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Navigating the Fiscal Challenges Ahead

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Navigating the Fiscal Challenges Ahead

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PREFACE

With increasing fiscal challenges in the aftermath of the crisis, multilateral surveillance of fiscal developments, always a key part of the IMF's surveillance responsibilities, has gained further importance. In response, the IMF launched the *Fiscal Monitor* last year to survey and analyze the latest public finance developments, update reporting on fiscal implications of the crisis and medium-term fiscal projections, and assess policies to put public finances on a sustainable footing. Previous issues of the *Monitor* were published in the IMF Staff Position Note series (*Fiscal Implications of the Global Economic and Financial Crisis* in July 2009, and *The State of Public Finances; Cross-Country Fiscal Monitor: November 2009*). Starting with this issue, the *Monitor* will be a part of the IMF's World Economic and Financial Surveys series, to complement the overviews presented in the *World Economic Outlook* (*WEO*) and the *Global Financial Stability Report* (*GFSR*).

The projections included in this *Fiscal Monitor* are based on the same database as used for the April 2010 *WEO* and *GFSR*. The fiscal projections for individual countries have been prepared by IMF desk economists and coincide with those in the *WEO*. They refer to the general government unless these data are not available. 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 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 where 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 *Fiscal Monitor* is prepared by the IMF Fiscal Affairs Department under the direction of Carlo Cottarelli, Director of the Department, and Philip Gerson, Senior Advisor. This issue is coordinated by Manmohan S. Kumar and Mark Horton. Other contributors include: Emre Alper, Emanuele Baldacci, Fabian Bornhorst, Carlos Caceres, Reda Cherif, Ben Clements, David Coady, Gabriela Dobrescu, Julio Escolano, Annalisa Fedelino, Oriel Fernandes, Lorenzo Forni, Marc Gerard, Raquel Gomez Sirera, Jan Gottschalk, Julia Guerreiro, Borja Gracia, Fuad Hasanov, Jiri Jonas, Daehaeng Kim, Paolo Mauro, Junhyung Park, Iva Petrova, Andrea Schaechter, Anita Tuladhar, and Jaejoon Woo. Maria Delariarte and Nadia Malikyar provided excellent editorial assistance.

The analysis has benefited from comments and suggestions by staff from other IMF departments. Both projections and policy considerations are those of the IMF staff and should not be attributed to Executive Directors or to their national authorities.

FOREWORD

The global crisis has entailed major output and employment costs, and in many economies, particularly the advanced ones, it has left behind much weaker fiscal positions. A timely and simultaneous application of supportive fiscal and monetary policies prevented a far worse outcome. As economies gradually recover, it is now urgent to start putting in place measures to ensure that the increase in deficits and debts resulting from the crisis, mostly from the loss of output and revenues, does not lead to fiscal sustainability problems. Yet, as policymakers begin to implement strategies for exiting from crisis-related intervention policies, care should also be taken to ensure that policy actions do not undermine the recovery. I am convinced that there is much that countries can do now to strengthen confidence in long-term fiscal sustainability without weakening growth prospects.

This is the first issue of the *Fiscal Monitor* as part of the *World Economic and Financial Surveys*. The inclusion of the *Monitor* along with the *World Economic Outlook* and the *Global Financial Stability Report* in this series signals the importance that the International Monetary Fund gives to comprehensive and high-quality cross-country analysis of fiscal trends and issues. The *Monitor* provides a timely analysis of fiscal developments in advanced, emerging, and low-income economies. One of the key messages in this issue is that fiscal strategies should aim at gradually—but steadily and significantly—reducing public debt ratios, rather than just stabilizing them at their elevated postcrisis levels. Failing to do so would ultimately weaken the world's long-term growth prospects. In many countries, fiscal adjustment will require a sizable, and sometimes unprecedented, effort. The *Monitor* presents a broad outline of policies to achieve this adjustment, while enhancing economic efficiency.

I hope that you will find the *Fiscal Monitor* a useful contribution to the analysis of fiscal policy issues, and a good complement to our other publications in support of multilateral surveillance.

Dominique Strauss-Kahn

MAIN THEMES IN THIS FISCAL MONITOR

Fiscal risks have risen, especially in advanced economies, for three reasons: underlying fiscal trends have further deteriorated since the November *Monitor*; financial markets have increased their focus on fiscal weaknesses; and progress in defining fiscal exit strategies has been slow.

In this context, while a widespread loss of confidence in fiscal solvency remains for now a tail risk, its potential costs are such that the risk should not be ignored. Even in the absence of such a dramatic development, without progress in addressing fiscal sustainability concerns, high levels of public indebtedness could weigh on economic growth for years. This issue of the *Monitor* presents new evidence on the links between debt and growth: it suggests that based on current projections, if public debt is not lowered to precrisis levels, potential growth in advanced economies could decline by over ½ percent annually, a very sizable effect when cumulated over several years.

Even as the global economy improves, fiscal balances in the advanced economies are, on average, worsening. While *World Economic Outlook* projections for 2010 output growth in the advanced economies have increased by a full percentage point since the last issue of the *Monitor*, updated projections in Section I of the *Monitor* show that after discounting for reduced financial sector support operations, both headline and cyclically adjusted (CA) fiscal deficits in these countries will increase in 2010—relative both to the 2009 outturn and to projections made six months ago. Based on current likely policies, the advanced economies will continue to run sizable primary deficits over the medium term, leading the average general government gross debt ratio—which has already ballooned by close to 20 percent of GDP since the onset of the crisis—to rise by a further 20 percentage points by 2015, reaching about 110 percent of GDP. The outlook is more favorable among emerging economies, where the CA fiscal balance is expected to improve this year relative to last. Even among these economies, however, the projected improvement in the CA balance this year is barely half that projected in November. Over the medium term, these economies continue to be expected to run primary deficits. As long as the interest rate-growth differential stays favorable for them, debt ratios should stabilize or decline. However, these economies will still be exposed to interest rate and growth shocks, including as a result of fiscal spillovers from advanced economies. The fiscal outlook is also improving in low-income economies relative to last year but, again, at a slower pace than expected six months ago.

These developments are occurring amid heightened market sensitivity to variations in fiscal performance across countries. Section II shows that many countries will be facing historically high financing requirements this year, making them especially susceptible to market pressures. Events in Europe are providing the clearest demonstration of the increased attention being paid by markets to differences in underlying fiscal conditions across countries, as borrowing conditions now vary across euro area members to an extent that

would have been unimaginable in the recent past. In this environment, the costs of policy missteps, or of a perception of a lack of preparedness, would be high.

Many countries face large retrenchment needs going forward. Section III provides updated estimates of the adjustment in the primary CA balance needed to lower gross general government debt below 60 percent of GDP by 2030 in advanced economies: the estimate is high—8¾ percentage points of GDP on average, about ¾ of a percentage point more than in the last issue of the *Monitor*—but hides important differences across countries, with many of the larger economies confronting above-average adjustment needs. The task is even more difficult than it appears from the headline numbers, as many countries are projected to face increases of 4 to 5 percentage points of GDP in spending for health care and pensions over the next two decades. The measures needed to address these spending pressures will have to be undertaken in addition to those required to achieve the targeted improvement in the primary balance. The adjustment needed to restore debt to prudent levels (40 percent of GDP) in emerging economies is significantly smaller, at 2½ percentage points of GDP. Here too, however, there are important variations across countries.

