a precrisis stock equal on average to over 10 percent of subnational government expenditures).

Higher intergovernmental transfers helped offset in part the decline in subnational governments' own revenues. With the exception of those in Germany, the share of transfers in total revenues increased, particularly in Brazil, China, and the United States. The central government stimulus programs, which were implemented in the initial phase of the crisis, were crucial in preventing excessive expenditure cuts in those subnational governments most affected by a fall in own revenues. In the United States, for example, a large part of the federal stimulus package was administered by the states (Box A3.1). The size of transfers varied across regions, but allocation of the transfers was based more on the capacity of regions to absorb the funding than on regional cycles. On the other hand, other federal programs such as Medicaid and emergency unemployment benefits provided support to underperforming regions. The withdrawal of the support, already observed in some countries in 2010, as stimulus packages are unwound may raise challenges for some subnational governments and will

### Box A3.1. Subnational Government Response to the Financial Crisis in the United States and Canada

*United States.* Both state and local governments in the United States were hit hard by the global financial crisis: tax revenues recorded the deepest decline since the 1960s amid growing demand for social and welfare benefits (IMF, 2011a). State budget gaps widened from 2 to 18 percent of state tax receipts between 2008 and 2009. Balanced budget rules restricted financing options for U.S. states, which had to tap rainy-day funds, use federal assistance, or otherwise consolidate spending and/or raise additional revenues.

In response to the crisis, states cut a broad range of spending items, and as a result, total nominal spending fell by almost 4 percent in fiscal year (FY) 2009 and over 6 percent in FY2010—a decline unprecedented in U.S. history and the first nominal decrease since 1983. Revenue measures were relatively limited in the early years, but picked up in FY2010, when taxes were increased by $24 billion (almost 3 percent of 2010 state tax revenues). An additional increase of $20 billion is projected for fiscal years 2011 and 2012. These procyclical policies dampened markedly the countercyclical response of the federal government (Aizenman and Pasricha, 2011). Given the slow economic recovery and weak job market, as well as the phasing out of federal assistance, pressures on states to consolidate their budgets are likely to continue for some time.

*Canada.* The 2009 recession was short-lived in Canada, as activity bounced back after three quarters, supported by higher commodity prices and the federal stimulus package. In most provinces, tax revenues dropped by more than 2 percent in both 2008–09 and 2009–10. With the recovery, provincial revenues are rising again, by an estimated 5.2 percent in 2010–11 and by a projected 4.2 percent in 2011–12.

In contrast with the United States, subnational government spending did not decline in Canada, but rose by an average annual rate of 5.5 percent over 2009–11, more than double the rate of revenue decline over the same period and faster than federal expenditures. The policy response to the crisis was expansionary at both the federal and subnational levels. The Economic Action Plan (EAP) envisaged a stimulus package of Can$60.2 billion for the period 2009–12 (3.9 percent of 2009 GDP), set to be largely channeled through provinces.

require closer coordination at different government levels (OECD, 2011).

## Assessing the cyclicality of subnational government fiscal policies

The procyclicality of subnational government policies is analyzed here by distinguishing between policy responses to nationwide and asymmetric shocks. Disaggregated data are used to look at the evolution of subnational government finances over two decades in a diversified sample of eight advanced economies and emerging markets, with different exposures to the crisis and different institutional setups (Box A3.2).[28]

There is evidence of procyclicality of subnational government expenditures and revenues in relation to nationwide shocks. In most countries, expenditures respond positively to an upward deviation of output from trend in either national or region-specific asymmetric shocks. This is consistent with the institutional setup that limits the ability of subnational governments to borrow. A notable exception is Germany, where expenditures are countercyclical in terms of both nationwide and asymmetric shocks. In the Canada and the United States, subnational government total expenditures respond procyclically to total (regional and common) shocks, but not to region-specific shocks. This could be due to synchronization of regional

[28] The database covers subnational governments at the state level (municipal data are not included). The data set comprises own revenues, total expenditures, overall balances, and transfers from the central government, as well as macro indicators (GDP, the consumer price index, and population) at the state government level for Australia, Brazil, Canada, China, Germany, Mexico, Spain, and the United States. The data are annual, starting in the 1990s (the initial year varies from country to country depending on data availability) and ending in 2010, and primarily from official government sources. To the extent possible, adjustments have been made to differentiate financing items from revenue and spending variables and to homogenize the series across countries.

## Box A3.2. Assessing the Cyclicality of Subnational Government Policies

The IMF staff analysis looks at the cyclicality of subnational government policies by distinguishing between policy responses to nationwide and asymmetric shocks. Unlike previous studies (for example, Sorensen and Yosha, 2001; Sorensen, Wu, and Yosha, 2001; Rodden and Wibbels, 2010), detrended variables are used in the regressions to filter out the impact of automatic stabilizers.[1] The empirical specification takes the following form:

$$\Delta caf_{it} = \beta_1 \times y\_gap_{it} + \alpha_i + \gamma_t + \varepsilon_{it} \qquad (1)$$

where $i$ and $t$ indices denote individual regions and time, respectively, $\Delta caf$ is the change in cyclically adjusted subnational government fiscal variables (own revenues, total expenditures, and central government transfers), $y\_gap$ denotes regional output gaps, $\alpha$ are regional fixed effects, $\gamma$ are time fixed effects, and $\varepsilon$ is the independent and identically distributed (i.i.d.) error. The slope coefficient $\beta_1$ is the parameter of interest. It reflects the cyclicality of regional fiscal policy, with a positive (negative) slope coefficient indicating procyclical movement of expenditure (revenue) variables.

Two sets of regressions are used to distinguish cyclicality with respect to nationwide shocks from cyclicality with respect to asymmetric regional shocks. In the first set of regressions, time fixed effects ($\gamma$) are excluded. Regional fixed effects ($\alpha$) are retained to control for unobserved characteristics of individual regions and focus exclusively on the variation within regions. These regressions capture the response of fiscal indicators to both regional and national shocks. In the second set of regressions, time fixed effects ($\gamma$) are added to control for national (or symmetric) shocks hitting all regions simultaneously. Examples of such shocks could be a symmetric downturn in the national economy resulting from global financial crisis or changes in the central government fiscal policy that have a symmetric effect on all states (see, for example, Rodden and Wibbels, 2010). These regressions capture the response of fiscal variables to regional (or asymmetric) shocks only. The comparison of slope coefficients in these two sets of regressions allows the sensitivity of fiscal variables to regional-specific shocks to be identified.

[1] All variables are expressed in real per capita terms. Subnational government fiscal variables are cyclically adjusted using the regression-based methodology outlined in Chapter 5 of IMF (2008). Regional outputs are cyclically adjusted by regressing the logarithm of output on a linear and quadratic trend. The latter cyclical measure is comparable to that obtained using the Hodrick-Prescott filter with a smoothing parameter of 100.

and national business cycles in these countries. In Canada, subnational governments' own revenues exhibit countercyclical responses to both nationwide and asymmetric shocks. In other countries, revenues are largely procyclical, either in response to nationwide or asymmetric shocks.

There is little evidence that intergovernmental transfers responded to the crisis countercyclically to smooth the impact of regional shocks on subnational government finances. In all advanced economies, the cyclicality coefficients are insignificant for cases involving both nationwide and region-specific shocks. The acyclical nature of transfers may be due to the fact that the allocation formulas utilized by central governments are largely based on revenue equalization principles and project implementation capacity assessments, rather than a measure of regional cycles. The positive and significant elasticity to region-specific shocks found for some emerging economies suggests that in those cases, intergovernmental transfers amplify the volatility of subnational government revenues, instead of dampening it. These findings are at odds with the theoretical prediction that central governments should pool risks across regions and alleviate the impact of regional shocks (von Hagen, 1992).

### Policy implications

The current institutional framework of subnational government finances hinges on the traditional view that subnational governments should have a limited role in economic stabilization. This view, originally developed by Musgrave (1959) and Oates (1972), suggests that the comparative advantage of subnational governments is in resource allocation,

while economic stabilization is best carried out by national administrations. A range of reasons have been advanced to justify this division of responsibilities. First, fiscal stabilization has to be coordinated with monetary and exchange rate policies, which are conducted at the central level. Second, the "common pool" problem creates a moral hazard, as subnational governments that have engaged in unsustainable policies might rely on an eventual bailout by central governments. Third, the countercyclical response by subnational governments runs the risk of being ineffective as the high mobility of goods and factors of production might "leak" to other regions (Allers and Elhorst, 2011). Similarly, unilateral actions of individual subnational governments might have adverse spillovers affecting other subnational governments. Typically central governments have better access to financing and at better terms than subnational governments, which places them in a better relative position to implement a countercyclical response. On the other hand, subnational governments are in a better position to identify local communities' preferences in regard to public services.

The global financial crisis showed that rapid central government support helped partially absorb the revenue shortfall in subnational governments constrained by balanced budget rules. However, higher transfers did not wholly offset the procyclicality of subnational government fiscal positions and placed the burden of stabilization on central governments. This opens the question of whether the discretionary component of transfers was sufficient or whether subnational governments should have a greater role in macrofiscal stabilization, in particular by allowing greater flexibility to manage rainy-day contingency funds.

Most importantly, as countries move from stimulus to consolidation, there will be a need to strengthen intragovernmental fiscal coordination to better involve subnational governments in fiscal adjustment. This may potentially require effective controls on subnational governments, whose policies may be inconsistent with national consolidation plans. An uncoordinated top-down approach focused on across-the-board transfer reductions may not adequately reflect regional income disparities and could therefore increase inequality. Central governments will also need to ensure that reductions in transfers occur gradually and allow sufficient time for local governments to incorporate them into their medium-term budgetary frameworks, minimizing service disruptions and providing the opportunity to allocate lower transfer flows efficiently.

**Table A3.1. Estimation Results: Measuring Procyclicality of Subnational Government Fiscal Policies**

| | Country type | Own revenues | | Total expenditures | | Central government transfers | |
|---|---|---|---|---|---|---|---|
| | | Nationwide | Asymmetric | Nationwide | Asymmetric | Nationwide | Asymmetric |
| Australia | AE | | (–) | | | | |
| Canada | AE | (+) | (+) | (+) | | | |
| Germany | AE | (–) | | (–) | (–) | | |
| Spain | AE | (–) | | | | | |
| United States | AE | | | (+) | | | |
| China | EM | (–) | | (+) | | (+) | |
| Brazil | EM | (+) | | | (+) | | (+) |
| Mexico | EM | | | (+) | | (+) | |
| Country fixed effects | | Yes | Yes | Yes | Yes | Yes | Yes |
| Time fixed effects | | No | Yes | No | Yes | No | Yes |

Source: IMF staff calculations.

Note: The table reports signs of significant slope coefficients (beta 1) from the procyclicality specification. Empty cells indicate nonsignificant slope coefficients at 10 percent significance level. AE: advanced economy; EM: emerging economy.

# METHODOLOGICAL AND STATISTICAL APPENDIX

This appendix comprises four sections: fiscal policy assumptions, data and conventions, economy groupings, and statistical tables. The assumptions underlying the estimates and projections for 2012–17 are summarized in the first section. The second section provides a general description of the data and of the conventions used for calculating economy group composites. The classification of countries in the various groups presented in the *Fiscal Monitor* is summarized in the third section. The last section comprises the statistical tables on key fiscal variables. Data in these tables have been compiled on the basis of information available through April 2012.

## Fiscal Policy Assumptions

The historical data and projections of key fiscal aggregates are in line with those of the April 2012 *World Economic Outlook* (WEO), unless highlighted. For underlying assumptions, other than on fiscal policy, see the April 2012 WEO.

The short-term fiscal policy assumptions used in the WEO are based on officially announced budgets, adjusted for differences between the national authorities and the IMF staff regarding macroeconomic assumptions and projected fiscal outturns. The medium-term fiscal projections incorporate policy measures that are judged likely to be implemented. In cases in which the IMF staff has insufficient information to assess the authorities' budget intentions and prospects for policy implementation, an unchanged structural primary balance is assumed, unless indicated otherwise. The specific assumptions relating to selected economies follow.

*Argentina*. The 2012 forecasts are based on the 2011 outturn and IMF staff assumptions. For the outer years, the IMF staff assumes unchanged policies.

*Australia*. Fiscal projections are based on IMF staff projections and the 2011–12 budget, the 2011–12 midyear economic and fiscal outlook, and the Australian Bureau of Statistics.

*Austria.* Projections take into account the 2013–16 federal financial framework, as well as associated further implementation needs and risks.

*Belgium*. IMF staff projections for 2012 and beyond are based on unchanged policies.

*Brazil*. The 2012 forecast is based on the budget and subsequent updates announced by the authorities. In this and outer years, the IMF staff assumes adherence to the announced primary target and further increase in public investment in line with the authorities' intentions.

*Canada*. Projections use the baseline forecasts in the Economic Action Plan 2012: Jobs, Growth, and Long-Term Prosperity (March 29, 2012). The IMF staff makes some adjustments to this forecast for differences in macroeconomic projections. The IMF staff forecast also incorporates the most recent data releases from Finance Canada (January 2012 Fiscal Monitor, released on March 29, 2012) and Statistics Canada, including federal, provincial, and territorial budgetary outturns through the end of 2011:Q4.

*China*. For 2011, the government is assumed to continue and complete the stimulus program it announced in late 2008. The withdrawal of the stimulus is assumed to start in 2011, resulting in a negative fiscal impulse of about 1½ percent of GDP. For 2012, the government is assumed to slow the pace of fiscal consolidation; the fiscal impulse is assumed to be neutral.

*Denmark*. Estimates for 2012–13 are aligned with the latest official budget estimates, adjusted where appropriate for the IMF staff's macroeconomic assumptions. For 2014–17, the projections incorporate key features of the medium-term fiscal plan as embodied in the authorities' 2011 Convergence Program submitted to the European Union.

*France*. Estimates for 2011 are based on preliminary data on outturn for central government only. Projections for 2012 and beyond reflect the

authorities' 2011–14 multiyear budget, adjusted for two fiscal packages and differences in assumptions on macroeconomic and financial variables, and revenue projections.

*Germany*. Estimates for 2011 are preliminary estimates from the Federal Statistical Office of Germany. The IMF staff's projections for 2012 and beyond reflect the authorities' adopted core federal government budget plan adjusted for the differences in the IMF staff's macroeconomic framework and staff assumptions about fiscal developments in state and local governments, the social insurance system, and special funds. The projections also incorporate authorities' plans for tax reduction in 2013–14. The estimate of gross debt includes portfolios of impaired assets and noncore business transferred to institutions that are winding up, as well as other financial sector and EU support operations.

*Greece*. Macroeconomic, monetary, and fiscal projections for 2012 and the medium term are consistent with the policies agreed to between the IMF staff and the authorities in the context of the Extended Fund Facility. The data include fiscal data revisions for 2006–09. These revisions rectify a number of shortfalls with earlier statistics. First, government-controlled enterprises whose sales cover less than 50 percent of production costs have been reclassified into the general government sector, in line with Eurostat guidelines. A total of 17 such enterprises or entities have been identified and reclassified in this way, including a number of large loss-making entities. The reclassification implies that the debt of these entities (7¼ percent of GDP) is now included in headline general government debt data and that their annual losses increase the annual deficit (to the extent their called guarantees were not already reflected). Second, the revisions reflect better information on arrears (including tax refund arrears, arrears on lump sum payments to retiring civil servant pensioners, and arrears to health sector suppliers), as well as corrections of social security balances on account of corrected imputed interest payments, double-counting of revenues, and other inaccuracies. Finally, new information on swaps has also become available and further helps explain the upward revision in debt data.

*Hong Kong SAR*. Projections are based on the authorities' medium-term fiscal projections.

*Hungary*. Fiscal projections include IMF staff projections of the macroeconomic framework and of the impact of existing legislated measures, as well as fiscal policy plans announced at end-December 2011.

*India*. Historical data are based on budgetary execution data. Projections are based on available information on the authorities' fiscal plans, with adjustments for IMF staff assumptions. Subnational data are incorporated with a lag of up to two years; general government data are thus finalized well after central government data. IMF and Indian presentations differ, particularly regarding divestment and license auction proceeds, net versus gross recording of revenues in certain minor categories, and some public sector lending.

*Indonesia*. The 2011 central government deficit was lower than expected (1.1 percent of GDP), reflecting underspending, particularly on public investment. The 2012 central government deficit is estimated at 1.0 percent of GDP, lower than the revised budget estimate of 1.5 percent of GDP. This reflects current plans of raising domestic fuel prices by 33 percent. However, as the system of fuel subsidies remains unchanged, increasing oil prices will have a negative budgetary impact in the absence of a comprehensive fuel subsidy reform. The low projected budget deficit also reflects ongoing budget execution problems. Fiscal projections for 2013–17 are built around key policy reforms needed to support economic growth—namely, enhancing budget implementation to ensure fiscal policy effectiveness, reducing energy subsidies through gradual administrative price increases, and continuous revenue mobilization efforts to create room for infrastructure development.

*Ireland*. Fiscal projections are based on the 2012 budget and €12.4 billion in consolidation effort over 2012–15 committed to in the Medium-Term Fiscal Statement (published in November 2011). The fiscal projections are adjusted for differences between the macroeconomic projections of the IMF staff and those of the Irish authorities.

*Italy*. Fiscal projections incorporate the impact of the government's announced fiscal adjustment package (July 2010 measures covering 2011–13; July–August 2011 measures covering 2011–14; and December 2011 measures covering 2012–14).

Estimates for 2011 are preliminary. The IMF staff projections are based on the authorities' estimates of the policy scenario (as derived, in part, by the IMF staff), including the above-mentioned medium-term fiscal consolidation packages, and adjusted mainly for differences in macroeconomic assumptions and for less optimistic assumptions concerning the impact of revenue administration measures. After 2014, a constant cyclically adjusted primary balance net of one-time items is assumed.

*Japan.* Projections include fiscal measures already announced by the government (except for consumption tax increases) and gross earthquake reconstruction spending. The medium-term projections assume that expenditure and revenue of the general government are adjusted in line with current underlying demographic and economic trends (excluding fiscal stimulus and reconstruction spending).

*Korea, Republic of*. Fiscal projections assume that fiscal policies will be implemented in 2012 as announced by the government. Projections of expenditure for 2012 are in line with the budget. Revenue projections reflect the IMF staff's macroeconomic assumptions, adjusted for discretionary revenue-raising measures included in the 2009–11 tax revision plans. The medium-term projections assume that the government will continue with its fiscal consolidation plans and balance the budget (excluding social security funds) by 2013, consistent with the government's medium-term goal.

*Mexico*. Fiscal projections for 2012 are broadly in line with the approved budget, and projections for 2013 onward assume compliance with the balanced budget rule.

*Netherlands*. Fiscal projections for 2011–15 are based on the authorities' Bureau for Economic Policy Analysis budget projections, after adjusting for differences in macroeconomic assumptions. For 2016–17, projections assume that fiscal consolidation continues at the same pace as in 2015.

*New Zealand*. Fiscal projections are based on the authorities' 2011 budget and IMF staff estimates. The New Zealand fiscal accounts switched to New Zealand International Financial Reporting Standards in budget year 2007/08. Backdated data have been released back to 1997.

*Portugal*. Projections reflect, for 2012–13, the authorities' commitments under the EU/IMF-supported program, and afterward, the IMF staff's projections.

*Russian Federation*. Projections for 2012–14 are based on the non-oil deficit in percent of GDP implied by the 2012–14 medium-term budget, and on the IMF staff's revenue projections. The IMF staff assumes an unchanged non-oil federal government balance in percent of GDP during 2015–17.

*Saudi Arabia*. The authorities base their budget on a conservative assumption for oil prices with adjustments to expenditure allocations considered in the event that revenues exceed budgeted amounts. IMF staff projections of oil revenues are based on WEO baseline oil prices discounted by approximately 5 percent, reflecting the higher sulfur content in Saudi crude oil. On the expenditure side, wages are assumed to rise at a natural rate of increase in the medium term, with adjustments for recently announced changes in the wage structure. In 2013 and 2016, 13th-month pay is awarded based on the lunar calendar. Transfers increased in 2011, primarily due to a one-time transfer to specialized credit institutions. Interest payments are projected to decline in line with the authorities' policy of reducing the outstanding stock of public debt. Capital spending is in line with the priorities established in the authorities' Ninth Development Plan, and recently announced capital spending on housing is assumed to start in 2012 and continue over the medium term.

*Singapore.* For fiscal year 2012/13, projections are based on budget numbers. For the remainder of the projection period, the IMF staff assumes unchanged policies.

*South Africa*. Fiscal projections are based on the authorities' 2012 budget and policy intentions stated in the Budget Review, published February 22, 2012.

*Spain*. The 2011 numbers are the authorities' estimated outturns for the general government for the year. For 2012 and beyond, the projections are based on the measures implemented during the course of 2012 and the authorities' deficit target for 2012. The draft budget for 2012 was not available at the time of the IMF staff's forecast.

*Sweden*. Fiscal projections for 2012 are broadly in line with the authorities' projections. The impact

of cyclical developments on the fiscal accounts is calculated using the Organization for Economic Cooperation and Development's latest semielasticity.

*Switzerland*. Projections for 2010–17 are based on IMF staff calculations, which incorporate measures to restore balance in the federal accounts and strengthen social security finances.

*Turkey*. Fiscal projections assume that current expenditures will be in line with the authorities' 2012–14 Medium-Term Program (MTP), but that capital expenditures will exceed those specified in the MTP, given projects initiated in 2011.

*United Kingdom*. Fiscal projections are based on the authorities' 2012 budget announced in March 2012 and the Economic and Fiscal Outlook by the Office for Budget Responsibility published along with the budget. These projections incorporate the announced medium-term consolidation plans from 2012 onward. The projections are adjusted for differences in forecasts of macroeconomic and financial variables and exclude the temporary effects of financial sector interventions and the effect on public sector net investment in 2012–13 of transferring assets from the Royal Mail Pension Plan to the public sector.