To date, few countries have made significant progress in exiting from fiscal stimulus, and where countries have announced deficit reduction targets, details about the measures underlying adjustment are often lacking. Many of those that have made progress were facing acute financing pressures that made delay infeasible. The optimal timing of stimulus withdrawal will vary depending on macroeconomic and fiscal conditions. Some countries with weaker fiscal credibility are already facing market pressures, and should tighten fiscal policy this year. An early tightening is also needed in countries facing a rapid recovery. Other countries can wait until 2011. However, all countries should introduce structural measures now to strengthen their medium-term fiscal trends.

Section IV explores the spending, revenue, and institutional measures that could support fiscal adjustment. Among countries where demographic trends are unfavorable, health and pension reforms—for example, improved cost containment in health care and increases in retirement ages—are more urgent. These reforms take time to yield savings but can provide confidence about the direction of long-term fiscal trends. Freezes on nonentitlement spending could generate savings of about 3 percent of GDP over the next decade on average. For countries facing very large adjustment needs, increasing revenues may also prove necessary. The section discusses a package of tax increases that are relatively less distortionary—including elimination of below-standard VAT rates and increases in tobacco and alcohol excises, carbon taxation, and property taxes—that could yield almost 2½ to 3 percentage points of GDP in advanced economies. Introducing a VAT or raising standard VAT rates in some countries could also yield sizable revenues. Finally, tax evasion remains significant in many countries, and fighting it should be a priority. Institutional arrangements, such as fiscal rules or enhanced medium-term frameworks, could also play a useful role in ensuring that fiscal consolidation is implemented.

I. The Near- and Medium-term Fiscal Outlook

A. Outlook for 2010

1. **While global activity is rebounding faster than projected earlier, the fiscal outlook is not improving commensurately**. The overall fiscal deficit for the world is projected to decline from 6.7 percent of GDP in 2009 to 6 percent of GDP in 2010 (Table 1). However, this improvement is smaller than anticipated in November 2009 despite an upward revision in *World Economic Outlook (WEO*) growth projections (by 1.1 percentage points). This reflects an underlying deterioration in cyclically adjusted (CA; see Glossary) balances across all country groups.

- **In most advanced economies, fiscal developments are still dominated by the need to boost aggregate demand**. Improvements in overall fiscal balances in 2010 are limited to 0.4 percent of GDP. However, this mainly reflects a decline in financial sector support in the United States. Excluding this, overall balances worsen in the United States and in advanced economies as a group, with CA primary balances deteriorating by a further 0.6 percentage points (Table 2). This compares with a projected improvement at the time of the last *Monitor* and reflects further discretionary stimulus (Appendix 1), as well as underlying spending increases unrelated to the crisis. The deficit increase is large in Germany, where new stimulus has been added and tax revenues are weaker than anticipated, and in the United States, reflecting new stimulus of 1.1 percent of GDP and further increases in military spending (½ percent of GDP). However, CA primary balances are projected to strengthen in some countries: this includes countries that took early action—in some cases dictated by financial market pressures—to correct large fiscal imbalances (Greece, Iceland, Ireland, Spain); Korea, where the economic recovery is proceeding at a fast pace; and the United Kingdom, where revenues are stronger than expected.[1] The weakening of advanced economy overall balances with respect to projections in November carries through to 2011.

- **Headline and CA deficits are declining in emerging economies, albeit by less than expected**. Lower deficits reflect the faster recovery, normalization of trade, a rebound in asset prices, and the withdrawal of stimulus. Headline balances are projected to improve by 1 percentage point (1.2 percentage points in November), with significant corrections in emerging Europe—2 percentage points of GDP—resulting from efforts to reduce vulnerabilities. Stronger fiscal positions are projected in emerging Asia (by 0.4 percentage points) and Latin America (by 1.3 percentage points of GDP). CA primary fiscal balances are projected to improve by ½ percentage

[1] On May 10, Portugal and Spain announced that they would undertake additional deficit reduction measures. The impact of these measures is not reflected in the *Monitor's* fiscal projections.

point, driven by gains in Brazil, India and Russia. This said, the average improvement for emerging economies is barely half that projected in November.

Table 1. Fiscal Balances, 2007–15
(In percent of PPP-weighted GDP)

						Difference from November 2009 Projections		
	2007	2009	2010	2011	2015	2009	2010	2011
Overall Balance								
World	-0.3	-6.7	-6.0	-4.8	-3.3	0.2	0.0	0.0
Advanced economies	-1.1	-8.8	-8.4	-6.7	-4.7	0.3	-0.1	-0.3
G-7	-2.1	-10.0	-9.5	-7.6	-5.4	0.2	-0.4	-0.5
Euro Area	-0.6	-6.4	-6.9	-6.2	-4.1	0.2	0.1	-0.1
Emerging economies	0.0	-4.9	-3.9	-3.0	-2.3	0.3	0.1	0.2
Asia	-0.7	-4.9	-4.5	-3.5	-2.8	0.5	0.6	0.8
Europe	2.1	-6.1	-4.1	-3.5	-3.2	0.3	0.3	0.2
Latin America	-1.2	-3.8	-2.5	-2.5	-1.4	0.5	-0.1	-0.4
Low-income economies	-2.1	-4.1	-3.7	-3.5	-2.6	-0.6	-1.6	-1.1
Oil producers	2.2	-4.8	-2.4	-2.0	-1.9	-0.3	-0.3	0.1
G-20 economies	-0.9	-7.5	-6.8	-5.4	-3.9	0.3	0.0	0.0
Advanced G-20 economies	-1.7	-9.4	-8.9	-7.1	-4.9	0.3	-0.2	-0.3
Emerging G-20 economies	0.3	-4.8	-3.7	-2.9	-2.5	0.4	0.4	0.4
Cyclically Adjusted Primary Balance 1/								
Advanced economies	0.1	-4.3	-4.8	-3.5	-1.5	-	-	-
Emerging economies	1.7	-2.0	-1.5	-0.9	-0.7	-	-	-
G-20 economies	0.8	-3.4	-3.7	-2.6	-1.2	-	-	-
Advanced G-20 economies	0.0	-4.4	-5.2	-3.7	-1.5	-	-	-
Emerging G-20 economies	2.0	-2.0	-1.6	-0.9	-0.8	-	-	-
Memorandum Item:								
Advanced economies overall balance (excluding financial sector support)	-1.1	-7.9	-8.2	-6.7	-4.6	-0.1	-0.2	-0.3

Source: April 2010 *WEO*, computed using fixed 2009 PPP GDP weights.
1/ In percent of PPP-weighted potential GDP. Cyclically adjusted primary balances corresponding to these groupings were not reported in the November *Monitor*.

Table 2. Changes in Cyclically Adjusted Fiscal Indicators, 2007–11
(In percent of PPP-weighted potential GDP)

	Change 2010-2007			Change 2010-2009			Change 2011-2010		
	Cyclically adjusted primary			Cyclically adjusted primary			Cyclically adjusted primary		
	Balance	Revenue	Expenditure	Balance	Revenue	Expenditure	Balance	Revenue	Expenditure
Advanced economies	-5.0	-2.3	2.7	-0.6	-0.1	0.5	1.3	0.8	-0.5
Emerging economies	-3.2	-0.9	2.3	0.5	0.2	-0.3	0.6	0.3	-0.3
G-20 economies	-4.5	-1.7	2.8	-0.3	0.0	0.3	1.1	0.7	-0.5
G-20 advanced economies	-5.1	-2.2	2.9	-0.8	-0.1	0.7	1.4	0.9	-0.5
G-20 emerging economies	-3.6	-1.0	2.6	0.5	0.1	-0.3	0.7	0.4	-0.4

Source: IMF staff estimates based on the April 2010 *WEO* and using country-specific revenue and expenditure elasticities where available, and standard elasticities elsewhere.

- **The fiscal outlook is also improving in low-income countries, albeit again less rapidly than projected earlier**. Fiscal positions will improve by ½ percentage point of GDP. Commodity producers will show the most pronounced gains, on account of a pickup in both commodity prices and export volumes. Nevertheless, projected 2010 balances are 1½ percentage points weaker than in November, due to smoother adjustment paths in large sub-Saharan African countries (Senegal, Tanzania, and Uganda).

- **Overall balances in oil-producing countries are expected to recover significantly, boosted by higher oil prices**. Deficits exceeding 3 percent of GDP are still projected in 11 countries where oil production is important, however, including Algeria, Ecuador, Kazakhstan, Sudan, Vietnam, and Yemen.[2]

B. Outlook for 2011–15

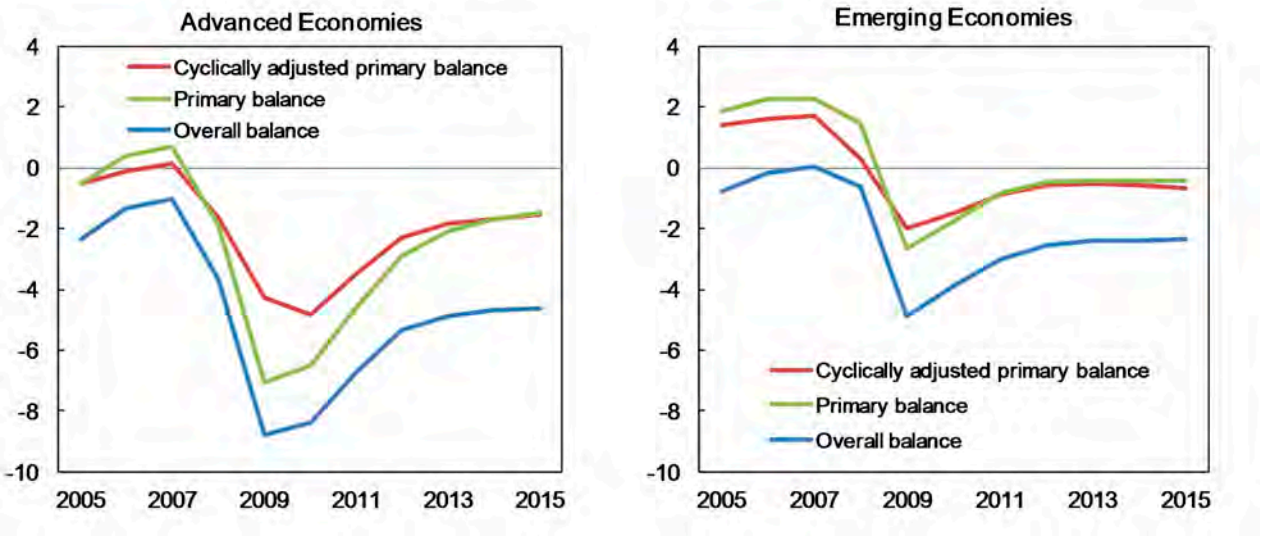
2. **CA primary fiscal balances are expected to begin adjusting in advanced economies in 2011, with continuing consolidation in emerging economies** (Figure 1). For advanced economies, this is due primarily to the projected nonrenewal of crisis-related fiscal stimulus. As the latter accounted for less than half of the overall deterioration of CA fiscal balances during 2007–10, now estimated at about 5 percentage points of GDP, CA deficits remain sizable in 2011. Other significant policy developments expected in 2011 include a reversal of 2001 tax cuts for high-income U.S. earners, along with a scaling back of itemized deductions, and a permanent personal income tax cut of about 1 percent of GDP in Germany envisaged as part of the coalition pact. In emerging economies, CA primary balances should continue to improve as large-scale, investment-related stimulus is expected to begin to be withdrawn (e.g., in China and South Africa).

3. **Based on announced policy plans, a further improvement of CA primary balances of 2 percent of GDP is projected in advanced economies during 2012–15, although concrete measures are still to be identified in most countries** (Table 3 and the Methodological and Statistical Annex). Even with this further adjustment, however, the deterioration during 2007–10 will not be fully reversed. For the world as a whole, overall deficits will remain 3 percentage points larger on average in 2015 than in 2007, in spite of the closing of output gaps. The persistence of deficits reflects permanent revenue losses, primarily from a steep decline in potential GDP during the crisis, but also due to the impact of lower asset prices and financial sector profits. Underlying spending pressures, particularly for health and pension outlays for aging populations, military spending, and higher interest expenditures (due to higher debt levels and interest rates), also contribute to the outcome. The deterioration with respect to precrisis levels in the overall balances will be worse among advanced economies (by 3½ percentage points) than emerging economies (2¼ percentage

[2] Five of these 11 countries—Algeria, Ecuador, Gabon, Kazakhstan, and Russia—ran surpluses in 2007.

points). The worsening of fiscal balances and debt ratios varies considerably, particularly among emerging economies, with those in Eastern Europe the most affected (Figure 2).

Figure 1. Evolution of Fiscal Balances in Advanced and Emerging Economies, 2005–15
(In percent of GDP)