*United States*. Fiscal projections are based on the January 2012 Congressional Budget Office baseline adjusted for the IMF staff's policy and macroeconomic assumptions. Key near-term policy assumptions include a continuation of the payroll tax cut during 2012, an extension of emergency unemployment benefits into 2013 (one year beyond the current law), and an automatic sequestration of spending from 2013 triggered by the failure of the Joint Select Committee on Deficit Reduction. In the medium term, the IMF staff assumes that Congress will continue to make regular adjustments to the alternative minimum tax parameters and Medicare payments (DocFix), will extend certain traditional programs (such as the research and development tax credit), and will exend the Bush tax cuts for the middle class permanently, but allow those for higher-income taxpayers to expire in 2014 (one year later than planned under the current law). Fiscal projections are adjusted to reflect the IMF staff's forecasts of key macroeconomic and financial variables and different accounting treatment of financial sector support and are converted to the general government basis.

## Data and Conventions

Country-specific data and projections for key fiscal variables are based on the April 2012 WEO, unless indicated otherwise. Where the *Fiscal Monitor* includes additional fiscal data and projections not covered by the WEO, data sources are listed in the respective tables and figures. All fiscal data refer to the general government where available and to calendar years, with the exception of those for Hong Kong SAR, Pakistan, Singapore, and Thailand, which refer to the fiscal year.

Composite data for country groups are weighted averages of individual-country data, unless otherwise specified. Data are weighted by GDP valued at purchasing power parity as a share of the group GDP. Annual weights are assumed for all years.

For most countries, fiscal data follow the IMF's *Government Finance Statistics Manual* (GFSM) 2001. The concept of overall fiscal balance refers to net lending (+)/borrowing (–) of the general government. In some cases, however, the overall balance refers to total revenue and grants minus total expenditure and net lending.

Data on financial sector support measures are based on the database on public interventions in the financial system compiled by the IMF's Fiscal Affairs and Monetary and Capital Markets Departments, revised following a survey of the G-20 economies. Survey questionnaires were sent to all G-20 members in early December 2009 so that IMF staff estimates of financial sector support could be reviewed and updated. This information was later completed using national sources and data provided by the authorities. For each type of support, data were compiled for the amounts actually utilized and recovered to date. The period covered is June 2007 to the latest available.

The following symbols have been used throughout this volume:

. . . to indicate that data are not available;

— to indicate that the figure is zero or less than half the final digit shown, or that the item does not exist;

– between years or months (for example, 2008–09 or January–June) to indicate the years or months covered, including the beginning and ending years or months;

/ between years (for example, 2008/09) to indicate a fiscal or financial year.

"Billion" means a thousand million; "trillion" means a thousand billion.

"Basis points" refer to hundredths of 1 percentage point (for example, 25 basis points are equivalent to 1/4 of 1 percentage point).

"n.a." means not applicable.

Minor discrepancies between constituent figures and totals are due to rounding.

As used in this volume the term "country" does not in all cases refer to a territorial entity that is a state as understood by international law and practice. As used here, the term also covers some territorial entities that are not states but for which statistical data are maintained on a separate and independent basis.

Additional country information follows, including for cases in which reported fiscal aggregates in the *Monitor* differ from those reported in the WEO:

*Argentina*. Total expenditures, total revenues, the primary balance, and the overall balance are consolidated at the general government level and thus aggregate both federal and provinces' fiscal outcomes. Total expenditure and the overall balance account for cash interest and the IMF staff's estimate of accrued interest payments. Accrued interest corresponds to adjustment on the stock of CPI-indexed debt using official inflation, interest capitalization, and interest arrears on defaulted-upon debt. The cyclically adjusted and structural balances are defined at the federal level. Calculations use Argentina's official GDP and consumer price index (the Consumer Price Index for Greater Buenos Aires, or CPI-GBA) data. The IMF has called on Argentina to adopt remedial measures to address the quality of the official GDP and CPI-GBA data. The IMF staff is also using alternative measures of GDP growth and inflation for macroeconomic surveillance, including data produced by private analysts, which have shown significantly lower real GDP growth than the official data since 2008, and data produced by provincial statistical offices and private analysts, which have shown considerably higher inflation figures than the official data since 2007.

*Australia.* Fiscal data are on a cash basis.

*Brazil*. Fiscal data are for the nonfinancial public sector.

*Chile*. Cyclically adjusted balances reflect additional adjustments for commodity price developments.

*China.* Fiscal data exclude allocation to the stabilization fund. Until 2009, debt data cover only the central government. From 2010, they cover the general government. Public debt projections assume that about 60 percent of the stock of local governments' debt will be amortized over 2011–13, 16 percent over 2014–15, and 24 percent beyond 2016, consistent with the authorities' plans.

*Colombia*. Nonfinancial public sector reported for revenue, expenditures, and balances (excluding statistical discrepancies); combined public sector including Ecopetrol and excluding Banco de la República's outstanding external debt reported for gross public debt.

*Hong Kong SAR.* Data are on a fiscal year rather than a calendar year basis. Cyclically adjusted balances reflect additional adjustments for land revenue and investment income.

*Hungary*. The cyclically adjusted balance and cyclically adjusted primary balance for 2011 exclude one-off revenues estimated at 10.8 percent of GDP (10.3 percent of potential GDP) as per asset transfer to the general government due to changes to the pension system.

*Ireland.* The general government balances for 2009 and 2010 reflect the impact of banking support measures. The fiscal balance estimates excluding these measures are –11.7 percent of GDP for 2009 and –11.5 percent of GDP for 2010.

*Korea, Republic of.* Fiscal data are for the central government, except debt data, which are for the general government.

*Latvia*. The fiscal deficit includes bank restructuring costs and thus is higher than the deficit recorded in official statistics.

*Mexico.* The general government data reported in the tables cover central government, social security, public enterprises, development banks, the national insurance corporation, and the National Infrastructure Fund but exclude subnational governments.

*Norway.* Cyclically adjusted balances correspond to the cyclically adjusted non-oil overall or primary balance. Ratios for these variables are in percent of non-oil potential GDP.

*Pakistan*. Data are on a fiscal year rather than a calendar year basis.

*Peru.* Cyclically adjusted balances reflect additional adjustments for commodity price developments.

*Philippines*. Fiscal data are for the central government.

*Singapore*. Data are on a fiscal year rather than a calendar year basis.

*Sweden*. Cyclically adjusted balances take into account the output and employment gaps.

*Switzerland*. Data submissions at the cantonal and commune level are received with a long and variable lag and are subject to sizable revisions. Cyclically adjusted balances reflect additional adjustments for extraordinary operations related to the banking sector.

*Thailand.* Data are on a fiscal year rather than a calendar year basis.

*Turkey*. Information on general government balance, primary balance, and cyclically adjusted primary balance differ from those published in the authorities' official statistics or country reports, which still include net lending. An additional difference from the authorities' official statistics is the exclusion of privatization receipts in staff projections.

## Economy Groupings

The following groupings of economies are used in the *Fiscal Monitor*.

| Advanced economies | Emerging economies | G-7 | G-20[1] | Advanced G-20[1] | Emerging G-20[1] | Euro area |
|---|---|---|---|---|---|---|
| Australia | Argentina | Canada | Argentina | Australia | Argentina | Austria |
| Austria | Brazil | France | Australia | Canada | Brazil | Belgium |
| Belgium | Bulgaria | Germany | Brazil | France | China | Cyprus |
| Canada | Chile | Italy | Canada | Germany | India | Estonia |
| Czech Republic | China | Japan | China | Italy | Indonesia | Finland |
| Denmark | Colombia | United Kingdom | France | Japan | Mexico | France |
| Estonia | Hungary | United States | Germany | Korea, Rep. of | Russian Federation | Germany |
| Finland | India | | India | United Kingdom | Saudi Arabia | Greece |
| France | Indonesia | | Indonesia | United States | South Africa | Ireland |
| Germany | Jordan | | Italy | | Turkey | Italy |
| Greece | Kazakhstan | | Japan | | | Luxembourg |
| Hong Kong SAR | Kenya | | Korea, Rep. of | | | Malta |
| Iceland | Latvia | | Mexico | | | Netherlands |
| Ireland | Lithuania | | Russian Federation | | | Portugal |
| Israel | Malaysia | | Saudi Arabia | | | Slovak Republic |
| Italy | Mexico | | South Africa | | | Slovenia |
| Japan | Morocco | | Turkey | | | Spain |
| Korea, Rep. of | Nigeria | | United Kingdom | | | |
| Netherlands | Pakistan | | United States | | | |
| New Zealand | Peru | | | | | |
| Norway | Philippines | | | | | |
| Portugal | Poland | | | | | |
| Singapore | Romania | | | | | |
| Slovak Republic | Russian Federation | | | | | |
| Slovenia | Saudi Arabia | | | | | |
| Spain | South Africa | | | | | |
| Sweden | Thailand | | | | | |
| Switzerland | Turkey | | | | | |
| United Kingdom | Ukraine | | | | | |
| United States | | | | | | |

[1]The G-20 includes 19 member countries plus the European Union.

## Economy Groupings *(continued)*

| Emerging Asia | Emerging Europe | Emerging Latin America | Emerging Middle East and North Africa | Low-income countries | | Oil producers |
|---|---|---|---|---|---|---|
| China | Bulgaria | Argentina | Jordan | Afghanistan, Rep. of | Mali | Algeria |
| India | Hungary | Brazil | Morocco | Armenia | Mauritania | Angola |
| Indonesia | Latvia | Chile | Tunisia | Bangladesh | Moldova | Azerbaijan |
| Malaysia | Lithuania | Colombia | | Benin | Mongolia | Bahrain |
| Pakistan | Poland | Mexico | | Bolivia | Mozambique | Brunei Darussalam |
| Philippines | Romania | Peru | | Burkina Faso | Myanmar | Cameroon |
| Thailand | Russian Federation | | | Burundi | Nepal | Chad |
| | Turkey | | | Cambodia | Nicaragua | Congo, Rep. of |
| | Ukraine | | | Cameroon | Niger | Ecuador |
| | | | | Cape Verde | Papua New Guinea | Equatorial Guinea |
| | | | | Central African Republic | Rwanda | Gabon |
| | | | | Chad | São Tomé and Príncipe | Indonesia |
| | | | | Comoros | Senegal | Iran, I.R. of |
| | | | | Congo, Dem. Rep. of | Sierra Leone | Kazakhstan |
| | | | | Congo, Rep. of | St. Lucia | Kuwait |
| | | | | Côte d'Ivoire | St. Vincent and the Grenadines | Libya |
| | | | | Djibouti | Sudan | Mexico |
| | | | | Dominica | Tajikistan | Nigeria |
| | | | | Eritrea | Tanzania | Norway |
| | | | | Ethiopia | Togo | Oman |
| | | | | Gambia, The | Uganda | Qatar |
| | | | | Georgia | Uzbekistan | Saudi Arabia |
| | | | | Ghana | Vanuatu | Sudan |
| | | | | Grenada | Vietnam | Syrian Arab Republic |
| | | | | Guinea | Yemen | Timor-Leste |
| | | | | Guinea-Bissau | Zambia | Trinidad and Tobago |
| | | | | Guyana | | United Arab Emirates |
| | | | | Haiti | | Venezuela |
| | | | | Honduras | | Vietnam |
| | | | | Kyrgyz Republic | | Yemen |
| | | | | Lao P.D.R. | | |
| | | | | Lesotho | | |
| | | | | Liberia | | |
| | | | | Madagascar | | |
| | | | | Malawi | | |
| | | | | Maldives | | |

## Statistical Table 1. General Government Balance

*(Percent of GDP)*

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Advanced Economies** | | | | | | | | | | | | |
| Australia | 1.8 | 1.3 | –0.8 | –4.1 | –4.8 | –4.3 | –2.5 | –0.6 | –0.3 | 0.2 | 0.6 | 0.9 |
| Austria | –1.7 | –1.0 | –1.0 | –4.1 | –4.5 | –2.6 | –3.1 | –2.4 | –2.0 | –1.5 | –1.2 | –1.1 |
| Belgium | 0.1 | –0.3 | –1.3 | –5.9 | –4.2 | –4.2 | –2.9 | –2.2 | –1.3 | –0.5 | –0.3 | –0.1 |
| Canada | 1.6 | 1.6 | 0.1 | –4.9 | –5.6 | –4.5 | –3.7 | –2.9 | –2.1 | –1.5 | –0.8 | –0.5 |
| Czech Republic | –2.4 | –0.7 | –2.2 | –5.8 | –4.8 | –3.8 | –3.5 | –3.4 | –3.2 | –2.9 | –2.8 | –2.8 |
| Denmark | 5.4 | 4.8 | 3.4 | –2.8 | –2.7 | –3.9 | –5.9 | –2.5 | –1.2 | –0.8 | –0.1 | 0.7 |
| Estonia | 3.2 | 2.8 | –2.3 | –2.1 | 0.4 | 1.0 | –2.1 | –0.5 | –0.1 | 0.6 | 1.1 | 1.2 |
| Finland | 4.0 | 5.3 | 4.2 | –2.7 | –2.8 | –0.8 | –1.4 | –0.8 | –0.3 | –0.2 | 0.1 | 0.3 |
| France | –2.4 | –2.7 | –3.3 | –7.6 | –7.1 | –5.3 | –4.6 | –3.9 | –3.1 | –2.2 | –1.3 | –0.5 |
| Germany | –1.6 | 0.2 | –0.1 | –3.2 | –4.3 | –1.0 | –0.8 | –0.6 | –0.3 | –0.2 | –0.2 | –0.2 |
| Greece | –6.0 | –6.7 | –9.7 | –15.6 | –10.6 | –9.2 | –7.2 | –4.6 | –2.1 | –1.6 | –1.6 | –1.6 |
| Hong Kong SAR | 4.3 | 8.2 | 0.1 | 1.6 | 4.5 | 3.7 | 0.5 | 2.0 | 2.9 | 1.5 | 4.5 | 4.8 |
| Iceland | 6.3 | 5.4 | –0.5 | –8.6 | –6.4 | –4.6 | –2.8 | –1.8 | –0.6 | 0.5 | 0.9 | 1.1 |
| Ireland | 2.9 | 0.1 | –7.3 | –14.2 | –31.3 | –9.9 | –8.5 | –7.4 | –4.9 | –2.9 | –2.4 | –1.9 |
| Israel | –2.4 | –1.3 | –3.4 | –6.0 | –4.6 | –4.0 | –3.7 | –2.7 | –2.3 | –2.1 | –1.9 | –1.8 |
| Italy | –3.3 | –1.5 | –2.7 | –5.4 | –4.5 | –3.9 | –2.4 | –1.5 | –1.6 | –1.5 | –1.3 | –1.1 |
| Japan | –3.7 | –2.1 | –4.1 | –10.4 | –9.4 | –10.1 | –10.0 | –8.7 | –7.9 | –7.6 | –7.5 | –7.5 |
| Korea, Republic of | 1.1 | 2.3 | 1.6 | 0.0 | 1.7 | 2.3 | 2.4 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| Netherlands | 0.5 | 0.2 | 0.4 | –5.6 | –5.1 | –5.0 | –4.5 | –4.9 | –4.7 | –4.0 | –3.2 | –2.4 |
| New Zealand | 3.2 | 2.5 | 0.1 | –3.3 | –5.4 | –6.5 | –4.4 | –1.7 | –0.7 | 0.0 | 0.5 | 0.6 |
| Norway | 18.2 | 17.2 | 18.8 | 10.6 | 10.5 | 13.1 | 14.2 | 12.9 | 11.3 | 10.0 | 8.9 | 8.1 |
| Portugal | –4.1 | –3.2 | –3.7 | –10.2 | –9.8 | –4.0 | –4.5 | –3.0 | –2.3 | –1.9 | –1.8 | –1.8 |
| Singapore | 6.7 | 11.7 | 5.6 | –0.5 | 5.1 | 7.3 | 5.5 | 5.4 | 5.1 | 4.8 | 4.5 | 4.4 |
| Slovak Republic | –3.2 | –1.8 | –2.1 | –8.0 | –7.9 | –5.5 | –4.2 | –3.7 | –3.8 | –3.9 | –3.9 | –3.9 |
| Slovenia | –0.8 | 0.3 | –0.3 | –5.6 | –5.4 | –5.7 | –4.6 | –4.2 | –3.9 | –3.7 | –3.6 | –3.4 |
| Spain | 2.0 | 1.9 | –4.2 | –11.2 | –9.3 | –8.5 | –6.0 | –5.7 | –5.2 | –4.8 | –4.4 | –4.1 |
| Sweden | 2.2 | 3.6 | 2.2 | –0.9 | –0.2 | 0.1 | –0.1 | 0.5 | 1.3 | 1.6 | 2.2 | 2.7 |
| Switzerland | 1.0 | 1.4 | 1.9 | 0.5 | 0.2 | 0.4 | 0.2 | 0.2 | 0.5 | 0.6 | 0.6 | 0.6 |
| United Kingdom | –2.6 | –2.7 | –4.9 | –10.4 | –9.9 | –8.7 | –8.0 | –6.6 | –5.0 | –3.6 | –2.1 | –1.0 |
| United States | –2.0 | –2.7 | –6.7 | –13.0 | –10.5 | –9.6 | –8.1 | –6.3 | –4.9 | –4.4 | –4.5 | –4.4 |
| **Emerging Economies** | | | | | | | | | | | | |
| Argentina | –0.9 | –2.1 | –0.8 | –3.6 | –1.6 | –3.3 | –3.1 | –2.2 | –2.5 | –0.8 | –0.8 | –0.6 |
| Brazil | –3.5 | –2.7 | –1.4 | –3.1 | –2.8 | –2.6 | –2.3 | –2.4 | –2.3 | –2.3 | –2.2 | –2.3 |
| Bulgaria | 3.3 | 3.3 | 2.9 | –0.9 | –3.9 | –2.1 | –1.9 | –1.6 | –0.8 | 0.1 | 1.3 | 2.2 |
| Chile | 7.5 | 7.9 | 4.1 | –4.1 | –0.3 | 1.2 | –0.3 | –0.2 | 0.4 | 0.3 | 0.3 | 0.2 |
| China | –0.7 | 0.9 | –0.4 | –3.1 | –2.3 | –1.2 | –1.3 | –1.0 | –0.6 | –0.1 | 0.3 | 0.7 |
| Colombia | –0.8 | –1.0 | 0.0 | –2.5 | –3.1 | –2.1 | –1.4 | –1.4 | –1.5 | –1.5 | –1.6 | –1.4 |
| Hungary | –9.4 | –5.1 | –3.7 | –4.5 | –4.3 | 4.0 | –3.0 | –3.4 | –3.2 | –2.8 | –2.5 | –2.4 |
| India | –5.5 | –4.2 | –7.2 | –9.8 | –9.2 | –8.7 | –8.3 | –8.2 | –8.1 | –7.9 | –7.8 | –7.7 |
| Indonesia | 0.2 | –1.0 | 0.0 | –1.8 | –1.2 | –1.6 | –1.0 | –1.0 | –1.0 | –1.0 | –1.0 | –1.1 |
| Jordan | –4.0 | –4.7 | –4.3 | –8.5 | –5.6 | –6.2 | –5.2 | –4.9 | –4.6 | –4.3 | –3.9 | –3.5 |
| Kazakhstan | 7.7 | 5.2 | 1.2 | –1.3 | 1.5 | 5.8 | 4.4 | 4.4 | 3.5 | 3.3 | 3.0 | 3.1 |
| Kenya | –2.5 | –3.1 | –4.2 | –5.2 | –5.1 | –4.1 | –4.0 | –3.7 | –3.3 | –3.1 | –3.7 | –3.8 |
| Latvia | –0.5 | 0.6 | –7.5 | –7.8 | –7.2 | –3.4 | –1.2 | –0.5 | –0.3 | –0.4 | 0.0 | 0.4 |
| Lithuania | –0.4 | –1.0 | –3.3 | –9.2 | –7.1 | –5.2 | –2.9 | –2.6 | –2.2 | –1.7 | –1.5 | –1.5 |
| Malaysia | –2.1 | –2.6 | –3.2 | –5.3 | –3.7 | –5.1 | –4.3 | –4.8 | –4.9 | –4.9 | –5.0 | –5.0 |
| Mexico | –1.0 | –1.2 | –1.1 | –4.7 | –4.3 | –3.4 | –2.4 | –2.2 | –2.1 | –2.1 | –2.1 | –2.1 |
| Morocco | –2.0 | –0.1 | 0.7 | –1.8 | –4.4 | –6.9 | –5.4 | –5.0 | –4.5 | –3.7 | –2.9 | –2.4 |
| Nigeria | 8.9 | 1.6 | 6.3 | –9.4 | –7.7 | 1.1 | 2.9 | 3.9 | 2.2 | 0.5 | 0.6 | 0.2 |
| Pakistan | –3.7 | –5.5 | –7.3 | –5.2 | –5.9 | –6.4 | –6.7 | –6.0 | –5.9 | –5.8 | –5.7 | –5.7 |
| Peru | 1.9 | 3.2 | 2.2 | –2.1 | –0.3 | 1.9 | 1.1 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Philippines | 0.0 | –0.3 | 0.0 | –2.7 | –2.2 | –0.8 | –1.9 | –1.3 | –1.1 | –1.2 | –1.2 | –1.2 |
| Poland | –3.6 | –1.9 | –3.7 | –7.3 | –7.8 | –5.2 | –3.2 | –2.8 | –2.5 | –2.0 | –1.8 | –1.6 |
| Romania | –1.4 | –3.1 | –4.8 | –7.3 | –6.4 | –4.1 | –1.9 | –1.0 | –1.0 | –0.9 | –0.9 | –0.9 |
| Russia | 8.3 | 6.8 | 4.9 | –6.3 | –3.5 | 1.6 | 0.6 | –0.3 | –0.5 | –1.6 | –2.5 | –3.2 |
| Saudi Arabia | 24.6 | 15.8 | 34.4 | –4.6 | 6.6 | 15.2 | 16.6 | 10.1 | 6.6 | 3.2 | –0.7 | –1.2 |
| South Africa | 0.8 | 1.5 | –0.5 | –5.3 | –4.8 | –4.6 | –4.3 | –3.7 | –3.1 | –2.4 | –1.6 | –0.9 |
| Thailand | 2.2 | 0.2 | 0.1 | –3.2 | –0.8 | –1.9 | –3.1 | –3.7 | –4.0 | –2.4 | –2.1 | –1.7 |
| Turkey | 0.0 | –1.7 | –2.4 | –5.6 | –2.7 | –0.3 | –1.7 | –2.0 | –1.8 | –1.6 | –1.6 | –1.4 |
| Ukraine | –1.4 | –2.0 | –3.2 | –6.3 | –5.7 | –2.7 | –2.8 | –2.0 | –2.0 | –2.0 | –2.0 | –2.0 |
| Average | –0.8 | –0.6 | –2.4 | –7.2 | –5.9 | –4.6 | –4.1 | –3.4 | –2.9 | –2.5 | –2.4 | –2.2 |
| Advanced | –1.4 | –1.2 | –3.7 | –8.9 | –7.7 | –6.6 | –5.7 | –4.5 | –3.6 | –3.1 | –2.9 | –2.7 |
| Emerging | 0.1 | 0.2 | –0.4 | –4.8 | –3.6 | –2.2 | –2.1 | –2.1 | –2.1 | –1.9 | –1.8 | –1.7 |
| Euro area | –1.3 | –0.7 | –2.1 | –6.4 | –6.2 | –4.1 | –3.2 | –2.7 | –2.2 | –1.8 | –1.5 | –1.1 |
| G-7 | –2.2 | –2.1 | –4.7 | –10.2 | –8.8 | –7.8 | –6.8 | –5.5 | –4.5 | –4.0 | –3.7 | –3.6 |
| G-20 | –1.2 | –1.0 | –2.7 | –7.6 | –6.2 | –5.0 | –4.4 | –3.7 | –3.1 | –2.8 | –2.6 | –2.4 |
| Advanced | –2.0 | –1.8 | –4.3 | –9.6 | –8.2 | –7.2 | –6.3 | –5.0 | –4.0 | –3.5 | –3.3 | –3.1 |
| Emerging | 0.1 | 0.4 | –0.2 | –4.8 | –3.5 | –2.2 | –2.1 | –2.2 | –2.1 | –2.0 | –1.9 | –1.7 |

Source: IMF staff estimates and projections. Projections are based on staff assessment of current policies (see "Fiscal Policy Assumptions" in text).
Note: For country-specific details, see "Data and Conventions" in text.