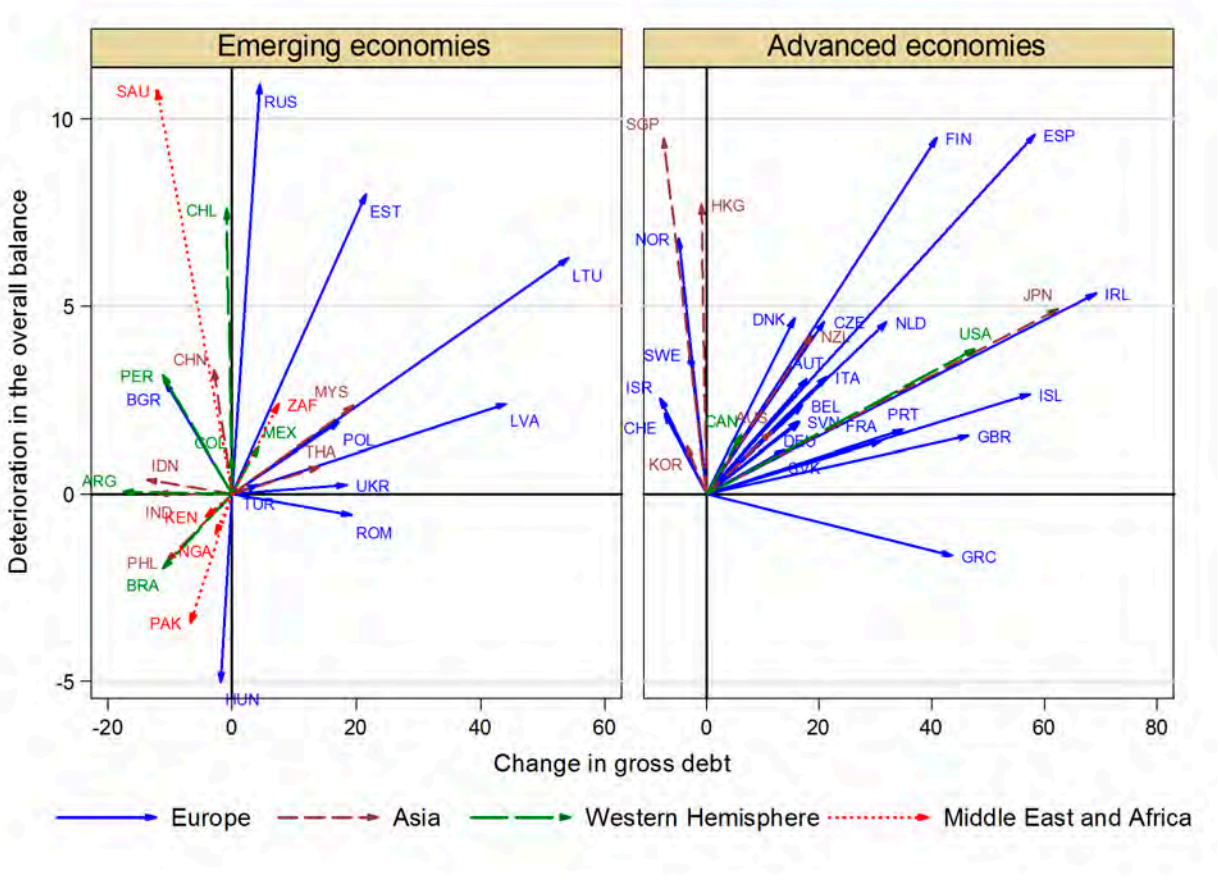
Source: April 2010 *WEO*.

Table 3. Changes in Cyclically Adjusted Fiscal Indicators, 2012–15
(In percent of PPP-weighted potential GDP)

	Change 2015-2012		
	Cyclically adjusted primary		
	Balance	Revenue	Expenditure
Advanced economies	2.0	1.4	-0.6
Emerging economies	0.2	0.6	0.4
G-20 economies	1.3	1.2	-0.1
G-20 advanced economies	2.2	1.6	-0.6
G-20 emerging economies	0.1	0.7	0.6

Source: IMF staff estimates based on the April 2010 *WEO*, using country-specific revenue and expenditure elasticities where available, and standard elasticities elsewhere.

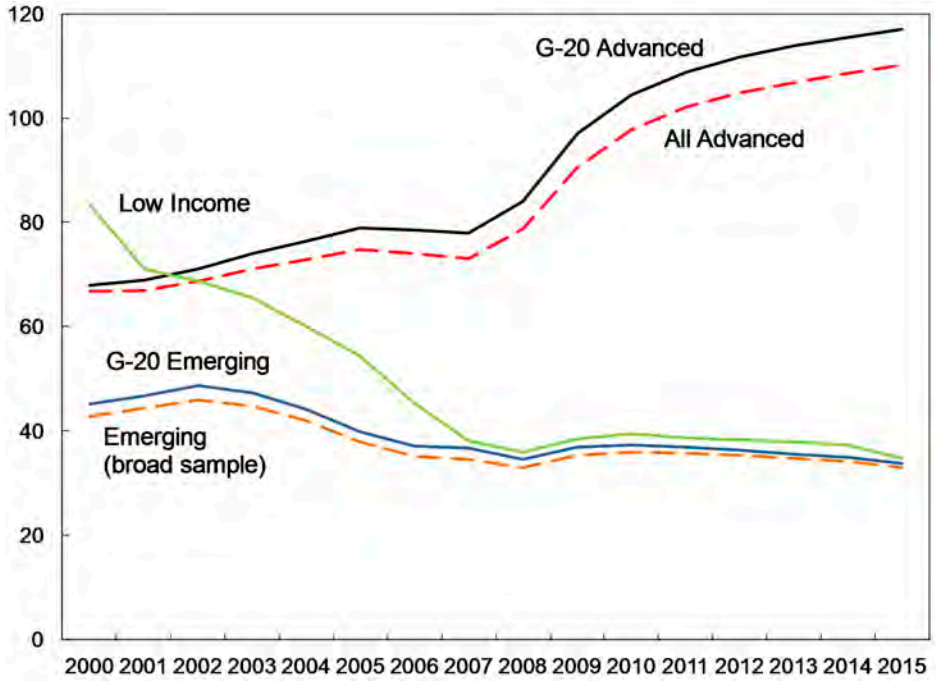
Figure 2. Evolution of Gross Debt and Deficit Positions in Emerging and Advanced Economies, 2007–15
(In percent of GDP)



Source: IMF staff estimates based on the April 2010 *WEO* projections.

4. **The average gross general government debt-to-GDP ratio for advanced economies is projected to rise from almost 91 percent at end-2009 to 110 percent in 2015, bringing the increase from pre-crisis levels to 37 percentage points** (Figure 3). Among the G-7, the government debt-to-GDP ratio is rising to levels exceeding those prevailing in the aftermath of the Second World War (Figure 4). Box 1, focused on G-20 advanced economies, breaks down the increase during 2008–15 into crisis-related and other factors: most of the rise is due to protracted revenue weakness and the unfavorable interest rate-growth differential in 2008–09. The debt increase is largest in the United Kingdom and the United States, two countries strongly affected by the crisis, but is also significant in countries where growth prospects are weaker, such as Japan and some advanced European economies. On average, projections for net debt move broadly in line with those for gross debt (Box 2).

Figure 3. General Government Gross Debt Ratios
(In percent of GDP, 2009 PPP-GDP weighted average)

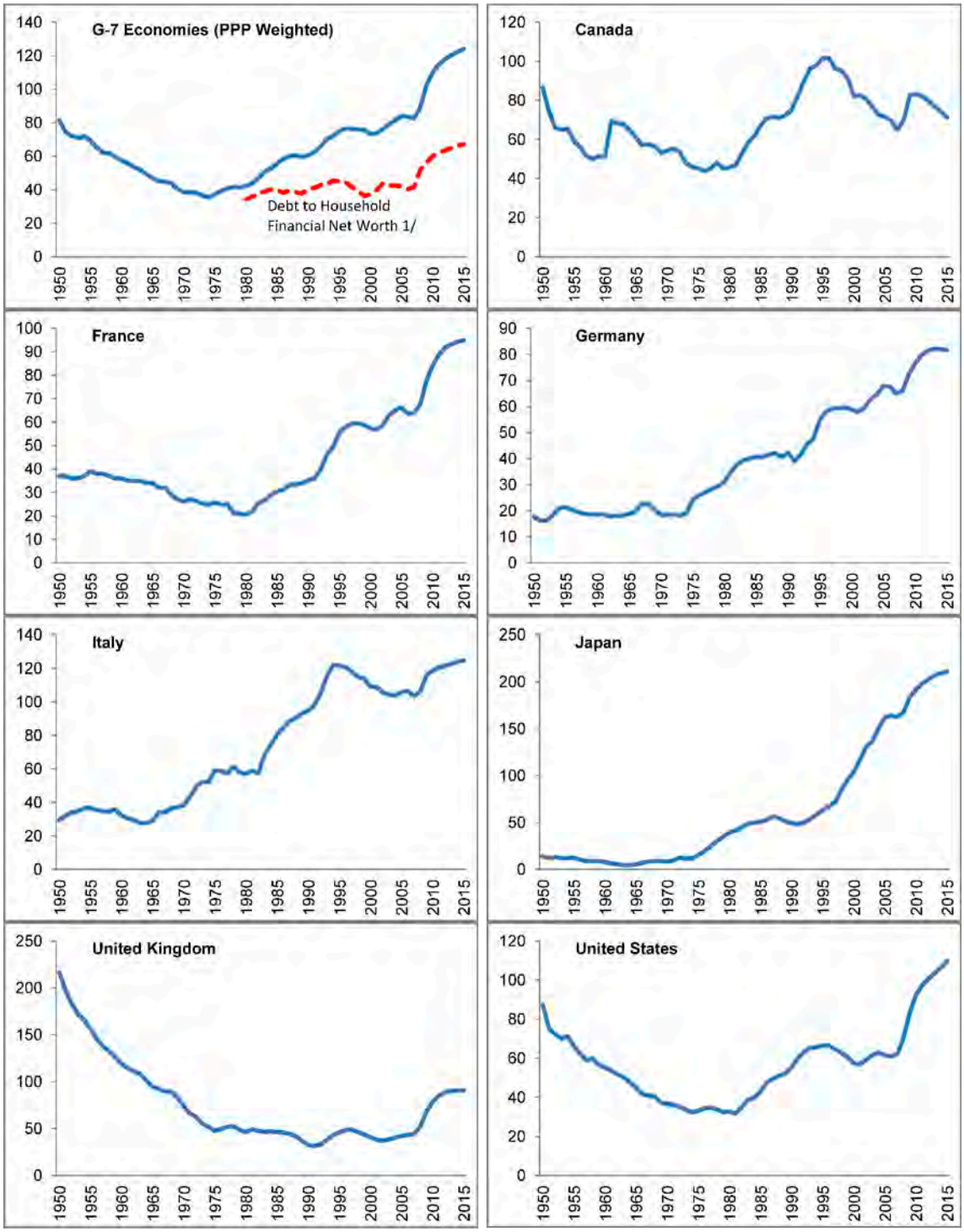


Source: IMF staff estimates based on the April 2010 *WEO* projections.

5. **Public debt in advanced economies is also rising as a ratio of household financial wealth, following decades of relative stability**. This ratio has fluctuated in a narrow range over the last 30 years for the large advanced economies for which sufficiently long time-series data are available (Figure 4 dotted line in top left-hand panel). This stability contrasts with the behavior of the government debt-to-GDP ratio, which has been on the rise since the 1970s, and reflects the fact that equity prices rose faster over the last few decades than did GDP. This suggests that, at the outset of the crisis, government debt may not have been "over-weight" in the portfolio of the private sector. Over the coming years, however, growth in household financial net worth is likely to be slowed by the effects of the crisis, while public debt will surge. As a result, public obligations will represent a larger share of private sector portfolios, with possible effects on interest rate differentials between public and private debt.

6. **By contrast, in emerging economies, debt-to-GDP ratios are projected to resume a gradual decline in 2011**. This is predicated on sustained growth and relatively low interest rates, as country-risk premiums and bond yields have fallen rapidly since the spike in risk aversion early in the crisis. Indeed, yields are projected to remain below the growth rate of GDP, while primary balances are expected to be in a small deficit during the forecast period. Weak primary balances are an element of vulnerability should the interest rate-growth differential turn out to be less favorable, particularly given that in many emerging economies, debt ratios have increased as a result of the crisis (Figure 5).

Figure 4. General Government Gross Debt in G-7 Economies, 1950-2015
(In percent of GDP)



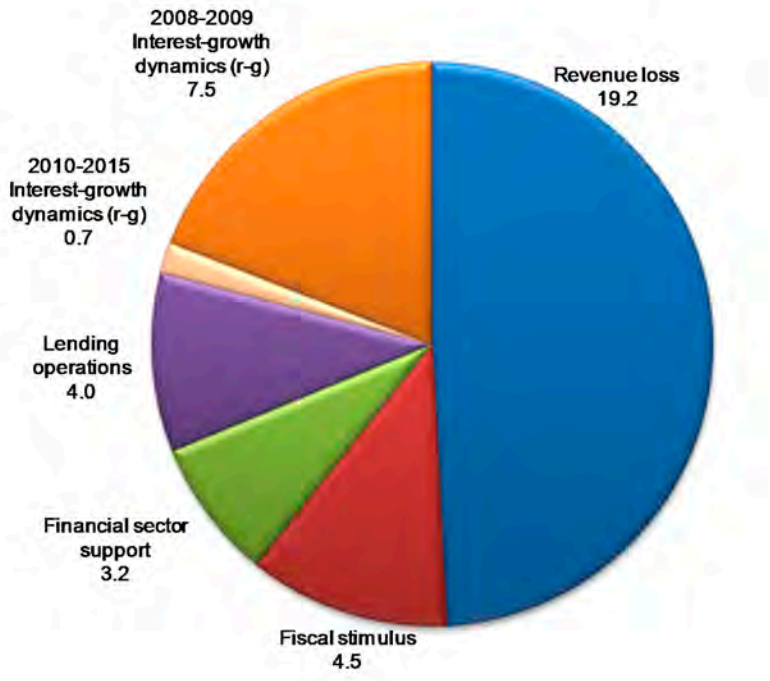
Sources: Government debt database of the IMF's Fiscal Affairs Department. Data refer to the general government, except for Japan (central government).They are drawn mainly from the IMF's WEO database (2010–15 are projections), supplemented by the following: *Canada (1950-60) - Federal Gross Government Debt (Haver* Analytics); *France (1950–77) - National Debt (Goodhart, 2002); Germany (1950–75) - Credit Market Debt* and Loans (Statistisches Bundesamt Deutschland); *Italy (1950–78) - National Government Debt (*Banca d'Italia); *Japan – Central Government Debt (Ministry of Finance of Japan)* until 2009; subsequently, WEO projections for changes in the debt ratio; *United Kingdom (1950–79)* - National Debt (Goodhart, 1999); *United States - Gross Federal Debt (Office of Management and Budget;* and U.S. Census Bureau).
1/ Ratio of gross debt to household financial net worth for Canada, France, Italy, Japan, and the United States.