## Statistical Table 2. General Government Primary Balance

*(Percent of GDP)*

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Advanced Economies** | | | | | | | | | | | | |
| Australia | 1.5 | 0.9 | –1.1 | –4.2 | –4.5 | –3.8 | –2.0 | –0.2 | 0.2 | 0.5 | 0.8 | 1.1 |
| Austria | 0.5 | 1.0 | 1.1 | –1.9 | –2.4 | –0.5 | –0.9 | –0.1 | 0.4 | 0.9 | 1.4 | 1.7 |
| Belgium | 3.9 | 3.3 | 2.2 | –2.4 | –0.9 | –1.0 | 0.5 | 1.2 | 1.7 | 2.1 | 2.0 | 1.9 |
| Canada | 2.2 | 2.2 | 0.2 | –4.0 | –4.9 | –4.1 | –3.1 | –2.5 | –1.8 | –1.1 | –0.5 | –0.2 |
| Czech Republic | –1.7 | 0.0 | –1.5 | –4.8 | –3.6 | –2.6 | –2.2 | –2.0 | –1.8 | –1.5 | –1.3 | –1.3 |
| Denmark | 6.0 | 5.2 | 3.6 | –2.2 | –2.3 | –3.4 | –5.5 | –1.9 | –0.6 | –0.2 | 0.5 | 1.4 |
| Estonia | 3.3 | 2.9 | –2.4 | –2.2 | 0.3 | 0.9 | –2.1 | –0.5 | –0.1 | 0.5 | 1.0 | 1.0 |
| Finland | 3.7 | 4.7 | 3.3 | –3.3 | –3.0 | –1.0 | –2.0 | –1.5 | –1.0 | –0.8 | –0.4 | –0.2 |
| France | 0.0 | –0.3 | –0.6 | –5.3 | –4.9 | –2.9 | –2.2 | –1.5 | –0.6 | 0.3 | 1.2 | 2.1 |
| Germany | 0.8 | 2.7 | 2.3 | –0.9 | –2.1 | 0.7 | 1.0 | 1.3 | 1.4 | 1.4 | 1.3 | 1.3 |
| Greece | –1.3 | –2.0 | –4.7 | –10.5 | –4.9 | –2.3 | –1.0 | 1.8 | 4.4 | 4.4 | 4.4 | 4.4 |
| Hong Kong SAR | 4.0 | 7.9 | –0.3 | 1.4 | 4.3 | 3.5 | 0.3 | 1.8 | 2.7 | 1.4 | 4.4 | 4.6 |
| Iceland | 6.7 | 5.7 | –0.5 | –6.5 | –2.7 | –1.1 | 1.3 | 2.3 | 3.5 | 4.4 | 4.6 | 4.6 |
| Ireland | 3.9 | 1.0 | –6.2 | –12.3 | –28.2 | –6.7 | –4.4 | –1.8 | 0.9 | 2.8 | 3.2 | 3.5 |
| Israel | 3.0 | 3.7 | 1.1 | –1.8 | –0.4 | 0.1 | –0.1 | 0.9 | 1.2 | 1.4 | 1.4 | 1.4 |
| Italy | 1.1 | 3.2 | 2.2 | –1.0 | –0.3 | 0.8 | 3.0 | 4.0 | 4.1 | 4.4 | 4.8 | 5.1 |
| Japan | –3.8 | –2.2 | –3.9 | –10.0 | –8.8 | –9.1 | –8.9 | –7.5 | –6.4 | –5.8 | –5.5 | –5.2 |
| Korea, Republic of | 2.5 | 1.5 | 1.2 | –0.7 | 0.9 | 1.7 | 1.7 | 2.1 | 2.0 | 1.9 | 1.8 | 1.9 |
| Netherlands | 2.1 | 1.8 | 1.9 | –4.0 | –3.7 | –3.5 | –3.2 | –3.5 | –3.2 | –2.2 | –0.9 | –0.1 |
| New Zealand | 4.7 | 3.9 | 1.4 | –2.0 | –5.0 | –5.9 | –3.8 | –1.1 | –0.2 | 0.4 | 0.9 | 1.0 |
| Norway | 16.1 | 14.3 | 15.7 | 8.2 | 8.4 | 10.9 | 11.9 | 10.6 | 9.0 | 7.6 | 6.4 | 5.6 |
| Portugal | –1.6 | –0.6 | –1.0 | –7.5 | –7.0 | –0.2 | 0.1 | 1.5 | 2.4 | 2.7 | 3.0 | 3.0 |
| Singapore | 6.0 | 11.0 | 4.9 | –1.2 | 4.4 | 6.6 | 4.8 | 4.7 | 4.4 | 4.1 | 3.8 | 3.7 |
| Slovak Republic | –1.9 | –0.8 | –1.1 | –6.7 | –6.4 | –4.0 | –2.7 | –2.0 | –1.8 | –1.6 | –1.6 | –1.5 |
| Slovenia | 0.3 | 1.2 | 0.5 | –4.7 | –4.1 | –4.3 | –3.0 | –2.3 | –2.0 | –1.7 | –1.5 | –1.3 |
| Spain | 3.3 | 3.0 | –3.1 | –9.9 | –7.9 | –6.6 | –3.6 | –3.0 | –2.2 | –1.4 | –0.8 | –0.2 |
| Sweden | 1.9 | 3.0 | 1.4 | –1.8 | –1.0 | –0.7 | –1.1 | –0.4 | 0.3 | 0.6 | 1.1 | 1.5 |
| Switzerland | 1.9 | 2.1 | 2.5 | 1.2 | 0.8 | 0.9 | 0.6 | 0.6 | 1.0 | 1.0 | 1.1 | 1.2 |
| United Kingdom | –1.1 | –1.1 | –3.3 | –8.6 | –7.4 | –5.8 | –5.3 | –4.0 | –2.3 | –0.8 | 0.7 | 1.8 |
| United States | –0.1 | –0.7 | –4.7 | –11.2 | –8.5 | –7.3 | –6.1 | –4.4 | –2.8 | –2.2 | –2.0 | –1.6 |
| **Emerging Economies** | | | | | | | | | | | | |
| Argentina | 4.2 | 2.5 | 2.8 | 0.2 | 1.7 | –0.4 | –0.2 | 0.3 | 0.5 | 0.5 | 0.6 | 0.7 |
| Brazil | 3.2 | 3.4 | 4.0 | 2.1 | 2.4 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 | 3.1 |
| Bulgaria | 4.3 | 3.9 | 2.8 | –0.6 | –3.7 | –1.7 | –1.3 | –0.8 | –0.1 | 0.8 | 1.9 | 2.6 |
| Chile | 7.6 | 7.8 | 3.8 | –4.3 | –0.3 | 1.3 | –0.2 | –0.1 | 0.5 | 0.3 | 0.2 | 0.2 |
| China | –0.2 | 1.3 | 0.0 | –2.7 | –1.8 | –0.7 | –0.6 | –0.4 | –0.1 | 0.3 | 0.7 | 1.1 |
| Colombia | 1.7 | 1.7 | 2.2 | –0.5 | –1.5 | –0.6 | 0.2 | 0.1 | –0.1 | –0.1 | –0.4 | –0.2 |
| Hungary | –5.7 | –1.2 | 0.0 | –0.2 | –0.5 | 7.5 | 1.2 | 0.9 | 1.1 | 1.5 | 1.8 | 1.8 |
| India | –0.6 | 0.7 | –2.5 | –5.1 | –4.8 | –4.4 | –3.9 | –3.6 | –3.6 | –3.5 | –3.5 | –3.5 |
| Indonesia | 2.6 | 1.0 | 1.8 | –0.1 | 0.2 | –0.3 | 0.3 | 0.1 | 0.1 | 0.1 | 0.0 | –0.4 |
| Jordan | –1.2 | –1.8 | –2.0 | –6.3 | –3.5 | –4.2 | –2.8 | –2.4 | –2.0 | –1.5 | –1.0 | –0.5 |
| Kazakhstan | 7.2 | 4.3 | 1.5 | –1.4 | 1.8 | 5.9 | 4.4 | 4.4 | 3.4 | 3.0 | 2.6 | 2.5 |
| Kenya | –0.2 | –0.9 | –2.1 | –3.1 | –2.7 | –1.9 | –1.8 | –1.4 | –1.1 | –1.0 | –1.6 | –1.7 |
| Latvia | 0.0 | 0.9 | –7.4 | –7.2 | –6.4 | –2.4 | 0.2 | 0.9 | 1.2 | 1.0 | 1.4 | 1.6 |
| Lithuania | 0.1 | –0.5 | –2.8 | –8.1 | –5.4 | –3.3 | –1.0 | –0.6 | –0.4 | –0.1 | 0.0 | –0.1 |
| Malaysia | –1.1 | –1.8 | –1.8 | –4.3 | –2.3 | –3.8 | –2.8 | –3.0 | –2.9 | –2.6 | –2.5 | –2.8 |
| Mexico | 1.8 | 1.5 | 1.4 | –1.9 | –1.7 | –1.0 | 0.2 | 0.5 | 0.6 | 0.7 | 0.8 | 0.8 |
| Morocco | 1.2 | 3.0 | 3.3 | 0.6 | –2.1 | –4.7 | –3.0 | –2.6 | –2.0 | –1.2 | –0.4 | 0.1 |
| Nigeria | 10.0 | 2.6 | 7.3 | –8.2 | –6.5 | 2.5 | 4.4 | 5.4 | 3.7 | 2.0 | 2.0 | 1.7 |
| Pakistan | –0.6 | –1.2 | –2.6 | –0.2 | –1.6 | –2.5 | –2.9 | –1.7 | –1.4 | –1.1 | –1.1 | –1.3 |
| Peru | 3.7 | 4.9 | 3.7 | –0.9 | 0.8 | 3.0 | 2.2 | 2.0 | 2.0 | 1.9 | 1.9 | 1.9 |
| Philippines | 4.8 | 3.4 | 3.4 | 0.6 | 0.8 | 1.8 | 1.0 | 1.6 | 1.6 | 1.4 | 1.3 | 1.2 |
| Poland | –1.0 | 0.4 | –1.5 | –4.7 | –5.2 | –2.5 | –0.4 | 0.1 | 0.3 | 0.9 | 0.9 | 1.1 |
| Romania | –0.7 | –2.6 | –4.2 | –6.2 | –5.2 | –2.7 | –0.3 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| Russia | 8.9 | 6.8 | 5.1 | –6.0 | –3.2 | 1.9 | 1.1 | 0.3 | 0.1 | –0.9 | –1.8 | –2.5 |
| Saudi Arabia | 25.6 | 15.5 | 33.8 | –4.5 | 7.0 | 15.4 | 16.7 | 10.1 | 6.6 | 3.1 | –0.8 | –1.4 |
| South Africa | 3.7 | 4.3 | 2.1 | –2.7 | –2.4 | –2.1 | –1.6 | –1.0 | –0.4 | 0.3 | 0.9 | 1.5 |
| Thailand | 3.5 | 1.2 | 1.0 | –2.4 | 0.1 | –1.0 | –2.6 | –3.2 | –3.4 | –1.7 | –1.3 | –0.8 |
| Turkey | 5.1 | 3.2 | 2.0 | –1.1 | 0.9 | 2.3 | 1.3 | 0.8 | 0.7 | 0.9 | 0.9 | 1.0 |
| Ukraine | –0.7 | –1.5 | –2.6 | –5.1 | –4.1 | –0.8 | –0.7 | 0.1 | 0.4 | 0.3 | 0.3 | 0.2 |
| Average | 1.1 | 1.2 | –0.6 | –5.4 | –4.1 | –2.7 | –2.1 | –1.5 | –0.9 | –0.6 | –0.4 | –0.1 |
| Advanced | 0.3 | 0.5 | –2.1 | –7.3 | –6.0 | –4.7 | –3.8 | –2.6 | –1.6 | –1.1 | –0.7 | –0.3 |
| Emerging | 2.5 | 2.3 | 1.6 | –2.7 | –1.7 | –0.3 | –0.1 | –0.2 | –0.1 | –0.1 | 0.0 | 0.0 |
| Euro area | 1.2 | 1.9 | 0.5 | –3.9 | –3.8 | –1.6 | –0.5 | 0.1 | 0.7 | 1.1 | 1.6 | 1.9 |
| G-7 | –0.4 | –0.2 | –2.8 | –8.4 | –6.9 | –5.7 | –4.8 | –3.5 | –2.3 | –1.7 | –1.3 | –0.9 |
| G-20 | 0.8 | 0.9 | –0.8 | –5.7 | –4.3 | –3.1 | –2.4 | –1.7 | –1.1 | –0.8 | –0.6 | –0.3 |
| Advanced | –0.3 | –0.1 | –2.6 | –7.9 | –6.4 | –5.3 | –4.4 | –3.1 | –2.0 | –1.4 | –1.1 | –0.7 |
| Emerging | 2.6 | 2.6 | 1.9 | –2.7 | –1.6 | –0.2 | –0.1 | –0.2 | –0.2 | –0.1 | –0.1 | 0.0 |

Source: IMF staff estimates and projections. Projections are based on staff assessment of current policies (see "Fiscal Policy Assumptions" in text).
Note: Primary balance is defined as the overall balance excluding net interest payments. For country-specific details, see "Data and Conventions" in text.

## Statistical Table 3. General Government Cyclically Adjusted Overall Balance

*(Percent of potential GDP)*

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Advanced Economies** | | | | | | | | | | | | |
| Australia | 1.8 | 1.0 | –1.0 | –4.1 | –4.6 | –4.1 | –2.5 | –0.7 | –0.3 | 0.2 | 0.6 | 0.9 |
| Austria | –2.6 | –2.8 | –2.6 | –2.9 | –3.6 | –2.4 | –2.5 | –1.9 | –1.7 | –1.3 | –1.2 | –1.1 |
| Belgium | –0.4 | –1.3 | –1.9 | –4.4 | –3.4 | –3.9 | –2.2 | –1.3 | –0.6 | 0.0 | 0.0 | 0.0 |
| Canada | 0.8 | 0.5 | –0.6 | –2.5 | –4.1 | –3.6 | –2.8 | –2.2 | –1.6 | –1.2 | –0.7 | –0.6 |
| Czech Republic | –2.9 | –1.8 | –3.2 | –4.5 | –3.9 | –3.1 | –2.3 | –2.2 | –2.4 | –2.5 | –2.6 | –2.7 |
| Denmark | 3.2 | 2.3 | 1.8 | –0.7 | –0.9 | –2.4 | –4.2 | –1.1 | –0.2 | –0.3 | 0.1 | 0.5 |
| Estonia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Finland | 3.3 | 3.2 | 3.1 | 1.4 | –0.1 | 0.5 | 0.7 | 0.8 | 0.7 | 0.5 | 0.4 | 0.3 |
| France | –2.4 | –3.1 | –3.0 | –5.3 | –5.2 | –4.0 | –3.3 | –2.7 | –2.3 | –1.8 | –1.2 | –0.5 |
| Germany | –2.2 | –1.2 | –1.3 | –1.3 | –3.4 | –1.2 | –0.6 | –0.5 | –0.2 | –0.2 | –0.2 | –0.1 |
| Greece | –9.2 | –10.0 | –12.3 | –17.3 | –10.1 | –6.8 | –4.6 | –2.8 | –1.2 | –1.3 | –1.2 | –1.0 |
| Hong Kong SAR | 0.5 | 1.8 | 0.2 | –2.2 | –1.5 | –2.3 | –2.7 | –2.0 | –1.7 | –3.5 | –0.6 | –0.3 |
| Iceland | 4.9 | 3.2 | –17.8 | –9.8 | –7.5 | –4.1 | –4.5 | –1.9 | –0.7 | 0.5 | 0.8 | 1.1 |
| Ireland[1] | –4.5 | –8.0 | –11.9 | –10.8 | –9.9 | –8.0 | –6.2 | –5.4 | –3.7 | –2.5 | –2.4 | –2.3 |
| Israel | –1.4 | –2.0 | –4.0 | –5.3 | –4.3 | –4.2 | –3.5 | –2.6 | –2.3 | –2.1 | –2.0 | –1.8 |
| Italy | –4.4 | –3.0 | –3.3 | –3.0 | –3.1 | –2.7 | –0.3 | 0.6 | 0.3 | 0.1 | –0.3 | –0.4 |
| Japan | –3.5 | –2.2 | –3.6 | –7.4 | –7.9 | –8.1 | –8.7 | –7.9 | –7.5 | –7.4 | –7.5 | –7.5 |
| Korea, Republic of | 1.1 | 2.3 | 1.8 | 0.7 | 1.7 | 2.4 | 2.4 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| Netherlands | 0.1 | –1.2 | –1.1 | –4.6 | –4.3 | –4.6 | –3.1 | –3.3 | –3.3 | –3.0 | –2.7 | –2.4 |
| New Zealand | 3.0 | 2.0 | 2.0 | –1.4 | –2.7 | –5.3 | –5.4 | –2.0 | –1.0 | –0.5 | 0.4 | 0.6 |
| Norway | –3.5 | –3.3 | –3.7 | –5.8 | –5.8 | –5.6 | –5.9 | –5.9 | –5.9 | –5.9 | –5.9 | –5.9 |
| Portugal | –4.0 | –3.7 | –3.8 | –8.8 | –9.0 | –2.7 | –2.0 | –0.9 | –1.1 | –1.3 | –1.8 | –2.0 |
| Singapore | 6.4 | 11.0 | 5.4 | 0.0 | 4.5 | 7.1 | 5.4 | 5.4 | 5.1 | 4.8 | 4.5 | 4.4 |
| Slovak Republic | –3.1 | –3.3 | –3.2 | –6.6 | –7.5 | –5.3 | –3.7 | –3.2 | –3.5 | –3.8 | –3.9 | –3.9 |
| Slovenia | –2.0 | –2.8 | –4.2 | –5.0 | –4.9 | –3.4 | –2.9 | –2.6 | –2.7 | –2.9 | –3.2 | –3.4 |
| Spain | 0.8 | 0.2 | –5.3 | –9.7 | –7.6 | –6.9 | –3.9 | –3.6 | –3.5 | –3.5 | –3.5 | –3.6 |
| Sweden | 2.5 | 2.5 | 1.1 | –1.2 | 1.1 | 0.2 | –0.2 | 0.5 | 1.3 | 1.6 | 2.2 | 2.7 |
| Switzerland | 0.7 | 0.6 | 1.2 | 0.7 | 0.1 | 0.2 | 0.2 | 0.3 | 0.6 | 0.6 | 0.6 | 0.6 |
| United Kingdom | –3.5 | –4.0 | –6.5 | –9.0 | –7.8 | –6.3 | –5.1 | –3.8 | –2.7 | –1.9 | –1.1 | –0.7 |
| United States[1] | –2.4 | –2.8 | –5.0 | –7.5 | –7.8 | –7.2 | –5.9 | –4.4 | –3.4 | –3.4 | –4.0 | –4.3 |
| **Emerging Economies** | | | | | | | | | | | | |
| Argentina | –1.8 | –2.9 | –1.0 | –2.1 | –1.2 | –3.2 | –2.7 | –1.7 | –2.0 | –0.3 | –0.3 | –0.2 |
| Brazil | –3.3 | –3.1 | –2.2 | –2.2 | –3.3 | –2.7 | –2.1 | –2.3 | –2.2 | –2.3 | –2.2 | –2.3 |
| Bulgaria | 1.8 | 0.4 | –0.2 | –0.4 | –1.4 | 0.5 | 0.7 | 1.1 | 1.7 | 2.1 | 2.4 | 2.4 |
| Chile | 0.7 | –0.1 | –1.1 | –4.1 | –2.0 | –1.2 | –1.6 | –1.3 | –1.0 | –0.8 | –0.8 | –0.7 |
| China | 0.1 | 1.1 | 0.0 | –2.4 | –1.5 | 0.0 | 0.0 | 0.2 | 0.3 | 0.5 | 0.7 | 0.7 |
| Colombia | –1.0 | –1.9 | –1.2 | –1.2 | –2.5 | –2.1 | –1.5 | –1.5 | –1.5 | –1.5 | –1.6 | –1.4 |
| Hungary | –11.6 | –6.7 | –5.5 | –2.7 | –3.2 | –6.5 | –2.1 | –2.8 | –2.8 | –2.6 | –2.5 | –2.4 |
| India | –5.3 | –5.6 | –9.3 | –10.8 | –9.7 | –9.1 | –8.8 | –8.7 | –8.6 | –8.4 | –8.3 | –7.9 |
| Indonesia | 0.2 | –1.2 | –0.2 | –1.7 | –1.2 | –1.6 | –0.9 | –1.0 | –1.0 | –1.0 | –1.0 | 0.0 |
| Jordan | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Kazakhstan | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Kenya | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Latvia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Lithuania | –2.6 | –4.5 | –6.5 | –5.9 | –4.8 | –4.4 | –2.1 | –1.9 | –2.0 | –1.6 | –1.4 | –1.5 |
| Malaysia | –3.7 | –3.9 | –5.3 | –6.2 | –5.6 | –5.3 | –4.8 | –4.5 | –4.7 | –5.0 | –5.1 | –4.7 |
| Mexico | –1.4 | –1.5 | –1.3 | –3.8 | –3.8 | –3.2 | –2.3 | –2.1 | –2.1 | –2.1 | –2.1 | –2.1 |
| Morocco | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Nigeria | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Pakistan | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Peru | 0.2 | 1.5 | 0.8 | –0.9 | –1.1 | 0.9 | 0.6 | 0.6 | 0.8 | 1.0 | 1.0 | 1.0 |
| Philippines | –1.4 | –2.1 | –1.7 | –3.5 | –3.5 | –2.1 | –2.6 | –2.0 | –2.0 | –2.0 | –2.0 | –2.0 |
| Poland | –4.1 | –2.8 | –4.7 | –6.9 | –7.8 | –5.4 | –3.2 | –2.6 | –2.4 | –1.9 | –1.8 | –1.6 |
| Romania | –3.4 | –5.8 | –8.5 | –7.2 | –5.1 | –2.8 | –0.2 | 0.5 | 0.3 | 0.2 | 0.1 | 0.0 |
| Russia | 8.2 | 6.1 | 3.9 | –3.4 | –2.2 | 1.6 | 0.2 | –0.8 | –0.7 | –1.6 | –2.5 | –3.2 |
| Saudi Arabia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| South Africa | –0.1 | –0.2 | –2.3 | –5.1 | –4.5 | –4.2 | –3.7 | –3.2 | –2.9 | –2.4 | –1.8 | –1.2 |
| Thailand | 1.9 | –0.1 | –0.8 | –2.2 | –0.5 | –1.8 | –2.8 | –3.7 | –4.0 | –2.4 | –2.1 | –1.7 |
| Turkey | –1.7 | –3.1 | –3.2 | –4.7 | –3.4 | –1.8 | –2.8 | –2.8 | –2.6 | –2.5 | –2.6 | –2.7 |
| Ukraine | –2.6 | –4.1 | –3.8 | –2.8 | –3.1 | –1.5 | –1.8 | –2.0 | –2.0 | –2.0 | –2.0 | –2.0 |
| Average | –1.6 | –1.5 | –2.9 | –5.2 | –4.9 | –4.0 | –3.3 | –2.8 | –2.4 | –2.2 | –2.3 | –2.2 |
| Advanced | –2.0 | –2.0 | –3.6 | –5.9 | –5.9 | –5.2 | –4.3 | –3.3 | –2.7 | –2.6 | –2.7 | –2.7 |
| Emerging | –0.7 | –0.8 | –1.9 | –4.1 | –3.5 | –2.3 | –2.2 | –2.1 | –2.0 | –1.9 | –1.8 | –1.7 |
| Euro area | –2.2 | –2.1 | –3.0 | –4.5 | –4.6 | –3.4 | –2.0 | –1.5 | –1.3 | –1.2 | –1.1 | –1.0 |
| G-7 | –2.6 | –2.5 | –4.1 | –6.3 | –6.7 | –6.0 | –5.0 | –4.0 | –3.3 | –3.1 | –3.3 | –3.4 |
| G-20 | –1.7 | –1.6 | –2.9 | –5.2 | –5.1 | –4.1 | –3.5 | –2.9 | –2.5 | –2.3 | –2.4 | –2.4 |
| Advanced | –2.4 | –2.2 | –3.7 | –5.9 | –6.2 | –5.5 | –4.6 | –3.5 | –2.9 | –2.7 | –2.9 | –3.0 |
| Emerging | –0.5 | –0.5 | –1.7 | –4.2 | –3.4 | –2.2 | –2.1 | –2.1 | –2.0 | –1.9 | –1.9 | –1.7 |