Box 1. Debt Dynamics in G-20 Economies: An Update

In advanced G-20 economies, the debt surge is driven mostly by the output collapse and the related revenue loss. Of the almost 39 percentage points of GDP increase in the debt ratio, about two-thirds is explained by revenue weakness and the fall in GDP during 2008-09 (which led to an unfavorable interest rate-growth differential during that period, in spite of falling interest rates; see pie chart below). The revenue weakness reflected the opening of the output gap, but also revenue losses from lower asset prices and financial sector profits. Fiscal stimulus—assuming it is withdrawn as expected—would account for only about one-tenth of the overall debt increase. This is somewhat more than the contribution of direct support to the financial sector. Finally, a fairly sizable component arises from lending operations in some countries—Canada, Korea, the United States—involving student loans, loans for consumer purchases of vehicles, and support to small and medium enterprises—arguably in response to the crisis. While structural spending pressures unrelated to the crisis are also projected to continue in the medium term, including for health and pensions, these are projected to be increasingly offset by measures from 2011 onwards.

In emerging G-20 economies, more favorable debt dynamics reflect stronger growth and lower deficits. Public debt in 2015 is projected to be almost 5 percentage points of GDP lower than before the crisis. Lower initial debt stocks will keep interest expenditures down, despite interest rates that are projected to be higher than in advanced economies throughout the period. Projected improvements in structural fiscal balances, reflecting unwinding of stimulus measures and structural fiscal consolidation, combined with the more contained impact of the crisis and smaller automatic stabilizers, account for the decline in the debt-to-GDP ratio until 2015, notwithstanding the contribution of other debt creating flows (e.g., valuation changes).

G-20 Advanced Economies: Increase in Public Debt, 2008-15
(Total increase: 39.1 percentage points of GDP; 2009 PPP weighted GDP)



Source: IMF staff estimates based on the April 2010 *WEO*.

Box 2. Gross versus Net Debt

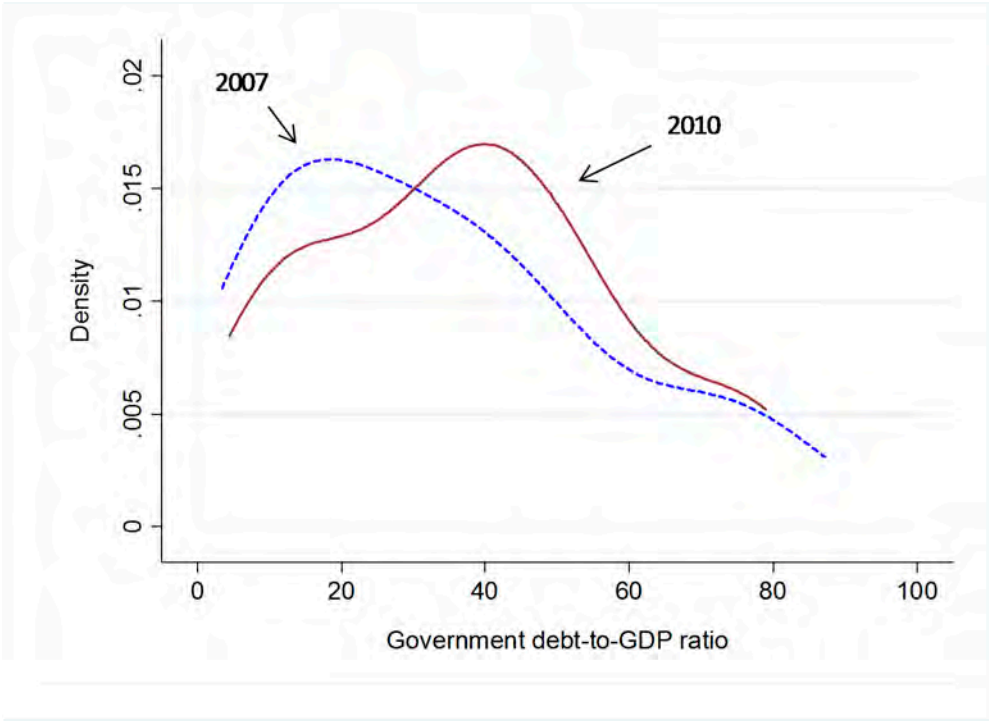
Both net and gross debt are important indicators for fiscal analysis. It is generally agreed that gross debt is a better indicator of rollover risk. For assessing solvency risk or for examining, say, the impact of debt on growth or interest rates, however, the superiority of gross over net debt is less clear cut.

One advantage of focusing on gross debt for cross-country comparisons is that the definition of this variable is fairly consistent across countries. The definition of net debt is less uniform, due to different treatment of assets. Some countries do not report net debt; some (e.g., United Kingdom) report net debt regularly, netting out relatively liquid assets; and others use net debt as equivalent to (financial) net worth—netting out highly illiquid assets or assets for which divestment would require changes in key policies (e.g., equity in public enterprises) and are thus not effectively available to redeem debt. This said, gross debt also suffers from some reporting problems. For example, while most countries net out intra-governmental debt holdings, a few (such as Japan) do not.

Estimates of 2010 gross and net debt suggest that financial assets netted out against gross debt amount to about 20 percent of GDP on average for a broad sample of advanced economies, although with large cross-country variation.[1] Looking ahead, projections of net debt levels over the medium term in this *Monitor* move broadly in line with gross debt projections on average, but with significant differences across countries.

[1] Excluding Japan because, as noted, assets include unconsolidated claims on government, as well as Norway because the large size of its oil-related assets is atypical for advanced economies.

Figure 5. Emerging Economies: Distribution of Government Debt Ratios, 2007–10 1/



Source: IMF staff estimates.
1/ The figure displays the frequency distribution of the general government gross debt (in percent of GDP) for 41 emerging markets, in 2007 and 2010.

7. **In low-income economies, debt levels are also projected to begin declining by 2011–12**. Low-income country debt fell to 36 percent of GDP, on average, prior to the crisis, reflecting both debt relief initiatives and sustained economic performance. Debt was mostly owed to external creditors with a high degree of concessionality. The debt-to-GDP ratio is projected to be about 4 percentage points higher in 2010 than before the crisis reflecting increased use of domestic sources to finance larger deficits. However, this deterioration is expected to taper off as growth resumes and budgetary conditions improve both in oil-producing countries (e.g., Bolivia) and in other low-income economies with low or medium debt distress risk (e.g., Cambodia, Ethiopia, Georgia, and Senegal). As such, debt vulnerabilities are likely to remain manageable if deficit reduction plans are successfully implemented (IMF, 2010e). However, risk of debt distress has increased or remains elevated in a few low-income countries (e.g., Eritrea, Guinea-Bissau, Myanmar, Sudan, and Zimbabwe).