Source: IMF staff estimates and projections. Projections are based on staff assessment of current policies (see "Fiscal Policy Assumptions" in text).

Note: For country-specific details, see "Data and Conventions" in text.

[1]Cyclically adjusted overall balance excluding financial sector support.

## Statistical Table 4. General Government Cyclically Adjusted Primary Balance

*(Percent of potential GDP)*

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Advanced Economies** | | | | | | | | | | | | |
| Australia | 1.5 | 0.6 | –1.3 | –4.1 | –4.4 | –3.7 | –2.0 | –0.3 | 0.1 | 0.5 | 0.8 | 1.1 |
| Austria | –0.4 | –0.7 | –0.5 | –0.8 | –1.5 | –0.4 | –0.4 | 0.4 | 0.7 | 1.1 | 1.4 | 1.7 |
| Belgium | 3.4 | 2.5 | 1.7 | –1.1 | –0.2 | –0.7 | 1.2 | 2.0 | 2.3 | 2.6 | 2.2 | 2.0 |
| Canada | 1.5 | 1.1 | –0.5 | –1.7 | –3.4 | –3.1 | –2.2 | –1.8 | –1.3 | –0.8 | –0.4 | –0.3 |
| Czech Republic | –2.2 | –1.1 | –2.4 | –3.5 | –2.8 | –1.9 | –1.0 | –0.9 | –1.0 | –1.1 | –1.1 | –1.2 |
| Denmark | 3.8 | 2.7 | 2.0 | –0.1 | –0.5 | –1.9 | –3.8 | –0.5 | 0.3 | 0.3 | 0.7 | 1.2 |
| Estonia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Finland | 2.9 | 2.6 | 2.1 | 0.8 | –0.3 | 0.4 | 0.2 | 0.1 | 0.0 | –0.1 | –0.1 | –0.1 |
| France | 0.0 | –0.6 | –0.3 | –3.2 | –3.0 | –1.6 | –0.9 | –0.4 | 0.1 | 0.7 | 1.4 | 2.1 |
| Germany | 0.3 | 1.3 | 1.1 | 0.9 | –1.3 | 0.6 | 1.2 | 1.3 | 1.5 | 1.4 | 1.4 | 1.4 |
| Greece | –4.3 | –4.9 | –6.9 | –12.0 | –4.2 | –0.1 | 1.2 | 3.1 | 5.1 | 4.6 | 4.8 | 5.1 |
| Hong Kong SAR | 0.1 | 1.5 | –0.2 | –2.3 | –1.6 | –2.5 | –2.9 | –2.2 | –1.8 | –3.6 | –0.7 | –0.5 |
| Iceland | 5.3 | 3.6 | –17.8 | –7.8 | –4.0 | –0.6 | –0.4 | 2.2 | 3.4 | 4.4 | 4.6 | 4.6 |
| Ireland[1] | –3.5 | –7.0 | –10.6 | –9.0 | –7.0 | –4.9 | –2.2 | 0.1 | 2.0 | 3.3 | 3.2 | 3.2 |
| Israel | 4.0 | 3.1 | 0.5 | –1.2 | –0.2 | –0.1 | 0.1 | 1.0 | 1.2 | 1.3 | 1.4 | 1.4 |
| Italy | 0.1 | 1.8 | 1.7 | 1.2 | 1.1 | 1.9 | 4.8 | 5.9 | 5.9 | 5.8 | 5.8 | 5.8 |
| Japan | –3.7 | –2.3 | –3.4 | –7.0 | –7.3 | –7.2 | –7.6 | –6.8 | –6.1 | –5.7 | –5.5 | –5.2 |
| Korea, Republic of | 2.5 | 1.5 | 1.4 | 0.0 | 1.0 | 1.8 | 1.7 | 2.0 | 2.0 | 1.9 | 1.8 | 1.9 |
| Netherlands | 1.7 | 0.4 | 0.5 | –3.0 | –2.9 | –3.0 | –1.8 | –1.9 | –1.8 | –1.2 | –0.4 | –0.1 |
| New Zealand | 4.5 | 3.4 | 3.4 | –0.2 | –2.3 | –4.8 | –4.9 | –1.3 | –0.4 | 0.0 | 0.8 | 1.0 |
| Norway | –6.4 | –7.2 | –7.9 | –8.8 | –8.5 | –8.5 | –8.9 | –9.0 | –9.0 | –9.0 | –8.9 | –9.0 |
| Portugal | –1.6 | –1.1 | –1.1 | –6.2 | –6.3 | 1.1 | 2.3 | 3.4 | 3.5 | 3.3 | 3.0 | 2.9 |
| Singapore | 5.7 | 10.3 | 4.7 | –0.7 | 3.8 | 6.4 | 4.7 | 4.7 | 4.4 | 4.1 | 3.8 | 3.7 |
| Slovak Republic | –1.8 | –2.3 | –2.1 | –5.4 | –6.0 | –3.8 | –2.1 | –1.5 | –1.5 | –1.5 | –1.6 | –1.5 |
| Slovenia | –0.8 | –1.7 | –3.4 | –4.1 | –3.7 | –2.1 | –1.2 | –0.9 | –0.8 | –0.9 | –1.1 | –1.3 |
| Spain | 2.1 | 1.4 | –4.2 | –8.5 | –6.3 | –5.1 | –1.6 | –1.1 | –0.5 | –0.3 | 0.0 | 0.2 |
| Sweden | 2.2 | 1.9 | 0.2 | –2.0 | 0.2 | –0.5 | –1.1 | –0.5 | 0.3 | 0.5 | 1.1 | 1.5 |
| Switzerland | 1.7 | 1.4 | 1.8 | 1.4 | 0.6 | 0.7 | 0.6 | 0.7 | 1.0 | 1.0 | 1.1 | 1.2 |
| United Kingdom | –2.0 | –2.4 | –4.9 | –7.3 | –5.4 | –3.5 | –2.6 | –1.3 | 0.0 | 0.8 | 1.7 | 2.1 |
| United States[1] | –0.4 | –0.7 | –3.0 | –5.8 | –5.8 | –5.0 | –4.0 | –2.5 | –1.4 | –1.2 | –1.5 | –1.5 |
| **Emerging Economies** | | | | | | | | | | | | |
| Argentina | 3.4 | 1.8 | 2.6 | 1.6 | 2.0 | –0.2 | 0.2 | 0.7 | 1.0 | 1.0 | 1.1 | 1.1 |
| Brazil | 3.4 | 3.0 | 3.3 | 2.8 | 2.0 | 3.0 | 3.3 | 3.2 | 3.1 | 3.1 | 3.1 | 3.1 |
| Bulgaria | 2.8 | 1.0 | –0.3 | –0.1 | –1.1 | 0.8 | 1.2 | 1.9 | 2.4 | 2.7 | 2.9 | 2.8 |
| Chile | 0.9 | –0.3 | –1.4 | –4.3 | –2.0 | –1.1 | –1.6 | –1.3 | –0.9 | –0.8 | –0.8 | –0.7 |
| China | 0.6 | 1.5 | 0.4 | –2.0 | –1.0 | 0.4 | 0.7 | 0.7 | 0.8 | 1.0 | 1.1 | 1.1 |
| Colombia | 1.6 | 0.9 | 1.0 | 0.8 | –0.9 | –0.6 | 0.1 | 0.1 | –0.1 | –0.1 | –0.4 | –0.2 |
| Hungary | –7.8 | –2.8 | –1.7 | 1.4 | 0.6 | –3.1 | 2.0 | 1.4 | 1.5 | 1.7 | 1.8 | 1.8 |
| India | –0.4 | –0.8 | –4.6 | –6.1 | –5.3 | –4.8 | –4.4 | –4.1 | –4.0 | –4.0 | –4.0 | –3.7 |
| Indonesia | 2.6 | 0.9 | 1.6 | 0.0 | 0.2 | –0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.0 | 0.7 |
| Jordan | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Kazakhstan | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Kenya | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Latvia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Lithuania | –2.0 | –3.9 | –6.0 | –4.9 | –3.2 | –2.5 | –0.3 | 0.0 | –0.2 | 0.0 | 0.2 | –0.1 |
| Malaysia | –2.6 | –3.1 | –3.8 | –5.2 | –4.1 | –4.1 | –3.2 | –2.8 | –2.7 | –2.7 | –2.6 | –2.5 |
| Mexico | 1.5 | 1.2 | 1.3 | –1.2 | –1.3 | –0.8 | 0.3 | 0.5 | 0.6 | 0.7 | 0.8 | 0.8 |
| Morocco | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Nigeria | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Pakistan | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Peru | 1.9 | 3.2 | 2.4 | 0.4 | 0.0 | 2.1 | 1.6 | 1.6 | 1.7 | 1.9 | 1.9 | 1.9 |
| Philippines | 3.4 | 1.7 | 1.7 | –0.2 | –0.4 | 0.5 | 0.3 | 0.8 | 0.7 | 0.6 | 0.5 | 0.4 |
| Poland | –1.4 | –0.4 | –2.4 | –4.3 | –5.1 | –2.7 | –0.3 | 0.3 | 0.5 | 0.9 | 1.0 | 1.1 |
| Romania | –2.8 | –5.2 | –7.8 | –6.1 | –3.8 | –1.5 | 1.3 | 2.0 | 1.9 | 1.8 | 1.6 | 1.5 |
| Russia | 8.8 | 6.1 | 4.1 | –3.1 | –1.9 | 2.0 | 0.7 | –0.1 | –0.1 | –1.0 | –1.8 | –2.5 |
| Saudi Arabia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| South Africa | 2.9 | 2.7 | 0.4 | –2.5 | –2.1 | –1.7 | –1.1 | –0.5 | –0.1 | 0.3 | 0.8 | 1.3 |
| Thailand | 3.2 | 0.9 | 0.1 | –1.5 | 0.4 | –0.9 | –2.4 | –3.2 | –3.4 | –1.7 | –1.3 | –0.8 |
| Turkey | 3.6 | 1.9 | 1.3 | –0.3 | 0.2 | 0.9 | 0.2 | 0.0 | 0.0 | 0.0 | –0.1 | –0.2 |
| Ukraine | –1.9 | –3.6 | –3.2 | –1.7 | –1.6 | 0.4 | 0.3 | 0.1 | 0.4 | 0.3 | 0.3 | 0.2 |
| Average | 0.4 | 0.3 | –1.1 | –3.4 | –3.1 | –2.1 | –1.5 | –0.9 | –0.5 | –0.3 | –0.3 | –0.2 |
| Advanced | –0.4 | –0.3 | –1.9 | –4.4 | –4.3 | –3.4 | –2.5 | –1.5 | –0.8 | –0.6 | –0.5 | –0.4 |
| Emerging | 1.7 | 1.4 | 0.2 | –2.1 | –1.5 | –0.4 | –0.1 | –0.1 | –0.1 | 0.0 | 0.0 | 0.0 |
| Euro area | 0.4 | 0.6 | –0.3 | –2.1 | –2.2 | –0.8 | 0.7 | 1.2 | 1.5 | 1.7 | 1.9 | 2.1 |
| G-7 | –0.8 | –0.6 | –2.2 | –4.6 | –4.8 | –3.9 | –3.1 | –2.0 | –1.2 | –0.9 | –0.9 | –0.8 |
| G-20 | 0.4 | 0.4 | –1.0 | –3.4 | –3.2 | –2.2 | –1.6 | –1.0 | –0.5 | –0.4 | –0.4 | –0.3 |
| Advanced | –0.6 | –0.5 | –2.0 | –4.4 | –4.6 | –3.6 | –2.8 | –1.7 | –1.0 | –0.7 | –0.7 | –0.6 |
| Emerging | 2.1 | 1.8 | 0.5 | –2.1 | –1.4 | –0.3 | –0.1 | –0.1 | 0.0 | 0.0 | 0.0 | 0.0 |

Source: IMF staff estimates and projections. Projections are based on staff assessment of current policies (see "Fiscal Policy Assumptions" in text).

Note: Cyclically adjusted primary balance defined as the cyclically adjusted balance excluding net interest payments. For country-specific details, see "Data and Conventions" in text.

[1] Cyclically adjusted primary balance excluding financial sector support.