C. Financial Sector Support and Recovery of Outlays[3]

8. **The above projections assume no major additional outlays to support the financial sector and some recovery of previous disbursements**. As economic and financial conditions continue to normalize, support to the financial sectors is being unwound. As of end-December 2009, advanced G-20 economies had pledged direct financial sector support for capital injections and purchase of assets with a potential cost of 6.2 percent of GDP (Table 4). However, the average amounts utilized remain well below pledged amounts, at an estimated 3.5 percent of GDP (Table 5). Similarly, the uptake of guarantees has been markedly lower than the amount offered. The amount of financial sector support pledged and used has been considerably lower in emerging economies than in advanced ones, as has the share of pledged support taken up. In both country groups, the low amount of support used reflects the precautionary nature of the initial pledges, overlaps in coverage of some measures, and the authorities' success in stabilizing market conditions. Some programs are now expiring: in Canada, the Canadian Lenders Assurance Facility and the Canadian Life Insurers Facilities expired end-December 2009. In the United States, Citigroup terminated a loss-sharing agreement with the treasury, the Federal Deposit Insurance Corporation (FDIC), and the Federal Reserve in December 2009.

[3] This section revises estimates of pledged and actual outlays in support of the financial sector included in the previous *Monitors*, following a survey of the G-20 economies. Among other things, the classification of some support measures was revised to better reflect their effect on the government balance sheet (e.g., subordinated loans that raise bank capital are now classified as recapitalization, rather than lending or liquidity support).

Table 4. Amounts Pledged or Utilized for Financial Sector Support
(In percent of 2009 GDP unless otherwise noted)1/

	Capital Injection		Purchase of Assets and Lending by Treasury 2/		Direct Support 3/	Guarantees 4/	Asset Swap and Purchase of Financial Assets, including Treasuries, by Central Bank
	(A)		(B)		(A+B)	(C)	(D)
	Pledged	Utilized	Pledged	Utilized	Pledged	Pledged	Pledged
Advanced Economies							
Australia	0.0	0.0	0.0	0.0	0.0	13.2	0.0
Canada	0.0	0.0	9.1	4.4	9.1	0.0	0.0
France	1.3	1.1	0.2	0.0	1.5	16.9	0.0
Germany	3.4	1.2	0.0	3.7	3.4	17.2	0.0
Italy	1.3	0.3	0.0	0.0	1.3	0.0	2.7
Japan	2.5	0.1	4.1	0.1	6.6	7.2	0.0
Korea	1.2	0.4	1.5	0.1	2.7	11.6	0.0
United Kingdom	8.2	6.4	3.7	0.1	11.9	40.0	28.2
United States	5.1	2.9	2.3	1.9	7.4	7.5	12.1
Emerging Economies							
Argentina	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Brazil	0.0	0.0	0.8	0.3	0.8	0.5	0.0
China	0.0	0.0	0.0	0.0	0.0	0.0	0.0
India	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Indonesia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Mexico	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Russia	7.1	3.1	0.5	0.0	7.7	0.0	0.0
Saudi Arabia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
South Africa	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Turkey	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G-20 Average	**2.6**	1.3	**1.4**	0.9	**4.0**	**6.4**	**4.6**
Advanced Economies	3.8	2.0	2.4	1.4	6.2	10.9	7.7
In billions of US$	1,220	639	756	461	1,976	3,530	2,400
Emerging Economies	0.7	0.3	0.1	0.0	0.8	0.04	0.0
In billions of US$	90	38.4	18	5.0	108	7	0

Source: IMF staff estimates based on G-20 Survey.
Note: GDP ratios are calculated in US$ converted at an average exchange rate during July 2008–December 2009.
1/ Columns A, B, C, and D indicate announced or pledged amounts, and not actual uptake.
2/ Excludes treasury funds provided in support of central bank operations.
3/ Includes some elements that do not require upfront government financing.
4/ Excludes deposit insurance provided by deposit insurance agencies.

9. **Some asset recovery has begun**. Estimates suggest a recovery of outlays so far in advanced economies amounting to 0.8 percent of GDP, implying a recovery rate to date of 22 percent (Table 5). While this is significantly lower than the average recovery rate in past crises in advanced economies (55 percent), historically most of the recovery has occurred over a period of five to seven years postcrisis. Recovery in 2009–10 has occurred mainly through the repurchase of shares and warrants, and via dividends, with the bulk accounted for by France, the United Kingdom, and the United States.[4]

[4] Support arrangements were structured so that at least part of the direct cost of financial sector support could be recouped over time. For example, recoveries related to recapitalization also reflect dividends, and the sale of warrants; and fees were received for the provision of guarantees and for deposit insurance funds.

Table 5. Recovery of Outlays and Net Cost of Financial Sector Support
(as of end-December 2009; in percent of 2009 GDP unless otherwise noted)

	Direct Support 1/		Recovery	Net Direct Cost
	Pledged	Utilized		
Advanced Economies				
Australia	0.0	0.0	0.1	-0.1
Canada	9.1	4.4	0.0	4.4
France	1.5	1.1	0.8	0.3
Germany	3.4	4.9	0.0	4.8
Italy	1.3	0.3	0.0	0.3
Japan	6.6	0.1	0.0	0.1
Korea	2.7	0.5	0.4	0.1
United Kingdom	11.9	6.6	1.1	5.4
United States	7.4	4.9	1.3	3.6
G-20 Average	4.0	2.2	0.4	1.7
Advanced Economies	6.2	3.5	0.8	2.7
In billions of US$	1,976	1,100	237	862
Emerging Economies	0.8	0.3	-	0.3
In billions of US$	108	43	-	43

Source: IMF staff estimates based on G-20 Survey.
1/ Capital injection and purchase of assets and lending by Treasury.

10. **Altogether, the direct budgetary cost of financial sector support (in percent of GDP) may turn out to be below historical norms for previous systemic crises**. Taking into account asset recovery through end-2009, the net cost of direct support in advanced G-20 economies is estimated at 2.7 percent of GDP. Given the gradual cost recovery in past crises, the medium-term net cost is likely to be even lower, including in countries at the center of the financial crisis, and well below historical norms of 8 percent of GDP.

11. **To further reduce the final costs of direct support and possibly recover some of the indirect costs of the crisis, some countries have adopted or proposed special levies on the financial sector**. Examples include a "financial crisis responsibility fee" proposed in the United States, and temporary taxes on bonuses adopted in France and the United Kingdom (both pure tax instruments). In addition, some countries are setting in place mechanisms to pre-fund the cost of possible future crises. These include a bank levy proposed in Germany, a dissolution fund in the United States, and a "financial stability fund" introduced in Sweden (all linked to financial-sector resolution schemes) (Box 3). In this context, the IMF was asked by the G-20 heads of state to prepare a report for their June 2010 meeting regarding the range of options countries have adopted or are considering as to how the financial sector could make a fair and substantial contribution toward paying for any burden sharing associated with governmental intervention to repair the banking system. A preliminary version of this report was forwarded to the G-20 ministers of finance in April 2010.[5]

[5] See http://blog-imfdirect.imf.org/2010/04/25/fair-and-substantial%E2%80%94taxing-the-financial-sector/

Box 3. Measures to Finance the Cost of Financial Sector Support

Actual and proposed steps to recover the costs of the current crisis include:

The United States Financial Crisis Responsibility Fee (FCRF). In January 2010, the United States government announced that it would seek to impose a 0.15 percent tax on the uninsured liabilities—defined as total assets net of tier I capital and insured deposits—of large financial institutions. The government estimates that the FCRF will raise additional revenue of US$90 billion during 2011–20, and it intends to impose the FCRF until the Troubled Asset Relief Program is fully paid off. U.S corporations will be taxed on their worldwide consolidated assets, while foreign entities in the U.S market will be taxed based only on their U.S. assets.