## Statistical Table 5. General Government Expenditure

*(Percent of GDP)*

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Advanced Economies** | | | | | | | | | | | | |
| Australia | 34.6 | 34.2 | 34.5 | 37.6 | 36.8 | 36.6 | 36.3 | 34.7 | 34.2 | 33.8 | 33.5 | 33.3 |
| Austria | 49.1 | 48.6 | 49.3 | 52.9 | 52.6 | 50.4 | 51.3 | 50.7 | 50.3 | 49.8 | 49.5 | 49.4 |
| Belgium | 48.6 | 48.3 | 49.9 | 53.8 | 52.9 | 53.5 | 53.5 | 52.8 | 51.9 | 51.1 | 51.0 | 50.7 |
| Canada | 39.3 | 39.2 | 39.5 | 44.1 | 43.8 | 42.7 | 41.7 | 41.3 | 40.9 | 40.6 | 40.1 | 39.6 |
| Czech Republic | 42.0 | 41.0 | 41.1 | 44.9 | 44.1 | 44.5 | 44.9 | 44.6 | 44.3 | 44.0 | 43.9 | 43.9 |
| Denmark | 51.2 | 50.8 | 51.4 | 57.9 | 56.2 | 56.0 | 56.8 | 54.8 | 53.9 | 53.4 | 52.1 | 50.8 |
| Estonia | 34.6 | 34.9 | 41.0 | 47.7 | 44.7 | 43.1 | 44.9 | 42.3 | 41.0 | 40.1 | 39.2 | 38.3 |
| Finland | 49.2 | 47.4 | 49.3 | 56.1 | 55.5 | 54.0 | 55.0 | 55.0 | 54.7 | 54.6 | 54.4 | 54.1 |
| France | 52.9 | 52.6 | 53.3 | 56.7 | 56.7 | 56.3 | 55.8 | 55.3 | 54.4 | 53.6 | 52.7 | 51.9 |
| Germany | 45.6 | 43.5 | 44.0 | 48.1 | 47.9 | 45.6 | 45.1 | 44.7 | 44.4 | 44.1 | 44.0 | 43.9 |
| Greece | 44.7 | 46.7 | 49.7 | 53.0 | 49.6 | 49.7 | 48.9 | 46.3 | 43.7 | 41.2 | 41.2 | 41.2 |
| Hong Kong SAR | 15.9 | 15.5 | 18.9 | 17.6 | 18.0 | 20.4 | 21.1 | 18.7 | 18.4 | 20.4 | 17.7 | 17.8 |
| Iceland | 41.6 | 42.3 | 44.6 | 49.7 | 47.9 | 46.3 | 44.6 | 43.0 | 42.2 | 41.1 | 40.4 | 40.0 |
| Ireland | 33.4 | 36.2 | 42.3 | 47.9 | 65.6 | 44.1 | 42.7 | 41.9 | 39.6 | 37.5 | 36.5 | 36.1 |
| Israel | 47.5 | 46.0 | 45.4 | 45.1 | 44.7 | 44.4 | 44.3 | 44.2 | 43.8 | 43.7 | 43.7 | 43.7 |
| Italy | 48.5 | 47.6 | 48.6 | 51.9 | 50.5 | 50.0 | 50.7 | 50.5 | 50.7 | 50.6 | 50.6 | 50.4 |
| Japan | 34.5 | 33.3 | 35.7 | 40.0 | 39.0 | 40.7 | 41.1 | 40.3 | 39.7 | 39.5 | 39.5 | 39.5 |
| Korea, Republic of | 21.5 | 21.9 | 22.4 | 23.0 | 21.0 | 21.7 | 21.6 | 21.2 | 21.2 | 21.2 | 21.3 | 21.3 |
| Netherlands | 45.7 | 45.1 | 46.1 | 50.8 | 50.6 | 50.0 | 50.4 | 50.2 | 49.9 | 49.5 | 48.7 | 47.9 |
| New Zealand | 31.1 | 31.1 | 32.9 | 34.5 | 34.5 | 35.4 | 33.3 | 31.4 | 30.8 | 30.3 | 30.1 | 29.5 |
| Norway | 39.9 | 40.4 | 39.8 | 46.6 | 45.4 | 44.3 | 43.8 | 44.3 | 45.0 | 45.6 | 46.1 | 46.5 |
| Portugal | 44.4 | 44.4 | 44.8 | 49.9 | 51.4 | 48.7 | 47.4 | 45.6 | 44.5 | 44.0 | 43.8 | 43.7 |
| Singapore | 13.3 | 12.4 | 18.8 | 18.5 | 16.9 | 17.6 | 17.4 | 17.8 | 18.0 | 18.4 | 18.6 | 19.8 |
| Slovak Republic | 36.5 | 34.2 | 35.0 | 41.7 | 41.1 | 38.4 | 37.8 | 36.4 | 36.3 | 36.3 | 36.3 | 36.3 |
| Slovenia | 42.5 | 40.3 | 41.4 | 46.4 | 47.1 | 47.7 | 46.7 | 46.1 | 45.9 | 45.6 | 45.4 | 45.1 |
| Spain | 38.3 | 39.2 | 41.3 | 46.1 | 45.4 | 43.6 | 42.0 | 41.8 | 41.3 | 41.1 | 41.1 | 41.0 |
| Sweden | 50.8 | 49.0 | 49.6 | 52.8 | 50.6 | 49.1 | 48.3 | 48.0 | 47.3 | 46.8 | 46.4 | 45.8 |
| Switzerland | 35.7 | 34.6 | 32.6 | 34.4 | 34.0 | 34.7 | 34.7 | 34.6 | 34.4 | 34.5 | 34.5 | 34.5 |
| United Kingdom | 40.6 | 40.3 | 43.1 | 47.3 | 46.3 | 45.7 | 45.3 | 43.8 | 42.4 | 40.9 | 39.5 | 38.4 |
| United States | 35.9 | 36.7 | 39.2 | 44.0 | 42.1 | 41.4 | 40.0 | 39.2 | 38.6 | 38.5 | 38.7 | 38.7 |
| **Emerging Economies** | | | | | | | | | | | | |
| Argentina | 30.8 | 33.6 | 34.2 | 37.9 | 38.8 | 40.0 | 39.4 | 38.9 | 39.2 | 37.6 | 37.6 | 37.5 |
| Brazil | 39.5 | 38.3 | 37.7 | 38.1 | 39.4 | 38.8 | 38.6 | 38.8 | 38.7 | 38.8 | 38.7 | 38.8 |
| Bulgaria | 33.6 | 34.9 | 35.2 | 36.2 | 36.6 | 34.6 | 34.9 | 35.6 | 35.6 | 35.3 | 34.9 | 34.6 |
| Chile | 18.7 | 19.4 | 21.7 | 24.6 | 23.6 | 23.3 | 23.6 | 23.4 | 22.6 | 22.1 | 22.2 | 22.3 |
| China | 18.9 | 18.9 | 20.0 | 23.1 | 22.5 | 23.6 | 24.1 | 23.9 | 23.7 | 23.4 | 23.1 | 22.7 |
| Colombia | 28.1 | 28.2 | 26.3 | 29.1 | 29.0 | 28.7 | 28.6 | 28.5 | 28.4 | 28.4 | 28.1 | 27.9 |
| Hungary | 52.2 | 50.6 | 49.2 | 51.4 | 49.5 | 48.4 | 48.8 | 48.8 | 48.8 | 48.6 | 48.5 | 48.4 |
| India | 25.7 | 26.0 | 27.5 | 29.3 | 28.0 | 27.1 | 27.1 | 27.3 | 27.3 | 27.1 | 27.0 | 27.0 |
| Indonesia | 20.1 | 20.3 | 21.3 | 18.3 | 18.2 | 19.0 | 18.9 | 18.5 | 18.1 | 17.9 | 17.8 | 17.9 |
| Jordan | 36.4 | 37.0 | 34.4 | 34.9 | 30.4 | 32.3 | 32.1 | 31.3 | 31.4 | 31.2 | 31.0 | 30.8 |
| Kazakhstan | 19.8 | 24.1 | 26.7 | 23.4 | 22.5 | 22.8 | 24.1 | 24.5 | 24.6 | 24.6 | 24.2 | 23.9 |
| Kenya | 24.7 | 26.2 | 27.1 | 27.9 | 29.7 | 29.7 | 29.9 | 29.5 | 29.4 | 28.4 | 28.4 | 28.6 |
| Latvia | 36.7 | 35.7 | 43.1 | 44.1 | 43.4 | 39.3 | 38.5 | 36.0 | 34.5 | 33.8 | 32.7 | 32.1 |
| Lithuania | 33.7 | 34.8 | 37.3 | 43.9 | 42.1 | 39.3 | 38.6 | 37.7 | 36.6 | 35.4 | 34.9 | 32.0 |
| Malaysia | 27.1 | 27.9 | 28.8 | 32.4 | 28.5 | 29.7 | 27.9 | 28.0 | 27.7 | 27.3 | 27.1 | 26.9 |
| Mexico | 22.8 | 23.1 | 24.6 | 28.3 | 26.9 | 26.2 | 24.5 | 24.4 | 24.3 | 23.8 | 23.5 | 23.2 |
| Morocco | 29.4 | 30.1 | 31.8 | 31.1 | 31.9 | 34.5 | 32.6 | 32.4 | 31.8 | 31.2 | 30.5 | 29.9 |
| Nigeria | 23.3 | 25.3 | 25.7 | 27.2 | 31.0 | 29.1 | 26.5 | 24.0 | 23.5 | 22.8 | 21.2 | 20.1 |
| Pakistan | 18.4 | 20.8 | 22.3 | 19.9 | 20.3 | 19.1 | 19.5 | 19.3 | 19.2 | 19.4 | 19.5 | 19.5 |
| Peru | 18.2 | 17.7 | 18.9 | 20.9 | 20.3 | 19.1 | 19.8 | 20.0 | 19.9 | 20.0 | 19.9 | 19.9 |
| Philippines | 19.1 | 19.0 | 18.6 | 20.1 | 19.2 | 18.1 | 19.2 | 18.7 | 18.7 | 18.7 | 18.7 | 18.8 |
| Poland | 43.9 | 42.2 | 43.2 | 44.5 | 45.4 | 44.5 | 44.0 | 43.8 | 43.4 | 42.9 | 42.9 | 42.3 |
| Romania | 33.7 | 35.4 | 37.0 | 38.5 | 38.7 | 35.5 | 34.0 | 33.5 | 33.6 | 33.6 | 33.7 | 33.8 |
| Russia | 31.1 | 33.1 | 34.3 | 41.4 | 39.0 | 36.8 | 38.1 | 37.1 | 36.5 | 36.4 | 36.4 | 36.3 |
| Saudi Arabia | 32.0 | 34.6 | 31.6 | 45.6 | 42.0 | 39.9 | 35.1 | 38.6 | 39.7 | 40.9 | 42.7 | 42.0 |
| South Africa | 26.9 | 28.1 | 30.2 | 33.1 | 32.3 | 32.0 | 31.7 | 31.4 | 31.1 | 30.6 | 30.0 | 29.5 |
| Thailand | 20.1 | 21.3 | 21.2 | 24.0 | 23.2 | 23.3 | 24.3 | 24.3 | 24.5 | 23.0 | 22.9 | 22.8 |
| Turkey | 32.8 | 33.3 | 33.8 | 37.7 | 35.4 | 34.2 | 34.2 | 33.9 | 33.5 | 33.3 | 33.2 | 33.2 |
| Ukraine | 44.6 | 43.8 | 47.4 | 48.6 | 48.5 | 45.2 | 43.6 | 42.1 | 41.9 | 41.5 | 41.2 | 41.0 |
| Average | 33.9 | 33.8 | 35.0 | 38.2 | 37.0 | 36.3 | 35.8 | 35.1 | 34.6 | 34.1 | 33.8 | 33.4 |
| Advanced | 38.7 | 38.6 | 40.4 | 44.5 | 43.3 | 42.7 | 42.0 | 41.2 | 40.6 | 40.3 | 40.1 | 39.9 |
| Emerging | 26.1 | 26.4 | 27.2 | 29.7 | 28.8 | 28.5 | 28.5 | 28.2 | 28.0 | 27.6 | 27.4 | 27.0 |
| Euro area | 46.7 | 46.0 | 47.2 | 51.1 | 50.9 | 49.4 | 49.1 | 48.7 | 48.2 | 47.7 | 47.4 | 47.1 |
| G–7 | 39.2 | 39.1 | 41.1 | 45.5 | 44.2 | 43.7 | 42.9 | 42.2 | 41.5 | 41.2 | 41.1 | 40.9 |
| G–20 | 33.6 | 33.4 | 34.6 | 38.0 | 36.6 | 36.1 | 35.6 | 34.9 | 34.4 | 33.9 | 33.6 | 33.2 |
| Advanced | 38.3 | 38.2 | 40.1 | 44.3 | 42.9 | 42.5 | 41.7 | 40.9 | 40.3 | 40.0 | 39.9 | 39.6 |
| Emerging | 25.4 | 25.6 | 26.4 | 29.3 | 28.3 | 28.2 | 28.2 | 28.0 | 27.7 | 27.4 | 27.1 | 26.8 |

Source: IMF staff estimates and projections. Projections are based on staff assessment of current policies (see "Fiscal Policy Assumptions" in text).
Note: For country-specific details, see "Data and Conventions" in text.

## Statistical Table 6. General Government Revenue

*(Percent of GDP)*

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Advanced Economies** | | | | | | | | | | | | |
| Australia | 36.5 | 35.5 | 33.7 | 33.5 | 32.0 | 32.3 | 33.9 | 34.1 | 34.0 | 34.0 | 34.1 | 34.2 |
| Austria | 47.5 | 47.6 | 48.3 | 48.7 | 48.1 | 47.9 | 48.3 | 48.3 | 48.3 | 48.2 | 48.2 | 48.2 |
| Belgium | 48.7 | 48.0 | 48.6 | 48.0 | 48.8 | 49.3 | 50.7 | 50.7 | 50.7 | 50.7 | 50.7 | 50.6 |
| Canada | 40.8 | 40.7 | 39.7 | 39.2 | 38.3 | 38.1 | 38.1 | 38.4 | 38.8 | 39.1 | 39.3 | 39.1 |
| Czech Republic | 39.6 | 40.3 | 38.9 | 39.1 | 39.3 | 40.7 | 41.3 | 41.2 | 41.1 | 41.1 | 41.1 | 41.1 |
| Denmark | 56.6 | 55.6 | 54.8 | 55.1 | 53.5 | 52.1 | 50.9 | 52.3 | 52.7 | 52.6 | 52.1 | 51.6 |
| Estonia | 37.8 | 37.7 | 38.7 | 45.6 | 45.1 | 44.1 | 42.8 | 41.8 | 40.9 | 40.7 | 40.3 | 39.5 |
| Finland | 53.3 | 52.7 | 53.6 | 53.4 | 52.7 | 53.2 | 53.6 | 54.2 | 54.4 | 54.4 | 54.4 | 54.5 |
| France | 50.6 | 49.8 | 50.0 | 49.2 | 49.6 | 51.0 | 51.3 | 51.4 | 51.4 | 51.4 | 51.4 | 51.4 |
| Germany | 44.0 | 43.7 | 44.0 | 44.9 | 43.6 | 44.6 | 44.3 | 44.1 | 44.1 | 43.9 | 43.8 | 43.7 |
| Greece | 38.7 | 40.0 | 40.0 | 37.5 | 39.0 | 40.5 | 41.7 | 41.7 | 41.6 | 39.6 | 39.6 | 39.6 |
| Hong Kong SAR | 20.2 | 23.7 | 19.0 | 19.2 | 22.5 | 24.2 | 21.6 | 20.6 | 21.3 | 21.9 | 22.3 | 22.5 |
| Iceland | 48.0 | 47.7 | 44.1 | 41.1 | 41.5 | 41.7 | 41.8 | 41.2 | 41.6 | 41.6 | 41.3 | 41.1 |
| Ireland | 36.3 | 36.3 | 35.0 | 33.7 | 34.3 | 34.3 | 34.2 | 34.6 | 34.7 | 34.6 | 34.1 | 34.2 |
| Israel | 45.1 | 44.8 | 42.1 | 39.1 | 40.2 | 40.3 | 40.6 | 41.5 | 41.6 | 41.6 | 41.7 | 41.8 |
| Italy | 45.1 | 46.1 | 45.9 | 46.5 | 46.0 | 46.0 | 48.3 | 49.0 | 49.1 | 49.1 | 49.2 | 49.3 |
| Japan | 30.8 | 31.2 | 31.6 | 29.6 | 29.6 | 30.6 | 31.1 | 31.6 | 31.8 | 32.0 | 32.0 | 32.0 |
| Korea, Republic of | 22.7 | 24.2 | 24.0 | 23.0 | 22.7 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 |
| Netherlands | 46.2 | 45.3 | 46.5 | 45.2 | 45.5 | 45.0 | 45.9 | 45.2 | 45.2 | 45.5 | 45.5 | 45.5 |
| New Zealand | 34.3 | 33.6 | 32.9 | 31.2 | 29.1 | 28.9 | 29.0 | 29.6 | 30.1 | 30.3 | 30.6 | 30.0 |
| Norway | 58.2 | 57.6 | 58.5 | 57.2 | 56.0 | 57.4 | 58.0 | 57.2 | 56.3 | 55.6 | 55.0 | 54.6 |
| Portugal | 40.3 | 41.1 | 41.1 | 39.7 | 41.6 | 44.7 | 42.8 | 42.6 | 42.2 | 42.0 | 41.9 | 41.9 |
| Singapore | 20.1 | 24.1 | 24.4 | 18.0 | 22.0 | 24.9 | 22.9 | 23.2 | 23.1 | 23.2 | 23.2 | 24.2 |
| Slovak Republic | 33.3 | 32.4 | 33.0 | 33.7 | 33.2 | 32.8 | 33.6 | 32.7 | 32.5 | 32.4 | 32.4 | 32.4 |
| Slovenia | 41.7 | 40.5 | 41.1 | 40.8 | 41.8 | 42.0 | 42.0 | 42.0 | 42.0 | 41.9 | 41.8 | 41.6 |
| Spain | 40.4 | 41.1 | 37.1 | 34.9 | 36.1 | 35.1 | 36.0 | 36.1 | 36.1 | 36.3 | 36.7 | 36.9 |
| Sweden | 53.0 | 52.5 | 51.9 | 51.8 | 50.4 | 49.2 | 48.2 | 48.5 | 48.6 | 48.4 | 48.6 | 48.5 |
| Switzerland | 36.6 | 36.0 | 34.5 | 34.9 | 34.3 | 35.2 | 34.9 | 34.8 | 35.0 | 35.0 | 35.0 | 35.0 |
| United Kingdom | 38.0 | 37.6 | 38.1 | 36.9 | 36.5 | 37.1 | 37.3 | 37.2 | 37.4 | 37.2 | 37.4 | 37.4 |
| United States | 33.8 | 33.9 | 32.5 | 30.9 | 31.7 | 31.8 | 31.9 | 32.9 | 33.7 | 34.1 | 34.3 | 34.2 |
| **Emerging Economies** | | | | | | | | | | | | |
| Argentina | 29.9 | 31.5 | 33.4 | 34.3 | 37.2 | 36.7 | 36.4 | 36.7 | 36.8 | 36.8 | 36.8 | 36.9 |
| Brazil | 35.9 | 35.7 | 36.3 | 35.0 | 36.6 | 36.2 | 36.3 | 36.4 | 36.4 | 36.5 | 36.5 | 36.5 |
| Bulgaria | 37.0 | 38.2 | 38.0 | 35.3 | 32.7 | 32.5 | 33.0 | 34.0 | 34.8 | 35.5 | 36.2 | 36.8 |
| Chile | 26.2 | 27.3 | 25.9 | 20.5 | 23.3 | 24.5 | 23.3 | 23.2 | 23.0 | 22.4 | 22.5 | 22.5 |
| China | 18.2 | 19.8 | 19.7 | 20.0 | 20.2 | 22.3 | 22.8 | 23.0 | 23.1 | 23.3 | 23.4 | 23.4 |
| Colombia | 27.3 | 27.2 | 26.3 | 26.5 | 25.9 | 26.7 | 27.2 | 27.1 | 26.9 | 26.9 | 26.5 | 26.4 |
| Hungary | 42.8 | 45.6 | 45.5 | 46.9 | 45.2 | 52.4 | 45.8 | 45.5 | 45.7 | 45.8 | 46.0 | 46.0 |
| India | 20.2 | 21.8 | 20.3 | 19.5 | 18.8 | 18.5 | 18.8 | 19.1 | 19.1 | 19.2 | 19.2 | 19.3 |
| Indonesia | 20.3 | 19.3 | 21.3 | 16.5 | 17.0 | 17.4 | 17.9 | 17.5 | 17.1 | 16.9 | 16.8 | 16.8 |
| Jordan | 32.4 | 32.3 | 30.1 | 26.4 | 24.9 | 26.1 | 26.9 | 26.4 | 26.7 | 26.9 | 27.1 | 27.3 |
| Kazakhstan | 27.5 | 29.3 | 27.9 | 22.1 | 23.9 | 28.5 | 28.5 | 28.9 | 28.2 | 27.9 | 27.2 | 27.0 |
| Kenya | 22.2 | 23.1 | 22.9 | 22.8 | 24.6 | 25.6 | 25.9 | 25.8 | 26.1 | 25.3 | 24.8 | 24.8 |
| Latvia | 36.2 | 36.3 | 35.6 | 36.2 | 36.2 | 35.9 | 37.3 | 35.5 | 34.2 | 33.4 | 32.7 | 32.5 |
| Lithuania | 33.3 | 33.8 | 34.0 | 34.7 | 35.0 | 34.1 | 35.7 | 35.1 | 34.4 | 33.6 | 33.4 | 30.5 |
| Malaysia | 25.0 | 25.3 | 25.5 | 27.1 | 24.8 | 24.7 | 23.6 | 23.2 | 22.8 | 22.5 | 22.1 | 21.8 |
| Mexico | 21.8 | 22.0 | 23.5 | 23.6 | 22.6 | 22.8 | 22.2 | 22.2 | 22.2 | 21.8 | 21.4 | 21.0 |
| Morocco | 27.4 | 29.9 | 32.5 | 29.3 | 27.5 | 27.6 | 27.2 | 27.4 | 27.4 | 27.5 | 27.6 | 27.6 |
| Nigeria | 32.3 | 26.9 | 32.0 | 17.8 | 23.3 | 30.1 | 29.4 | 27.9 | 25.7 | 23.3 | 21.7 | 20.4 |
| Pakistan | 14.7 | 15.3 | 14.9 | 14.7 | 14.4 | 12.8 | 12.8 | 13.3 | 13.3 | 13.6 | 13.9 | 13.9 |
| Peru | 20.1 | 20.9 | 21.1 | 18.7 | 20.0 | 20.9 | 20.9 | 21.0 | 20.9 | 21.1 | 20.9 | 21.0 |
| Philippines | 19.0 | 18.7 | 18.7 | 17.4 | 17.0 | 17.3 | 17.3 | 17.5 | 17.6 | 17.5 | 17.6 | 17.6 |
| Poland | 40.2 | 40.3 | 39.5 | 37.2 | 37.5 | 39.2 | 40.8 | 41.1 | 40.9 | 41.0 | 41.1 | 40.6 |
| Romania | 32.3 | 32.3 | 32.2 | 31.2 | 32.3 | 31.4 | 32.2 | 32.4 | 32.5 | 32.7 | 32.8 | 32.8 |
| Russia | 39.5 | 39.9 | 39.2 | 35.0 | 35.5 | 38.4 | 38.7 | 36.8 | 36.0 | 34.9 | 33.9 | 33.1 |
| Saudi Arabia | 56.6 | 50.4 | 66.0 | 41.0 | 48.6 | 55.1 | 51.7 | 48.7 | 46.3 | 44.1 | 42.1 | 40.8 |
| South Africa | 27.7 | 29.6 | 29.8 | 27.8 | 27.5 | 27.4 | 27.4 | 27.7 | 28.0 | 28.2 | 28.4 | 28.6 |
| Thailand | 22.3 | 21.5 | 21.4 | 20.8 | 22.4 | 21.4 | 21.3 | 20.6 | 20.5 | 20.5 | 20.9 | 21.1 |
| Turkey | 32.8 | 31.7 | 31.4 | 32.1 | 32.7 | 33.9 | 32.5 | 31.9 | 31.6 | 31.6 | 31.7 | 31.8 |
| Ukraine | 43.2 | 41.8 | 44.3 | 42.3 | 42.8 | 42.5 | 40.8 | 40.1 | 39.9 | 39.5 | 39.2 | 39.0 |
| Average | 33.1 | 33.1 | 32.6 | 31.0 | 31.1 | 31.7 | 31.7 | 31.7 | 31.7 | 31.6 | 31.4 | 31.2 |
| Advanced | 37.3 | 37.4 | 36.7 | 35.5 | 35.6 | 36.1 | 36.3 | 36.7 | 37.0 | 37.1 | 37.2 | 37.2 |
| Emerging | 26.2 | 26.6 | 26.8 | 24.9 | 25.2 | 26.3 | 26.3 | 26.1 | 25.9 | 25.7 | 25.5 | 25.4 |
| Euro area | 45.4 | 45.3 | 45.1 | 44.7 | 44.7 | 45.2 | 45.9 | 46.0 | 45.9 | 45.9 | 45.9 | 45.9 |
| G-7 | 36.9 | 37.0 | 36.4 | 35.3 | 35.4 | 35.9 | 36.1 | 36.7 | 37.1 | 37.3 | 37.4 | 37.3 |
| G-20 | 32.3 | 32.4 | 32.0 | 30.4 | 30.4 | 31.1 | 31.2 | 31.2 | 31.3 | 31.2 | 31.0 | 30.8 |
| Advanced | 36.3 | 36.4 | 35.8 | 34.7 | 34.7 | 35.2 | 35.4 | 36.0 | 36.3 | 36.5 | 36.6 | 36.5 |
| Emerging | 25.5 | 26.0 | 26.3 | 24.5 | 24.8 | 26.0 | 26.0 | 25.8 | 25.6 | 25.4 | 25.3 | 25.1 |

Source: IMF staff estimates and projections. Projections are based on staff assessment of current policies (see "Fiscal Policy Assumptions" in text).
Note: For country-specific details, see "Data and Conventions" in text.

## Statistical Table 7. General Government Gross Debt

*(Percent of GDP)*

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Advanced Economies** | | | | | | | | | | | | |
| Australia | 10.0 | 9.7 | 11.8 | 16.9 | 20.4 | 22.9 | 24.0 | 23.3 | 22.1 | 19.6 | 17.0 | 14.9 |
| Austria | 62.3 | 60.2 | 63.8 | 69.5 | 71.8 | 72.2 | 73.9 | 74.3 | 73.4 | 72.2 | 70.6 | 69.2 |
| Belgium | 88.0 | 84.1 | 89.3 | 95.9 | 96.2 | 98.5 | 99.1 | 98.5 | 96.7 | 94.0 | 90.9 | 87.5 |
| Canada | 70.3 | 66.5 | 71.1 | 83.6 | 85.1 | 85.0 | 84.7 | 82.0 | 80.4 | 78.8 | 76.3 | 73.6 |
| Czech Republic | 28.3 | 28.0 | 28.7 | 34.3 | 37.6 | 41.5 | 43.9 | 45.4 | 46.2 | 46.6 | 46.9 | 47.1 |
| Denmark | 41.0 | 34.1 | 41.9 | 41.5 | 43.4 | 46.4 | 51.3 | 52.2 | 51.4 | 50.3 | 48.6 | 46.1 |
| Estonia | 4.4 | 3.7 | 4.5 | 7.2 | 6.7 | 6.0 | 5.7 | 5.4 | 5.1 | 4.8 | 4.5 | 4.3 |
| Finland | 39.6 | 35.2 | 33.9 | 43.5 | 48.4 | 48.6 | 51.6 | 52.8 | 53.0 | 53.8 | 54.2 | 54.3 |
| France | 63.9 | 64.2 | 68.3 | 79.0 | 82.4 | 86.3 | 89.0 | 90.8 | 90.6 | 89.6 | 87.5 | 84.6 |
| Germany | 67.9 | 65.2 | 66.7 | 74.4 | 83.2 | 81.5 | 78.9 | 77.4 | 75.8 | 74.4 | 72.7 | 71.1 |
| Greece | 106.1 | 105.4 | 110.7 | 127.1 | 142.8 | 160.8 | 153.2 | 160.9 | 158.1 | 150.9 | 143.7 | 136.8 |
| Hong Kong SAR | 33.0 | 32.8 | 30.6 | 33.2 | 34.6 | 33.9 | 33.2 | 30.4 | 29.7 | 29.0 | 28.4 | 27.8 |
| Iceland | 30.1 | 29.1 | 70.3 | 88.2 | 92.8 | 99.2 | 97.3 | 92.4 | 90.9 | 87.8 | 83.0 | 81.7 |
| Ireland | 24.7 | 24.8 | 44.2 | 65.2 | 92.5 | 105.0 | 113.1 | 117.7 | 117.5 | 114.7 | 112.2 | 109.2 |
| Israel | 84.7 | 78.1 | 77.0 | 79.4 | 76.1 | 74.3 | 74.0 | 72.6 | 70.8 | 69.1 | 67.4 | 65.8 |
| Italy | 106.1 | 103.1 | 105.8 | 116.1 | 118.7 | 120.1 | 123.4 | 123.8 | 123.4 | 122.3 | 120.7 | 118.9 |
| Japan | 186.0 | 183.0 | 191.8 | 210.2 | 215.3 | 229.8 | 235.8 | 241.1 | 245.6 | 249.7 | 253.6 | 256.6 |
| Korea, Republic of | 31.1 | 30.7 | 30.1 | 33.8 | 33.4 | 34.1 | 32.9 | 30.8 | 28.7 | 26.7 | 24.9 | 23.1 |
| Netherlands | 47.4 | 45.3 | 58.5 | 60.8 | 62.9 | 66.2 | 70.1 | 73.7 | 76.5 | 78.0 | 78.7 | 78.6 |
| New Zealand | 19.4 | 17.4 | 20.3 | 26.1 | 32.3 | 37.0 | 36.0 | 35.4 | 35.0 | 33.4 | 32.7 | 31.5 |
| Norway | 59.0 | 56.8 | 54.3 | 48.9 | 49.6 | 49.6 | 49.6 | 49.6 | 49.6 | 49.6 | 49.6 | 49.6 |
| Portugal | 63.7 | 68.3 | 71.6 | 83.1 | 93.4 | 106.8 | 112.4 | 115.3 | 114.4 | 112.8 | 110.7 | 109.2 |
| Singapore | 86.4 | 85.8 | 96.9 | 103.3 | 101.2 | 100.8 | 98.0 | 95.7 | 92.6 | 90.2 | 87.6 | 89.0 |
| Slovak Republic | 30.5 | 29.6 | 27.9 | 35.6 | 41.1 | 44.6 | 47.1 | 48.8 | 49.9 | 52.8 | 53.7 | 54.6 |
| Slovenia | 26.4 | 23.1 | 21.9 | 35.3 | 38.8 | 47.3 | 52.5 | 55.9 | 58.5 | 60.6 | 62.3 | 63.7 |
| Spain | 39.7 | 36.3 | 40.2 | 53.9 | 61.2 | 68.5 | 79.0 | 84.0 | 87.4 | 89.3 | 90.7 | 91.9 |
| Sweden | 45.3 | 40.2 | 38.8 | 42.5 | 39.4 | 37.4 | 35.5 | 33.5 | 30.5 | 27.4 | 24.1 | 20.4 |
| Switzerland | 64.6 | 55.9 | 52.6 | 53.6 | 50.1 | 48.6 | 48.9 | 47.8 | 46.0 | 45.3 | 44.6 | 43.9 |
| United Kingdom | 43.1 | 43.9 | 52.5 | 68.4 | 75.1 | 82.5 | 88.4 | 91.4 | 92.8 | 92.2 | 90.1 | 86.8 |
| United States | 66.6 | 67.2 | 76.1 | 89.9 | 98.5 | 102.9 | 106.6 | 110.2 | 111.9 | 112.5 | 112.8 | 113.0 |
| **Emerging Economies** | | | | | | | | | | | | |
| Argentina | 76.5 | 67.1 | 58.5 | 58.7 | 49.1 | 44.2 | 43.3 | 41.9 | 41.6 | 40.1 | 39.4 | 36.9 |
| Brazil | 66.7 | 65.2 | 63.5 | 66.9 | 65.2 | 66.2 | 65.1 | 63.1 | 61.5 | 59.9 | 57.7 | 56.7 |
| Bulgaria | 23.4 | 18.6 | 15.5 | 15.6 | 16.7 | 17.0 | 21.3 | 17.6 | 16.4 | 13.0 | 11.5 | 11.7 |
| Chile | 5.0 | 3.9 | 4.9 | 5.8 | 8.6 | 9.9 | 10.1 | 9.8 | 8.7 | 7.6 | 7.1 | 6.6 |
| China[1] | 16.2 | 19.6 | 17.0 | 17.7 | 33.5 | 25.8 | 22.0 | 19.4 | 17.1 | 14.8 | 12.6 | 10.1 |
| Colombia | 36.8 | 32.7 | 30.8 | 35.9 | 36.1 | 34.7 | 32.3 | 32.3 | 31.4 | 31.6 | 31.7 | 31.7 |
| Hungary | 65.9 | 67.0 | 72.9 | 79.7 | 81.3 | 80.4 | 76.3 | 76.0 | 75.4 | 74.3 | 73.1 | 71.9 |
| India | 78.5 | 75.4 | 74.7 | 75.0 | 69.4 | 68.1 | 67.6 | 66.8 | 66.2 | 65.8 | 65.3 | 64.6 |
| Indonesia | 39.0 | 35.1 | 33.2 | 28.6 | 27.4 | 25.0 | 23.2 | 21.1 | 19.2 | 17.6 | 16.4 | 15.5 |
| Jordan | 76.3 | 73.8 | 60.3 | 64.5 | 66.8 | 69.8 | 71.9 | 71.5 | 70.7 | 69.8 | 68.7 | 67.5 |
| Kazakhstan | 6.7 | 5.9 | 6.7 | 10.2 | 10.7 | 10.9 | 9.6 | 8.3 | 7.4 | 5.9 | 4.2 | 2.9 |
| Kenya | 46.8 | 46.0 | 45.5 | 47.6 | 49.8 | 48.9 | 46.6 | 45.5 | 44.8 | 44.3 | 44.6 | 45.2 |
| Latvia | 9.9 | 7.8 | 17.2 | 32.9 | 39.9 | 37.8 | 39.1 | 41.6 | 39.1 | 35.3 | 35.5 | 33.2 |
| Lithuania | 17.9 | 16.8 | 15.5 | 29.4 | 38.0 | 39.0 | 40.9 | 41.2 | 40.5 | 39.4 | 38.2 | 36.5 |
| Malaysia | 43.2 | 42.7 | 42.8 | 55.4 | 52.9 | 52.6 | 53.1 | 54.0 | 54.8 | 55.6 | 56.3 | 57.1 |
| Mexico | 38.4 | 37.8 | 43.1 | 44.6 | 42.9 | 43.8 | 42.9 | 42.9 | 43.0 | 43.1 | 43.1 | 43.1 |
| Morocco | 59.4 | 54.6 | 48.2 | 48.0 | 51.3 | 54.4 | 56.0 | 57.4 | 58.0 | 57.4 | 56.0 | 53.9 |
| Nigeria | 11.8 | 12.8 | 11.6 | 15.2 | 18.0 | 17.9 | 18.3 | 18.9 | 19.2 | 19.2 | 18.9 | 18.5 |
| Pakistan | 57.5 | 54.9 | 59.6 | 60.7 | 61.5 | 60.1 | 61.7 | 60.1 | 58.3 | 56.2 | 54.5 | 53.2 |
| Peru | 33.1 | 30.4 | 25.2 | 28.4 | 24.6 | 21.6 | 20.7 | 19.8 | 19.2 | 18.7 | 18.3 | 17.6 |
| Philippines | 51.6 | 44.6 | 44.2 | 44.3 | 42.2 | 40.5 | 40.1 | 38.7 | 37.2 | 35.8 | 34.4 | 33.2 |
| Poland | 47.7 | 45.0 | 47.1 | 50.9 | 54.9 | 55.4 | 55.7 | 55.2 | 53.9 | 52.2 | 50.5 | 48.7 |
| Romania | 12.6 | 12.7 | 13.6 | 23.8 | 31.2 | 33.0 | 34.2 | 33.0 | 31.6 | 30.2 | 28.8 | 27.4 |
| Russia | 9.0 | 8.5 | 7.9 | 11.0 | 11.7 | 9.6 | 8.4 | 7.9 | 9.0 | 9.7 | 11.3 | 11.0 |
| Saudi Arabia | 27.3 | 18.5 | 13.2 | 15.9 | 9.9 | 7.5 | 5.9 | 5.2 | 4.6 | 3.9 | 3.4 | 2.9 |
| South Africa | 32.6 | 28.3 | 27.4 | 31.5 | 35.3 | 38.8 | 40.0 | 40.8 | 41.5 | 40.7 | 38.8 | 36.4 |
| Thailand | 42.0 | 38.3 | 37.3 | 45.2 | 42.6 | 41.7 | 44.4 | 46.3 | 49.0 | 50.3 | 51.2 | 51.7 |
| Turkey | 46.5 | 39.9 | 40.0 | 46.1 | 42.2 | 39.4 | 36.0 | 34.6 | 33.5 | 32.8 | 32.1 | 31.4 |
| Ukraine | 14.8 | 12.3 | 20.5 | 35.4 | 40.1 | 36.5 | 35.9 | 33.2 | 31.9 | 31.9 | 32.5 | 33.2 |
| Average | 61.6 | 59.8 | 62.3 | 69.1 | 73.9 | 74.0 | 74.1 | 73.8 | 73.0 | 71.7 | 70.1 | 68.2 |
| Advanced | 76.7 | 75.4 | 81.5 | 93.0 | 99.3 | 103.5 | 106.5 | 108.6 | 109.4 | 109.3 | 108.9 | 108.1 |
| Emerging | 37.1 | 35.9 | 34.7 | 36.7 | 41.0 | 37.6 | 35.7 | 34.1 | 32.9 | 31.6 | 30.2 | 28.7 |
| Euro area | 68.6 | 66.4 | 70.2 | 79.9 | 85.7 | 88.1 | 90.0 | 91.0 | 90.8 | 89.9 | 88.6 | 86.9 |
| G-7 | 85.5 | 84.7 | 91.8 | 105.0 | 112.1 | 116.8 | 120.2 | 122.8 | 124.0 | 124.3 | 124.2 | 123.6 |
| G-20 | 65.0 | 63.5 | 66.0 | 72.8 | 77.9 | 77.7 | 77.5 | 77.1 | 76.2 | 74.7 | 73.0 | 70.9 |
| Advanced | 81.3 | 80.5 | 87.0 | 99.3 | 105.9 | 110.3 | 113.2 | 115.4 | 116.3 | 116.3 | 115.9 | 115.2 |
| Emerging | 37.3 | 36.4 | 34.7 | 35.9 | 41.0 | 37.0 | 34.7 | 32.9 | 31.5 | 30.1 | 28.7 | 27.0 |

Source: IMF staff estimates and projections. Projections are based on staff assessment of current policies (see "Fiscal Policy Assumptions" in text).

Note: For country-specific details, see "Data and Conventions" in text.

[1]For China, data revisions from the authorities indicate that debt at end-2010 was much larger than previously reported, but no revised historical series is yet available for previous years.

## Statistical Table 8. General Government Net Debt

*(Percent of GDP)*

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Advanced Economies** | | | | | | | | | | | | |
| Australia | –6.3 | –7.3 | –5.3 | –0.6 | 4.4 | 7.8 | 9.5 | 9.6 | 9.2 | 7.5 | 5.5 | 4.0 |
| Austria | 43.1 | 40.9 | 42.0 | 49.4 | 52.0 | 52.5 | 54.1 | 54.2 | 53.7 | 53.1 | 52.5 | 50.6 |
| Belgium | 77.2 | 73.2 | 73.5 | 79.7 | 80.2 | 83.2 | 84.2 | 84.0 | 82.7 | 80.4 | 77.8 | 74.9 |
| Canada | 26.3 | 22.9 | 22.6 | 28.3 | 30.4 | 33.3 | 35.4 | 36.9 | 37.5 | 37.4 | 36.6 | 35.6 |
| Czech Republic | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Denmark | 1.9 | –3.8 | –5.3 | –3.6 | –1.3 | 2.6 | 8.4 | 10.7 | 11.5 | 11.8 | 11.5 | 10.3 |
| Estonia | –4.9 | –5.7 | –3.5 | –1.2 | –1.8 | –0.2 | 1.9 | 1.0 | 1.0 | 0.4 | –0.7 | –1.8 |
| Finland | –69.4 | –72.5 | –52.2 | –62.8 | –64.7 | –59.9 | –57.1 | –54.0 | –51.3 | –49.0 | –47.2 | –45.6 |
| France | 59.6 | 59.5 | 62.3 | 72.0 | 76.6 | 80.4 | 83.2 | 84.9 | 84.8 | 83.8 | 81.7 | 78.8 |
| Germany | 53.0 | 50.4 | 50.0 | 56.6 | 56.8 | 56.1 | 54.1 | 53.4 | 52.4 | 52.4 | 52.4 | 52.4 |
| Greece | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Hong Kong SAR | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Iceland | 7.8 | 10.8 | 41.8 | 55.8 | 62.8 | 64.6 | 66.4 | 64.6 | 62.9 | 59.9 | 56.7 | 53.0 |
| Ireland | 12.1 | 11.1 | 24.4 | 42.2 | 76.9 | 95.9 | 102.9 | 107.0 | 107.6 | 105.8 | 103.5 | 100.8 |
| Israel | 74.0 | 67.3 | 63.6 | 68.6 | 68.3 | 67.6 | 67.6 | 66.7 | 65.3 | 63.9 | 62.5 | 61.1 |
| Italy | 89.3 | 86.9 | 88.8 | 97.1 | 99.0 | 99.6 | 102.3 | 102.6 | 102.5 | 101.5 | 100.2 | 98.8 |
| Japan | 81.0 | 80.5 | 95.3 | 106.2 | 112.8 | 126.6 | 135.2 | 142.7 | 149.1 | 155.0 | 160.6 | 165.5 |
| Korea, Republic of | 29.4 | 28.7 | 28.8 | 32.3 | 32.1 | 32.9 | 31.5 | 29.5 | 27.5 | 25.6 | 23.8 | 22.1 |
| Netherlands | 24.5 | 21.6 | 20.6 | 23.1 | 27.5 | 31.8 | 36.0 | 40.2 | 43.9 | 46.5 | 48.2 | 49.1 |
| New Zealand | 0.2 | –5.7 | –4.8 | –0.8 | 3.5 | 8.3 | 11.5 | 12.4 | 12.2 | 11.3 | 10.5 | 10.0 |
| Norway | –133.7 | –138.9 | –123.5 | –156.7 | –165.3 | –168.1 | –173.7 | –182.0 | –188.6 | –192.8 | –195.1 | –196.2 |
| Portugal | 58.6 | 63.7 | 67.4 | 78.8 | 89.2 | 100.4 | 110.9 | 113.9 | 112.9 | 111.4 | 109.4 | 107.9 |
| Singapore | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Slovak Republic | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Slovenia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Spain | 30.7 | 26.7 | 30.8 | 42.5 | 49.7 | 56.9 | 67.0 | 71.8 | 75.1 | 76.9 | 78.3 | 79.8 |
| Sweden | –14.0 | –17.5 | –12.6 | –19.7 | –22.3 | –21.4 | –20.1 | –19.8 | –20.1 | –20.8 | –22.1 | –23.8 |
| Switzerland | 18.8 | 11.4 | 9.0 | 7.0 | 4.8 | 6.4 | 6.4 | 6.3 | 6.0 | 5.9 | 5.8 | 5.8 |
| United Kingdom | 38.0 | 38.1 | 46.0 | 60.9 | 71.1 | 78.3 | 84.2 | 87.2 | 88.6 | 88.1 | 86.0 | 82.6 |
| United States | 48.5 | 48.2 | 53.7 | 65.9 | 73.1 | 80.3 | 83.7 | 86.7 | 88.0 | 88.3 | 88.4 | 88.4 |
| **Emerging Economies** | | | | | | | | | | | | |
| Argentina | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Brazil | 47.0 | 45.1 | 38.0 | 41.5 | 39.1 | 36.4 | 36.0 | 34.5 | 33.2 | 31.9 | 30.9 | 30.2 |
| Bulgaria | –10.4 | –10.2 | –13.6 | –13.9 | –11.8 | –9.6 | –4.3 | –3.2 | –3.2 | –4.3 | –6.7 | –9.8 |
| Chile | –6.6 | –13.0 | –19.3 | –10.5 | –7.1 | –8.6 | –7.0 | –6.3 | –6.4 | –6.7 | –6.4 | –6.0 |
| China | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Colombia | 26.3 | 22.7 | 21.0 | 27.0 | 28.2 | 27.9 | 26.0 | 25.9 | 25.7 | 26.2 | 26.6 | 26.9 |
| Hungary | 64.8 | 65.4 | 65.3 | 73.3 | 76.3 | 78.6 | 75.0 | 74.8 | 74.2 | 73.2 | 72.1 | 70.9 |
| India | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Indonesia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Jordan | 68.8 | 67.6 | 54.9 | 57.1 | 61.1 | 64.6 | 65.2 | 65.2 | 64.4 | 63.9 | 63.2 | 62.5 |
| Kazakhstan | –10.7 | –14.4 | –13.7 | –10.9 | –10.2 | –13.6 | –16.7 | –19.5 | –21.0 | –22.1 | –22.3 | –22.7 |
| Kenya | 42.1 | 41.3 | 40.5 | 42.6 | 44.7 | 43.9 | 41.6 | 40.5 | 39.8 | 39.2 | 39.6 | 40.2 |
| Latvia | 7.5 | 4.7 | 11.3 | 21.5 | 29.9 | 29.8 | 29.9 | 29.0 | 27.8 | 26.7 | 25.1 | 23.4 |
| Lithuania | 11.0 | 11.1 | 12.7 | 23.3 | 30.7 | 32.4 | 34.7 | 35.3 | 35.0 | 34.4 | 33.5 | 32.1 |
| Malaysia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Mexico | 32.4 | 31.1 | 35.6 | 38.9 | 39.3 | 40.4 | 39.7 | 39.8 | 39.8 | 39.9 | 39.9 | 39.9 |
| Morocco | 56.8 | 53.1 | 47.5 | 47.3 | 50.8 | 54.0 | 55.6 | 57.0 | 57.5 | 57.0 | 55.5 | 53.4 |
| Nigeria | 2.9 | 4.7 | 1.3 | 11.0 | 16.7 | 9.9 | 3.0 | –4.4 | –5.7 | –4.7 | –3.3 | –1.7 |
| Pakistan | 53.4 | 49.6 | 54.6 | 57.0 | 57.9 | 56.8 | 58.5 | 57.0 | 55.2 | 53.1 | 51.6 | 50.4 |
| Peru | 22.8 | 16.0 | 12.5 | 11.7 | 9.9 | 7.0 | 5.2 | 3.8 | 2.5 | 1.3 | 0.2 | –0.9 |
| Philippines | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Poland | 15.0 | 10.2 | 9.9 | 15.0 | 21.1 | 23.5 | 25.2 | 25.8 | 24.5 | 22.8 | 21.1 | 18.3 |
| Romania | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Russia | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Saudi Arabia | 1.7 | –17.1 | –45.8 | –50.2 | –49.8 | –48.1 | –59.2 | –67.9 | –72.9 | –74.0 | –70.6 | –66.4 |
| South Africa | 29.7 | 24.8 | 23.4 | 27.4 | 31.3 | 35.1 | 36.2 | 37.6 | 38.8 | 38.3 | 36.6 | 34.5 |
| Thailand | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . | . . . |
| Turkey | 39.0 | 32.7 | 33.4 | 38.5 | 36.1 | 33.2 | 29.7 | 28.2 | 27.2 | 26.4 | 25.5 | 24.6 |
| Ukraine | 11.7 | 10.1 | 18.3 | 31.9 | 38.0 | 35.3 | 34.8 | 32.3 | 31.1 | 31.1 | 31.8 | 32.5 |
| Average | 44.8 | 42.9 | 46.3 | 54.3 | 58.7 | 62.8 | 65.0 | 66.4 | 67.0 | 67.0 | 66.8 | 66.4 |
| Advanced | 48.2 | 46.9 | 52.0 | 61.3 | 66.7 | 72.4 | 75.9 | 78.4 | 79.6 | 80.0 | 80.2 | 80.0 |
| Emerging | 30.2 | 26.2 | 23.4 | 27.1 | 28.0 | 27.0 | 25.3 | 23.7 | 22.6 | 21.8 | 21.3 | 20.8 |
| Euro area | 54.3 | 52.0 | 54.0 | 62.2 | 65.8 | 68.4 | 70.3 | 71.5 | 71.6 | 71.3 | 70.5 | 69.5 |
| G-7 | 55.5 | 54.7 | 60.4 | 71.2 | 77.1 | 83.5 | 87.1 | 90.1 | 91.7 | 92.4 | 92.8 | 92.8 |
| G-20 | 50.3 | 48.8 | 52.7 | 61.6 | 66.1 | 70.7 | 73.0 | 74.8 | 75.5 | 75.7 | 75.6 | 75.3 |
| Advanced | 52.9 | 52.0 | 57.3 | 67.5 | 73.0 | 79.0 | 82.3 | 84.8 | 86.1 | 86.5 | 86.7 | 86.5 |
| Emerging | 35.1 | 30.7 | 26.4 | 29.1 | 28.5 | 27.6 | 25.3 | 23.7 | 22.6 | 21.8 | 21.5 | 21.3 |

Source: IMF staff estimates and projections. Projections are based on staff assessment of current policies (see "Fiscal Policy Assumptions" in text).
Note: For country-specific details, see "Data and Conventions" in text.

## Statistical Table 9a. Advanced Economies: Structural Fiscal Indicators

*(Percent of GDP, except where otherwise indicated)*

| | Pension spending change, 2010–30[1] | Net present value of pension spending change, 2010–50[1,2] | Health care spending change, 2010–30[3] | Net present value of health care spending change, 2010–50[2,3] | Gross financing needs, 2012[4] | Average term to maturity, 2012 (years)[5] | Debt-to-average maturity, 2012 | Projected interest rate–growth differential, 2012–17 (percent) | Precrisis overall balance, 2000–07 | Projected overall balance, 2012–17 | Nonresident holding of marketable central government debt, 2011 (percent of total)[6] | Nonresident holding of general government debt, 2011 (percent of total)[7] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Australia | 0.8 | 23.7 | 2.1 | 67.0 | 4.9 | 4.9 | 4.9 | –0.9 | 1.6 | –0.3 | 74.7 | 42.5 |
| Austria | 0.9 | –40.1 | 3.2 | 104.6 | 8.6 | 7.4 | 10.0 | 0.3 | –1.7 | –1.9 | 71.2 | 78.0 |
| Belgium | 2.8 | 73.3 | 2.0 | 64.3 | 19.3 | 7.0 | 14.2 | 0.0 | –0.4 | –1.2 | . . . | 60.9 |
| Canada | 1.9 | 43.3 | 2.0 | 61.1 | 16.1 | 5.7 | 14.9 | –0.2 | 1.1 | –1.9 | 20.7 | 19.3 |
| Czech Republic | 0.0 | 21.0 | 0.6 | 17.5 | 12.5 | 5.6 | 7.9 | –0.6 | –3.9 | –3.1 | 27.8 | 29.2 |
| Denmark | –0.9 | –29.4 | 0.8 | 21.5 | 13.6 | 7.6 | 6.7 | –0.2 | 2.4 | –1.6 | 42.9 | 40.3 |
| Estonia | –2.5 | –67.6 | 1.1 | 37.3 | . . . | 10.6 | 0.5 | –2.7 | 1.5 | 0.0 | . . . | 83.6 |
| Finland | 2.1 | 50.0 | 2.5 | 76.4 | 8.6 | 5.4 | 9.5 | –0.9 | 4.1 | –0.4 | 95.3 | 81.8 |
| France | 0.1 | –0.7 | 1.5 | 43.8 | 18.2 | 7.0 | 12.7 | –0.5 | –2.8 | –2.6 | 62.9 | 59.0 |
| Germany | 1.1 | 30.4 | 0.9 | 28.1 | 8.9 | 6.3 | 12.5 | 0.3 | –2.2 | –0.4 | 64.2 | 51.6 |
| Greece | 0.3 | 21.0 | 3.2 | 106.9 | . . . | 10.4 | 14.8 | 2.6 | –5.5 | –3.1 | 75.5 | 58.4 |
| Hong Kong SAR | . . . | . . . | . . . | . . . | . . . | . . . | . . . | –6.7 | –0.1 | 2.7 | . . . | 1.8 |
| Iceland | 0.4 | 6.9 | 3.2 | 105.0 | 10.3 | 7.4 | 13.1 | 0.4 | 1.5 | –0.5 | 28.1 | . . . |
| Ireland | 0.8 | 35.7 | 0.7 | 23.2 | 15.3 | 6.4 | 17.8 | 1.1 | 1.4 | –4.7 | 83.1 | 59.1 |
| Israel | . . . | . . . | . . . | . . . | . . . | 5.2 | 14.2 | 0.7 | –5.0 | –2.4 | 11.0 | 16.2 |
| Italy | –1.6 | –33.7 | 0.6 | 18.8 | 28.7 | 6.9 | 17.8 | 3.3 | –2.9 | –1.6 | 49.0 | 43.7 |
| Japan | –0.2 | 6.5 | 1.0 | 27.5 | 59.1 | 5.9 | 40.1 | –0.5 | –5.5 | –8.2 | 4.8 | 6.6 |
| Korea, Republic of | 4.5 | 152.5 | 3.2 | 111.9 | 0.9 | 5.1 | 6.4 | –2.8 | 2.1 | 2.7 | 14.9 | 13.0 |
| Netherlands | 2.4 | 58.5 | 2.6 | 79.3 | 14.9 | 6.8 | 10.4 | 0.4 | –0.6 | –4.0 | . . . | 58.5 |
| New Zealand | 2.3 | 66.3 | 3.0 | 95.9 | 8.8 | 4.6 | 7.8 | 0.0 | 2.5 | –1.0 | 36.4 | . . . |
| Norway | 2.3 | 63.7 | 1.7 | 52.0 | –10.1 | 2.9 | 17.4 | –2.1 | 13.3 | 10.9 | 37.8 | 47.8 |
| Portugal | 0.7 | 21.4 | 3.5 | 116.5 | 26.7 | 5.6 | 20.1 | 2.3 | –3.7 | –2.6 | 63.3 | 50.6 |
| Singapore[8] | . . . | . . . | . . . | . . . | . . . | 3.1 | 31.9 | –4.7 | 10.3 | 5.0 | . . . | . . . |
| Slovak Republic | . . . | . . . | . . . | . . . | 11.7 | 4.7 | 10.0 | –0.7 | –5.0 | –3.9 | 35.2 | 38.8 |
| Slovenia | 2.9 | 101.6 | 0.7 | 22.2 | 7.9 | 6.5 | 8.0 | 0.8 | –1.0 | –3.9 | 60.9 | 66.3 |
| Spain | 0.5 | 33.6 | 1.6 | 51.5 | 20.9 | 5.9 | 13.4 | 2.2 | 0.3 | –5.0 | 41.6 | 42.6 |
| Sweden | –1.0 | –30.8 | 0.4 | 11.7 | 4.5 | 6.0 | 5.9 | –1.7 | 1.3 | 1.4 | 43.3 | 35.9 |
| Switzerland | 2.2 | 58.4 | 3.9 | 127.7 | 3.2 | 6.6 | 7.4 | –0.5 | 0.2 | 0.4 | . . . | 8.3 |
| United Kingdom | 0.4 | 12.7 | 3.3 | 113.3 | 14.8 | 14.2 | 6.2 | –1.0 | –1.9 | –4.4 | 31.1 | 27.3 |
| United States | 1.7 | 37.9 | 5.1 | 164.5 | 25.8 | 5.1 | 20.8 | –1.3 | –3.1 | –5.4 | 55.1 | 28.7 |
| Average | 1.2 | 31.1 | 3.1 | 100.6 | 23.6 | 6.2 | 18.5 | –0.7 | –2.2 | –3.7 | 45.3 | 32.2 |
| G-7 | 1.0 | 24.6 | 3.4 | 107.2 | 27.3 | 6.3 | 20.7 | –0.7 | –3.0 | –4.7 | 45.3 | 30.4 |
| G-20 advanced | 1.2 | 31.2 | 3.3 | 106.3 | 25.4 | 6.2 | 19.6 | –0.8 | –2.7 | –4.2 | 44.7 | 29.9 |

Sources: Bloomberg L.P.; national authorities; Haver Analytics; Organization for Economic Cooperation and Development, OECD.Stat; Joint External Debt Hub; and IMF staff estimates and projections.

[1]Pension projections are based on IMF (2011b).

[2]For net present value calculations, a discount rate of 1 percent a year is used in excess of GDP growth for each country.

[3]*Health care spending* projections are based on IMF (2010a). Projections do not take into account recent reforms (or plans for reforms) in the following countries: France, Germany, Greece, Ireland, Italy, Portugal, Spain, and the United Kingdom.

[4]*Gross financing needs* are defined as the projected overall balance and maturing government debt in 2012; for more details on the assumptions, see note 1 in Table 2. Data are from Bloomberg and IMF staff projections.

[5]*Average term to maturity* data refer to government securities; source is Bloomberg.

[6]*Nonresident holding of marketable central government debt* (marketable securities) data are from national authorities and OECD.Stat and are for 2011:Q3 or latest available. General government for Germany, Greece, Italy, Portugal, and Spain.

[7]*Nonresident holding of general government debt* data are 2011:Q1 or latest available from the Joint External Debt Hub (JEDH), Quarterly External Debt Statistics, which include marketable and nonmarketable debt. For some countries, tradable instruments in the JEDH are reported at market value. External debt in U.S. dollars is converted to local currency, then taken as a percentage of 2011 gross general government debt .

[8]Singapore's general government debt is covered by financial assets and issued to develop the bond market.

## Statistical Table 9b. Emerging Economies: Structural Fiscal Indicators

*(Percent of GDP, except where otherwise indicated)*

| | Pension spending change, 2010–30[1] | Net present value of pension spending change, 2010–50[1,2] | Health care spending change, 2010–30[3] | Net present value of health care spending change, 2010–50[2,3] | Gross financing needs, 2012[4] | Average term to maturity, 2012 (years)[5] | Debt-to-average maturity, 2012 | Projected interest rate–growth differential, 2012–17 (percent) | Precrisis overall balance, 2000–07 | Projected overall balance, 2012–17 | Nonresident holding of general government debt, 2011 (percent of total)[6] |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Argentina | 1.5 | 55.8 | 1.5 | 51.8 | 6.6 | 14.5 | 3.0 | –9.9 | –4.6 | –1.7 | 35.7 |
| Brazil | 1.3 | 71.0 | 1.6 | 52.0 | 18.5 | 4.6 | 14.0 | 0.3 | –3.5 | –2.3 | 3.8 |
| Bulgaria | –1.2 | –19.1 | 1.3 | 44.6 | 4.7 | 4.0 | 5.3 | 0.5 | 1.1 | –0.1 | 43.1 |
| Chile | –1.9 | –43.6 | 1.5 | 50.5 | 1.3 | 7.6 | 1.3 | 0.6 | 2.4 | 0.1 | 16.7 |
| China | 3.3 | 94.7 | 0.8 | 27.8 | 9.1 | 8.7 | 2.5 | –7.3 | –1.8 | –0.3 | . . . |
| Colombia | . . . | . . . | . . . | . . . | 3.9 | 6.8 | 4.7 | 1.4 | –1.8 | –1.5 | 27.1 |
| Hungary | –3.0 | –78.9 | 1.6 | 51.9 | 19.3 | 5.0 | 15.3 | 1.1 | –6.6 | –2.9 | 62.2 |
| India | 0.0 | –1.9 | 0.4 | 12.6 | 11.6 | 8.9 | 7.6 | –5.3 | –8.0 | –8.0 | 6.9 |
| Indonesia | 0.4 | 13.1 | 0.5 | 15.6 | 3.0 | 9.9 | 2.3 | –8.0 | –1.0 | –1.0 | 51.8 |
| Jordan | 3.2 | 115.8 | . . . | . . . | 6.8 | 1.5 | 48.1 | –2.4 | –3.5 | –4.4 | 26.8 |
| Kazakhstan | . . . | . . . | . . . | . . . | 0.3 | 7.1 | 1.4 | –7.6 | 4.6 | 3.6 | 19.6 |
| Kenya | . . . | . . . | . . . | . . . | . . . | 5.9 | 7.9 | –6.6 | –1.9 | –3.6 | . . . |
| Latvia | 1.0 | 21.0 | 1.0 | 34.7 | 7.3 | 4.5 | 8.7 | –0.4 | –1.4 | –0.3 | 79.8 |
| Lithuania | 0.8 | 24.7 | 1.5 | 49.4 | 8.8 | 4.7 | 8.8 | –1.6 | –1.8 | –2.1 | 71.3 |
| Malaysia | 1.9 | 60.4 | 0.8 | 25.8 | 7.6 | 5.1 | 10.4 | –2.5 | –3.7 | –4.8 | 4.3 |
| Mexico | 1.3 | 16.7 | 1.1 | 37.7 | 10.8 | 7.6 | 5.7 | –0.1 | –2.1 | –2.2 | 22.5 |
| Morocco | . . . | . . . | . . . | . . . | 15.0 | 5.1 | 11.0 | –2.6 | –3.5 | –4.0 | 22.0 |
| Nigeria | . . . | . . . | . . . | . . . | . . . | 3.4 | 5.4 | –2.7 | 3.9 | 1.7 | . . . |
| Pakistan | 0.1 | 6.1 | 0.2 | 8.3 | 30.0 | 2.2 | 28.2 | –7.1 | –3.2 | –6.0 | . . . |
| Peru | . . . | . . . | . . . | . . . | 1.4 | 13.5 | 1.5 | –2.8 | –0.4 | 1.0 | 51.3 |
| Philippines | 0.9 | 31.2 | 0.5 | 15.6 | 10.2 | 10.7 | 3.8 | –1.1 | –2.4 | –1.3 | . . . |
| Poland | –2.1 | –61.3 | 1.8 | 58.7 | 10.5 | 5.1 | 11.0 | –0.5 | –4.3 | –2.3 | 41.1 |
| Romania | 1.5 | 45.8 | 1.3 | 43.0 | 12.3 | 4.7 | 7.3 | –1.6 | –2.6 | –1.1 | 47.1 |
| Russia | 3.1 | 104.0 | 1.1 | 36.7 | 2.5 | 8.2 | 1.0 | 0.0 | 4.6 | –1.2 | 19.9 |
| Saudi Arabia | 2.7 | 86.7 | 1.0 | 35.5 | . . . | 7.3 | 0.8 | 0.7 | 10.8 | 5.8 | . . . |
| South Africa | 0.9 | 25.9 | 1.1 | 36.5 | 6.2 | 8.6 | 4.7 | –1.9 | –0.6 | –2.7 | 22.9 |
| Thailand | 0.7 | 19.6 | 1.1 | 36.5 | 9.1 | 6.4 | 6.8 | –5.6 | –0.4 | –2.8 | 5.9 |
| Turkey | 4.4 | 243.3 | 1.3 | 44.0 | 7.5 | 4.1 | 8.8 | –0.5 | –5.0 | –1.7 | 27.7 |
| Ukraine | 1.7 | 346.4 | 1.2 | 38.8 | 9.4 | 4.4 | 8.2 | –2.9 | –2.4 | –2.1 | 40.0 |
| Average | 2.0 | 66.6 | 0.9 | 30.0 | 9.5 | 7.9 | 5.4 | –4.6 | –2.0 | –2.0 | 20.4 |
| G-20 advanced | 2.9 | 92.9 | 1.0 | 32.2 | 8.8 | 8.1 | 4.2 | –5.2 | –0.9 | –0.7 | 22.2 |

Sources: Bloomberg L.P.; Joint External Debt Hub; and IMF staff estimates and projections.

[1]Pension projections are based on IMF (2011b).

[2]For net present value calculations, a discount rate of 1 percent a year is used in excess of GDP growth for each country.

[3]*Health care spending* projections are based on IMF (2010a).

[4]*Gross financing needs* are defined as the projected overall balance and maturing government debt in 2012. Data are from IMF staff.

[5]*Average term to maturity* data refer to government securities; source is Bloomberg.

[6]*Nonresident holding of general government debt* data are 2011:Q1 or latest available from the Joint External Debt Hub (JEDH), Quarterly External Debt Statistics, which include marketable and nonmarketable debt. For some countries, tradable instruments in the JEDH are reported at market value. External debt in U.S. dollars is converted to local currency, then taken as a percentage of 2011 gross general government debt.

## Statistical Table 10a. Advanced Economies: Illustrative Adjustment Needs

*(Percent of GDP)*

| | 2011 | | Age-related spending, 2011–30[3] | Illustrative Fiscal Adjustment Strategy to Achieve Debt Target in 2030 | | |
|---|---|---|---|---|---|---|
| | Gross debt[1] | CAPB[2] | | CAPB in 2020–30[4] | Required adjustment between 2011 and 2020 | Required adjustment and age-related spending, 2011–30 |
| | (1) | (2) | (3) | (4) | (4) – (2) | (4) + (3) – (2) |
| Australia | 7.8 | –3.7 | 2.9 | 0.2 | 3.9 | 6.8 |
| Austria | 72.2 | 0.2 | 4.2 | 1.5 | 1.3 | 5.5 |
| Belgium | 98.5 | –0.4 | 4.8 | 4.0 | 4.4 | 9.3 |
| Canada | 33.3 | –3.2 | 3.9 | 0.8 | 4.0 | 7.9 |
| Czech Republic | 41.5 | –1.8 | 0.6 | 0.7 | 2.4 | 3.0 |
| Denmark | 46.4 | –0.7 | –0.1 | 0.9 | 1.6 | 1.5 |
| Estonia | 6.0 | 1.6 | –1.4 | 0.2 | –1.4 | –2.8 |
| Finland | 48.6 | 2.0 | 4.6 | 0.3 | –1.7 | 2.9 |
| France | 86.3 | –1.5 | 1.6 | 3.6 | 5.0 | 6.6 |
| Germany | 81.5 | 1.6 | 2.0 | 1.9 | 0.3 | 2.3 |
| Greece | 160.8 | –0.1 | 3.4 | 7.2 | 7.3 | 10.7 |
| Iceland | 99.2 | 1.1 | 3.5 | 2.8 | 1.8 | 5.3 |
| Ireland | 105.0 | –4.9 | 1.5 | 5.7 | 10.7 | 12.2 |
| Israel | 74.3 | 0.7 | . . . | 1.5 | 0.8 | . . . |
| Italy | 120.1 | 2.2 | –1.0 | 6.6 | 4.4 | 3.4 |
| Japan | 126.6 | –7.6 | 0.8 | 10.6 | 18.2 | 18.9 |
| Korea, Republic of | 34.1 | 3.7 | 7.8 | –0.9 | –4.6 | 3.1 |
| Netherlands | 66.2 | –2.6 | 5.0 | 2.6 | 5.3 | 10.3 |
| New Zealand | 8.3 | –4.0 | 5.3 | 0.5 | 4.5 | 9.8 |
| Portugal | 106.8 | 1.4 | 4.2 | 5.2 | 3.8 | 8.1 |
| Slovak Republic | 44.6 | –3.7 | . . . | 0.7 | 4.3 | . . . |
| Slovenia | 47.3 | –2.0 | 3.6 | 1.1 | 3.1 | 6.7 |
| Spain | 68.5 | –4.7 | 2.1 | 3.2 | 7.9 | 10.0 |
| Sweden | 37.4 | 1.4 | –0.6 | 0.0 | –1.4 | –1.9 |
| Switzerland | 48.6 | 1.1 | 6.1 | –0.2 | –1.4 | 4.7 |
| United Kingdom | 82.5 | –3.4 | 3.8 | 4.1 | 7.5 | 11.3 |
| United States | 102.9 | –4.6 | 6.8 | 6.2 | 10.9 | 17.6 |
| Average | 90.2 | –3.1 | 4.1 | 4.9 | 8.0 | 12.1 |
| G-20 advanced | 93.7 | –3.3 | 4.3 | 5.4 | 8.6 | 13.0 |

Sources: IMF staff estimates and projections.

Note: The CAPB required to reduce debt and its comparison to the 2011 CAPB is a standardized calculation, and policy recommendations for individual countries would require a case-by-case assessment.

[1]Gross general government debt, except in the cases of Australia, Canada, Japan, and New Zealand, for which net debt ratios are used.

[2]Cyclically adjusted primary balance (CAPB) is reported in percent of nominal GDP (in contrast to the conventional definition in percent of potential GDP). CAPB is defined as cyclically adjusted balance (CAB) plus gross interest expenditure (this differs from the definition in Statistical Table 4), except in the cases Australia, Canada, Japan, and New Zealand, where CAPB is defined as CAB plus net interest payments (as in Statistical Table 4). Structural balances are used instead of CAB for Sweden and the United States. For countries not reporting CAB in Statistical Table 3, a Hodrick-Prescott filter is used to estimate potential output, and the CAB is estimated assuming growth elasticities of one and zero for revenues and expenditure, respectively. For details, see "Data and Conventions" in the text.

[3]See Statistical Table 9a.

[4]CAPB needed to bring the debt ratio down to 60 percent in 2030 (no shading, "higher debt"), or to stabilize debt at the end-2012 level by 2030, if the respective debt-to-GDP ratio is less than 60 percent (shaded entries, "lower debt"). For Japan, a net debt target of 80 percent of GDP is assumed, which corresponds to a target of 200 percent of GDP for gross debt. The CAPB is assumed to change in line with *Fiscal Monitor* projections in 2011–13 and adjust gradually from 2014 until 2020 (except in the cases of Ireland and Portugal, for which adjustment starts in 2015); thereafter it is maintained constant until 2030. These calculations follow the standard *Fiscal Monitor* methodology, adjusted to take into account the endogenous (dynamic) impact of debt levels on the interest rate-growth differential. Initial country-specific interest rate-growth differentials (based on *Fiscal Monitor* projections) converge over a five-year period to model-based country-specific levels, derived from empirical estimates of the effect of public debt on economic growth (Kumar and Woo, 2010) and on the interest rate (Baldacci and Kumar, 2010). The assumption on $r - g$ for countries with IMF/EU-supported programs (Greece, Ireland, Portugal) is drawn from their debt sustainability analyses. From 2016 onward, $r - g$ is assumed to follow the endogenous adjustment path determined by debt levels in the cases of Ireland and Portugal.

## Statistical Table 10b. Emerging Economies: Illustrative Adjustment Needs

*(Percent of GDP)*

| | 2011 | | Age-related spending, 2011–30[3] | Illustrative Fiscal Adjustment Strategy to Achieve Debt Target in 2030 | | |
|---|---|---|---|---|---|---|
| | Gross debt[1] | CAPB[2] | | CAPB in 2020–30[4] | Required adjustment between 2011 and 2020 | Required adjustment and age-related spending, 2011–30 |
| | (1) | (2) | (3) | (4) | (4) – (2) | (4) + (3) – (2) |
| Argentina | 44.2 | –0.2 | 3.0 | 0.8 | 1.0 | 4.0 |
| Brazil | 66.2 | 3.0 | 2.9 | 1.4 | –1.6 | 1.2 |
| Bulgaria | 17.0 | 1.3 | 0.2 | 0.4 | –0.8 | –0.6 |
| Chile | 9.9 | –0.6 | –0.4 | –0.1 | 0.5 | 0.2 |
| China | 25.8 | 0.5 | 4.1 | 0.3 | –0.2 | 3.9 |
| Colombia | 34.7 | 0.7 | . . . | –0.1 | –0.8 | . . . |
| Hungary | 80.4 | –2.6 | –1.4 | 2.6 | 5.3 | 3.8 |
| India | 68.1 | –4.5 | 0.4 | 3.4 | 7.9 | 8.3 |
| Indonesia | 25.0 | –0.3 | 0.9 | 0.2 | 0.6 | 1.5 |
| Jordan | 69.8 | –4.5 | . . . | 4.0 | 8.5 | . . . |
| Kazakhstan | 10.9 | 5.1 | . . . | –1.0 | –6.1 | . . . |
| Kenya | 48.9 | –1.4 | . . . | 1.0 | 2.5 | . . . |
| Latvia | 37.8 | –0.3 | 2.0 | –0.2 | 0.2 | 2.1 |
| Lithuania | 39.0 | –2.4 | 2.3 | 0.6 | 3.0 | 5.3 |
| Malaysia | 52.6 | –3.2 | 2.6 | 2.1 | 5.3 | 7.9 |
| Mexico | 43.8 | –0.8 | 2.4 | 0.5 | 1.3 | 3.7 |
| Morocco | 54.4 | 1.5 | . . . | 2.4 | 0.8 | . . . |
| Nigeria | 17.9 | 2.7 | . . . | –1.1 | –3.7 | . . . |
| Pakistan | 60.1 | –2.4 | 0.4 | 2.8 | 5.2 | 5.6 |
| Peru | 21.6 | 2.1 | . . . | –0.3 | –2.4 | . . . |
| Philippines | 40.5 | 0.5 | 1.4 | 0.0 | –0.5 | 0.9 |
| Poland | 55.4 | –2.7 | –0.3 | 1.7 | 4.4 | 4.0 |
| Romania | 33.0 | –1.4 | 2.8 | 0.4 | 1.8 | 4.6 |
| Russia | 9.6 | 2.2 | 4.3 | –0.2 | –2.4 | 1.8 |
| South Africa | 38.8 | –1.7 | 2.0 | 0.7 | 2.5 | 4.5 |
| Thailand | 42.2 | –0.6 | 1.8 | 1.2 | 1.8 | 3.7 |
| Turkey | 39.4 | 1.6 | 5.7 | –0.2 | –1.8 | 3.9 |
| Ukraine | 36.5 | 0.4 | 2.9 | 0.3 | –0.1 | 2.8 |
| Average | 38.3 | –0.2 | 2.7 | 0.9 | 1.1 | 4.1 |
| G-20 emerging | 37.8 | –0.1 | 3.1 | 0.9 | 1.0 | 4.1 |

Sources: IMF staff estimates and projections.

Note: The CAPB required to reduce debt and its comparison to the 2011 CAPB is a standardized calculation, and policy recommendations for individual countries would require a case-by-case assessment.

[1]Gross general government debt.

[2]Cyclically adjusted primary balance (CAPB) is reported in percent of nominal GDP (in contrast to the conventional definition in percent of potential GDP). CAPB is defined as cyclically adjusted balance (CAB) plus gross interest expenditure (this differs from the definition in Statistical Table 4). Structural balances are used instead of CAB for Chile and Peru. For countries not reporting CAB in Statistical Table 3, a Hodrick-Prescott filter is used to estimate potential output, and the CAB is estimated assuming growth elasticities of one and zero for revenues and expenditure, respectively. For details, see "Data and Conventions" in the text.

[3]See Statistical Table 9b.

[4]CAPB needed to bring the debt ratio down to 40 percent in 2030 (no shading, "higher debt"), or to stabilize debt at the end-2012 level by 2030 if the respective debt-to-GDP ratio is less than 40 percent (shaded entries, "lower debt"). The CAPB is assumed to change in line with *Fiscal Monitor* projections in 2011–12 and adjust gradually from 2013 until 2020; thereafter it is maintained constant until 2030. The analysis makes some simplifying assumptions: in particular, up to 2015, an interest rate–growth differential of zero percentage points is assumed (broadly in line with *Fiscal Monitor* projections), and 1 percentage point afterward regardless of country-specific circumstances. For large commodity-producing countries, even larger fiscal balances might be called for in the medium term than shown in the illustrative scenario, given the high volatility of revenues and the exhaustibility of natural resources.

## Statistical Table 11. Market Value of Government Shares in Partially Privatized Firms Listed on the Stock Exchange in Selected Countries

| Country | Value in billions of U.S. dollars | Percent of GDP | Country | Value in billions of U.S. dollars | Percent of GDP |
|---|---|---|---|---|---|
| Colombia | 82.1 | 26.7 | Taiwan Province of China | 16.8 | 3.2 |
| Saudi Arabia | 145.3 | 25.2 | Gabon | 0.5 | 2.7 |
| Norway | 99.2 | 20.6 | China | 158.7 | 2.4 |
| India | 349.2 | 20.4 | Romania | 4.0 | 2.3 |
| Qatar | 39.3 | 20.2 | Greece | 6.7 | 2.1 |
| Bahrain | 5.2 | 19.8 | United Kingdom | 46.9 | 1.9 |
| Jordan | 5.5 | 18.4 | Italy | 35.2 | 1.7 |
| Malaysia | 39.2 | 15.8 | Austria | 6.6 | 1.6 |
| United Arab Emirates | 47.1 | 12.9 | Turkey | 12.8 | 1.6 |
| Papua New Guinea | 1.4 | 12.8 | Vietnam | 1.6 | 1.3 |
| Finland | 24.3 | 9.4 | Philippines | 2.1 | 1.0 |
| Thailand | 30.9 | 9.2 | Korea, Republic of | 10.7 | 1.0 |
| Poland | 44.5 | 9.0 | Singapore | 2.0 | 0.8 |
| Czech Republic | 19.3 | 8.9 | Germany | 26.9 | 0.7 |
| Croatia | 5.4 | 8.2 | Hungary | 0.9 | 0.7 |
| Indonesia | 60.8 | 7.3 | Japan | 44.1 | 0.7 |
| Kuwait | 12.0 | 7.0 | Lithuania | 0.3 | 0.7 |
| Egypt | 15.8 | 6.8 | South Africa | 2.6 | 0.7 |
| Brazil | 164.2 | 6.8 | Ukraine | 1.0 | 0.6 |
| Hong Kong SAR | 16.2 | 6.6 | Liberia | 0.0 | 0.5 |
| Oman | 3.1 | 4.6 | Denmark | 1.2 | 0.3 |
| Morocco | 4.6 | 4.5 | Israel | 0.5 | 0.2 |
| France | 117.0 | 4.2 | Pakistan | 0.2 | 0.2 |
| Switzerland | 24.5 | 4.2 | Ireland | 0.1 | 0.1 |
| Libya | 2.9 | 4.0 | Netherlands | 1.2 | 0.1 |
| Sweden | 21.1 | 3.9 | New Zealand | 0.2 | 0.1 |
| Belgium | 19.0 | 3.8 | Australia | 0.0 | 0.0 |
| Luxembourg | 2.3 | 3.7 | Iran, Islamic Republic of | 0.1 | 0.0 |
| Brunei Darussalam | 0.6 | 3.6 | Total | 1,850.5 | |
| Russian Federation | 64.5 | 3.4 | | | |

Sources: Thomson Reuters Datastream; and IMF staff estimates.

Note: Data refer to July 2011 and cover all publicly listed assets in a select number of countries. However, government-related assets included in the database may not be those covered by the "general government" definition in some countries Moreover, holdings acquired in the context of exceptional intervention associated with the global financial crisis are not necessarily reflected. Government owned (partly or fully) companies are not included if they did not have an initial public offering.

# ACRONYMS

| | |
|---|---|
| BIS | Bank for International Settlements |
| CAB | cyclically adjusted balance |
| CAPB | cyclically adjusted primary balance |
| CBO | Congressional Budget Office (United States) |
| CDS | credit default swap |
| CEA | Council of Economic Advisers of the White House |
| CIS | Commonwealth of Independent States (WEO classification) |
| CIT | corporate income tax |
| EC | European Commission |
| ECB | European Central Bank |
| EDP | excessive deficit procedure |
| EFSF | European Financial Stability Facility |
| EIU | Economist Intelligence Unit |
| EME | emerging market economy |
| EU | European Union |
| FAT | financial activities tax |
| FCR | financial crisis responsibility fee |
| FII | Fiscal Indictors Index |
| FSC | financial stability contribution |
| FTT | financial transaction tax |
| GDP | gross domestic product |
| GFSM | *Government Finance Statistics Manual* |
| GFSR | *Global Financial Stability Report* |
| GSE | government-sponsored enterprise |
| LAC | Latin America and the Caribbean |
| LIC | low-income country |
| MBSs | mortgage-backed securities |
| MENA | Middle East and North Africa |
| OECD | Organization for Economic Cooperation and Development |
| OMB | Office of Management and Budget (United States) |
| PB | primary balance |
| PIT | personal income tax |
| RAS | relative asset swap |
| SCE | employee's social contributions |
| SCR | employer's social contributions |
| SGP | Stability and Growth Pact |
| SMP | Securities Market Program |
| SSA | Sub-Saharan Africa |
| SSC | social security contributions |
| TARP | Troubled Asset Relief Program |
| VAT | value-added tax |
| WEO | *World Economic Outlook* |
| WH | Western Hemisphere |

# COUNTRY ABBREVIATIONS

| Codes | Country Name |
|---|---|
| AFG | Afghanistan, Islamic Republic of |
| ALB | Albania |
| DZA | Algeria |
| AGO | Angola |
| ATG | Antigua and Barbuda |
| ARG | Argentina |
| ARM | Armenia |
| AUS | Australia |
| AUT | Austria |
| AZE | Azerbaijan |
| BHS | Bahamas, The |
| BHR | Bahrain |
| BGD | Bangladesh |
| BRB | Barbados |
| BLR | Belarus |
| BEL | Belgium |
| BLZ | Belize |
| BEN | Benin |
| BTN | Bhutan |
| BOL | Bolivia |
| BIH | Bosnia and Herzegovina |
| BWA | Botswana |
| BRA | Brazil |
| BRN | Brunei Darussalam |
| BGR | Bulgaria |
| BFA | Burkina Faso |
| BDI | Burundi |
| KHM | Cambodia |
| CMR | Cameroon |
| CAN | Canada |
| CPV | Cape Verde |
| CAF | Central African Republic |
| TCD | Chad |
| CHL | Chile |
| CHN | China |
| COL | Colombia |
| COM | Comoros |
| COD | Congo, Democratic Republic of the |
| COG | Congo, Republic of |
| CRI | Costa Rica |
| CIV | Côte d'Ivoire |
| HRV | Croatia |
| CYP | Cyprus |
| CZE | Czech Republic |
| DNK | Denmark |

| Codes | Country Name |
|---|---|
| DJI | Djibouti |
| DMA | Dominica |
| DOM | Dominican Republic |
| ECU | Ecuador |
| EGY | Egypt |
| SLV | El Salvador |
| GNQ | Equatorial Guinea |
| ERI | Eritrea |
| EST | Estonia |
| ETH | Ethiopia |
| FJI | Fiji |
| FIN | Finland |
| FRA | France |
| GAB | Gabon |
| GMB | Gambia, The |
| GEO | Georgia |
| DEU | Germany |
| GHA | Ghana |
| GRC | Greece |
| GRD | Grenada |
| GTM | Guatemala |
| GIN | Guinea |
| GNB | Guinea-Bissau |
| GUY | Guyana |
| HTI | Haiti |
| HND | Honduras |
| HKG | Hong Kong SAR |
| HUN | Hungary |
| ISL | Iceland |
| IND | India |
| IDN | Indonesia |
| IRN | Iran, Islamic Republic of |
| IRQ | Iraq |
| IRL | Ireland |
| ISR | Israel |
| ITA | Italy |
| JAM | Jamaica |
| JPN | Japan |
| JOR | Jordan |
| KAZ | Kazakhstan |
| KEN | Kenya |
| KIR | Kiribati |
| KOR | Korea, Republic of |
| SCG | Kosovo |
| KWT | Kuwait |

| Codes | Country Name |
|---|---|
| KGZ | Kyrgyz Republic |
| LAO | Lao P.D.R. |
| LVA | Latvia |
| LBN | Lebanon |
| LSO | Lesotho |
| LBR | Liberia |
| LBY | Libyan Arab Jamahiriya |
| LTU | Lithuania |
| LUX | Luxembourg |
| MKD | Macedonia, former Yugoslav Republic of |
| MDG | Madagascar |
| MWI | Malawi |
| MYS | Malaysia |
| MDV | Maldives |
| MLI | Mali |
| MLT | Malta |
| MHL | Marshall Islands |
| MRT | Mauritania |
| MUS | Mauritius |
| MEX | Mexico |
| FSM | Micronesia, Federated States of |
| MDA | Moldova |
| MNG | Mongolia |
| MNE | Montenegro |
| MAR | Morocco |
| MOZ | Mozambique |
| MMR | Myanmar |
| NAM | Namibia |
| NPL | Nepal |
| NLD | Netherlands |
| NZL | New Zealand |
| NIC | Nicaragua |
| NER | Niger |
| NGA | Nigeria |
| NOR | Norway |
| OMN | Oman |
| PAK | Pakistan |
| PLW | Palau |
| PAN | Panama |
| PNG | Papua New Guinea |
| PRY | Paraguay |
| PER | Peru |
| PHL | Philippines |
| POL | Poland |
| PRT | Portugal |
| QAT | Qatar |
| ROU | Romania |
| RUS | Russian Federation |
| RWA | Rwanda |
| KNA | Saint Kitts and Nevis |
| LCA | Saint Lucia |
| VCT | Saint Vincent and the Grenadines |
| WSM | Samoa |
| SMR | San Marino |
| STP | São Tomé and Príncipe |
| SAU | Saudi Arabia |
| SEN | Senegal |
| SRB | Serbia |
| SYC | Seychelles |
| SLE | Sierra Leone |
| SGP | Singapore |
| SVK | Slovak Republic |
| SVN | Slovenia |
| SLB | Solomon Islands |
| SOM | Somalia |
| ZAF | South Africa |
| ESP | Spain |
| LKA | Sri Lanka |
| SDN | Sudan |
| SUR | Suriname |
| SWZ | Swaziland |
| SWE | Sweden |
| CHE | Switzerland |
| SYR | Syrian Arab Republic |
| TWN | Taiwan Province of China |
| TJK | Tajikistan |
| TZA | Tanzania |
| THA | Thailand |
| TLS | Timor-Leste |
| TGO | Togo |
| TON | Tonga |
| TTO | Trinidad and Tobago |
| TUN | Tunisia |
| TUR | Turkey |
| TKM | Turkmenistan |
| TUV | Tuvalu |
| UGA | Uganda |
| UKR | Ukraine |
| ARE | United Arab Emirates |
| GBR | United Kingdom |
| USA | United States |
| URY | Uruguay |
| UZB | Uzbekistan |
| VUT | Vanuatu |
| VEN | Venezuela, República Bolivariana de |
| VNM | Vietnam |
| YEM | Yemen |
| ZMB | Zambia |
| ZWE | Zimbabwe |

# GLOSSARY

| Term | Definition |
|---|---|
| Automatic stabilizers | Budgetary measures that dampen fluctuation in real GDP, automatically triggered by the tax code and by spending rules. |
| Credit default swap (CDS) spread | Annual amount (in basis points of the notional amount) that the protection buyer must pay the seller over the length of the contract to protect the underlying asset against a credit event. |
| Cyclical balance | Cyclical component of the overall fiscal balance, computed as the difference between cyclical revenues and cyclical expenditures. The latter are typically computed using country-specific elasticities of aggregate revenue and expenditure series with respect to the output gap. Where unavailable, standard elasticities (0, 1) are assumed for expenditure and revenue, respectively. |
| Cyclically adjusted balance (CAB) | Overall balance minus cyclical balance. |
| Cyclically adjusted (CA) expenditure and revenue | Revenue and expenditure adjusted for the effect of the economic cycle (that is, net of cyclical revenue and expenditure). |
| Cyclically adjusted primary balance (CAPB) | Cyclically adjusted balance excluding net interest payments. |
| Expenditure elasticity | Elasticity of expenditure with respect to the output gap. |
| Fiscal multiplier | The ratio of a change in output to an exogenous and temporary change in the fiscal deficit with respect to their respective baselines. |
| Fiscal stimulus | Discretionary fiscal policy actions (including revenue reductions and spending increases) adopted in response to the financial crisis. |
| General government | All government units and all nonmarket, nonprofit institutions that are controlled and mainly financed by government units comprising the central, state, and local governments; does not include public corporations or quasi-corporations. |
| Gross debt | All liabilities that require future payment of interest and/or principal by the debtor to the creditor. This includes debt liabilities in the form of Special Drawing Rights, currency, and deposits; debt securities; loans; insurance, pension, and standardized guarantee schemes; and other accounts payable. (See the *Government Financial Statistics Manual* 2001 and *Public Sector Debt Statistics Manual*). The term "public debt" is used in the *Monitor*, for simplicity, as synonymous with gross debt of the general government, unless otherwise specified. (Strictly speaking, the term "public debt" refers to the debt of the public sector as a whole, which includes financial and nonfinancial public enterprises and the central bank.) |

| Term | Definition |
|---|---|
| Gross financing needs | Overall new borrowing requirement plus debt maturing during the year. |
| Headline fiscal balance | See *Overall fiscal balance.* |
| Interest rate–growth differential ($r - g$) | Effective interest rate—defined as the ratio of interest payments over the debt of the preceding period—minus nominal GDP growth. |
| Net debt | Gross debt minus financial assets, including those held by the broader public sector: for example, social security funds held by the relevant component of the public sector, in some cases. |
| Output gap | Deviation of actual from potential GDP, in percent of potential GDP. |
| Overall fiscal balance (also "headline" fiscal balance) | Net lending/borrowing, defined as the difference between revenue and total expenditure, using the 2001 edition of the IMF's *Government Finance Statistics Manual* (GFSM 2001). Does not include policy lending. For some countries, the overall balance continues to be based on GFSM 1986, in which it is defined as total revenue and grants minus total expenditure and net lending. |
| Policy lending | Transactions in financial assets that are deemed to be for public policy purposes but are not part of the overall balance. |
| Primary balance | Overall balance excluding net interest payment (interest expenditure minus interest revenue). |
| Public debt | See *Gross debt*. |
| Public sector | The general government sector plus government-controlled entities, known as public corporations, whose primary activity is to engage in commercial activities. |
| Revenue elasticity | Elasticity of revenue with respect to the output gap. |
| Stock-flow adjustment | Annual change in gross debt not explained by the budget deficit. |
| Structural fiscal balance | Cyclically adjusted balance, corrected for one-off and other factors, such as asset and commodity prices and output compositions effects. |
| Tax expenditures | Government revenues that are foregone as a result of preferential tax treatments to specific sectors, activities, regions, or economic agents. |
| VIX | Chicago Board Options Exchange Volatility Index, a measure of the market's expectation of stock market volatility over the next 30-day period. The VIX is a weighted blend of prices for a range of options on the Standard & Poor's 500 index. |

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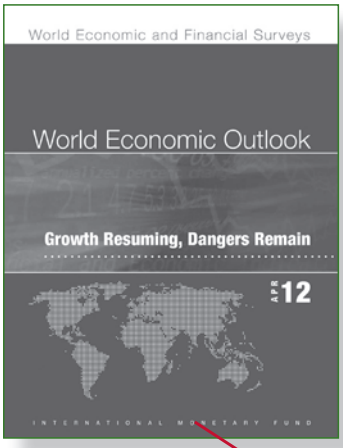


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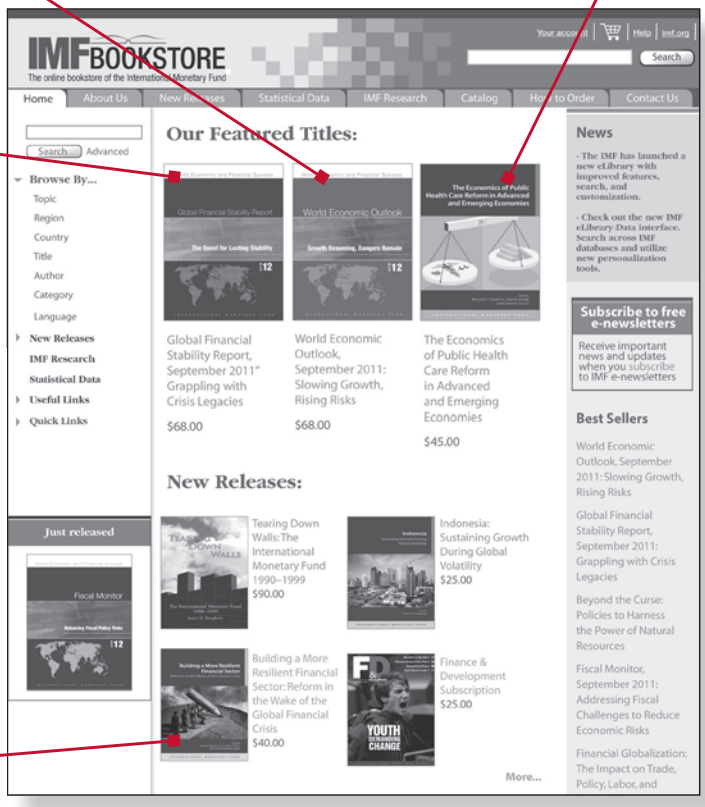


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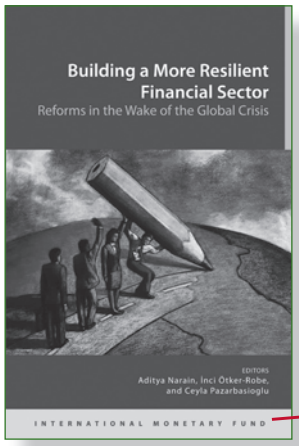


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Fiscal Monitor, April 2012

ISBN: 978-1-61635-248-6