The United Kingdom Bank Payroll Tax (BPT). The United Kingdom government introduced a tax on bonuses paid to bank employees, effective from December 9, 2009 to April 5, 2010, to address "remuneration practices that contributed to excessive risk-taking by the United Kingdom banking industry" and "encourage banks to consider their capital position and to make appropriate risk-adjustments when settling the level of bonus payments." The BPT applies to all bonus payments in excess of £25,000 made by banks and building societies to their employees. The BPT expired on April 5, 2010. The U.K. Treasury originally forecast that the BPT would raise £550 million in revenue, but more recent information indicates that the tax could bring in around £2.5 billion.

The Bonus Tax in France. The French government has implemented a temporary tax on bonuses granted in 2009 by banks and other financial institutions (excluding insurance and portfolio management companies). Employers in France will be liable for the tax in respect of relevant employees whose activities may significantly affect the risk exposure of their companies and those who have control over the enterprises. The tax is levied at 50 percent on bonuses in excess of €27,500, and is deductible against corporate income tax. The tax was projected to yield €362.5 million.

Steps to prefund the cost of support that may be provided in future crises include:

The United States Systemic Dissolution Fund (SDF). The United States House Financial Services Committee approved a measure that would set up the SDF within the treasury (managed by the FDIC) to finance the orderly dissolution of a given financial company as needed. Financial firms with more than US$50 billion in assets and hedge funds with more than US$10 billion in assets will be covered by the SDF. Covered institutions will be subject to a periodic assessment, which they will pay on a continuous basis. The fee will be accumulated in the SDF up to a certain level (the target has yet to be determined within the legislative maximum of US$150 billion), and once the target is reached, the fee will be paid to general revenues.

The Bank Levy in Germany. In March 2010, the German government announced plans to introduce a systemic risk-adjusted bank levy to mitigate the negative externalities associated with systemic risks. Systemic risk will be determined, among other considerations, on the basis of the size of bank's liabilities excluding capital and deposits and its interconnectedness with other financial market participants. The levy is to be paid into a stability fund that will be used to finance a special resolution regime for systemically relevant banks. The fund and the special resolution regime will be entrusted to the Federal Agency for Financial Market Stabilization. The size of the fund is yet to be determined.

The Swedish Financial Stability Fund (SFSF). The SFSF was introduced as the financing vehicle of four instruments available to the Swedish government to protect financial stability: bank guarantees, capital injections, emergency support, and deposit insurance. The SFSF covers deposit-taking institutions incorporated in Sweden, with a target size of 2.5 percent of GDP in 15 years. The SFSF is supported by an unlimited government back stop, and it is expected to merge with the deposit insurance fund in 2011. Covered institutions pay a flat-rate fee levied on a portion of their balance sheets: total assets net of equity capital, junior debt securities included in the capital base, debt transactions between companies paying stability fees, and an average of the guaranteed liabilities. The fee rate is 0.036 percent, payable annually, but transition rules allowed banks to pay only 50 percent of the prescribed rate for 2009–2010. The fee will be risk-based from 2011, but no details are available about how risk weighting will be implemented and how it will be merged with the deposit insurance fee.

D. Risks to the Fiscal Outlook

12. **There are significant downside and upside risks around the fiscal projections**:[6]

- For advanced economies, one key downside risk is that the build-up of public debt leads to a less favorable interest rate-growth differential than assumed in the baseline. That differential averaged about 1 percentage point for advanced economies in the last two decades, although it was significantly lower in the run-up to the crisis (Escolano, 2010). During 2010–15, however, the differential is expected to average close to zero for the advanced economies, primarily for cyclical reasons.[7] A clear risk is upward pressure on interest rates triggered, for example, by insufficiently credible adjustment plans. This could have a significant impact on debt developments, both directly and indirectly, as higher interest rates could weigh on growth (Section III). On the upside, revenues could recover faster than expected over the medium term: a large part of the deterioration of CA fiscal balances over the medium term reflects the expectation that the crisis caused a steep and sizable decline in potential output (on the order of 7 to 8 percent). Over the medium term, the revenue shortfall may be smaller, however, if the estimated loss in potential output proves overstated. There are also policy implementation risks: as noted, the above baseline already includes some fiscal adjustment, particularly in 2011–12. On the one hand, implementation of these policies may lag. On the other, countries may choose to implement additional measures beyond what is assumed in the baseline.

- A less favorable interest rate-growth differential is also a key source of risk for emerging economies. As noted, the projected decline in debt ratios in the latter assumes a negative interest rate-growth differential, which offsets the continued primary deficit. Should developments be less accommodating—including because deteriorating public finances in advanced economies could lead to higher global interest rates and a lower growth rate—public debt ratios in emerging economies could start rising again.

- Low-income economies face risks of spillovers from weaker fiscal outlooks in advanced economies, as in the case of emerging economies. In addition, the weaker fiscal outlook in donor countries could lead to lower donor support than assumed in the projections. More generally, the scaling-up of resources agreed in Gleneagles may not fully materialize, given the fiscal deterioration in advanced economies.

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[6] The focus of this paragraph is on risks relating directly to the fiscal projections. Of course, any risk surrounding the macroeconomic *WEO* projections, as well as risks arising from the financial sector, would have implications for the fiscal accounts.

[7] The interest rate considered here is the implicit interest rate on government debt, computed as interest payments over the average debt stock.

II. Implications of Fiscal Developments for Government Debt Markets

A. Financing Needs

13. **Government financing needs remain exceptionally high in most advanced economies**. This year, aggregate gross financing needs—defined as the new overall borrowing requirement, plus debt maturing during the year—will exceed 60 percent of GDP for Japan and reach 20 percent or more in many other advanced economies, including several in Europe, plus Canada and the United States (Table 6). Given relatively short average debt maturities—5½ years on average for advanced economies—and significant expected deficits, financing needs will remain high in the years to come.

Table 6. Advanced Economies' Gross Financing Needs, 2010
(In percent of GDP, unless otherwise specified)

	Maturing Debt	Deficit	Gross Financing Needs	Gross Debt (2009)	Average Maturity (years)
Australia	2.0	-5.0	7.0	15.5	4.8
Belgium	20.8	-5.1	25.9	97.3	5.4
Canada	15.9	-5.3	21.2	82.5	5.6
France	16.9	-8.2	25.1	77.4	6.5
Germany	10.2	-5.7	15.9	72.5	6.0
Greece	13.4	-8.1	21.5	115.1	7.4
Ireland	7.7	-12.2	19.9	64.5	6.7
Italy	21.2	-5.2	26.4	115.8	6.7
Japan	54.2	-9.8	64.0	217.7	5.2
Portugal	13.0	-8.8	21.8	77.1	6.2
Spain	10.3	-10.4	20.7	55.2	6.7
Sweden	6.8	-3.3	10.1	40.9	6.0
United Kingdom	8.6	-11.4	20.0	68.2	12.8
United States	21.2	-11.0	32.2	83.2	4.4

Sources: April 2010 *WEO* for deficit and debt; Bloomberg and IMF staff estimates for maturing debt and average maturities.

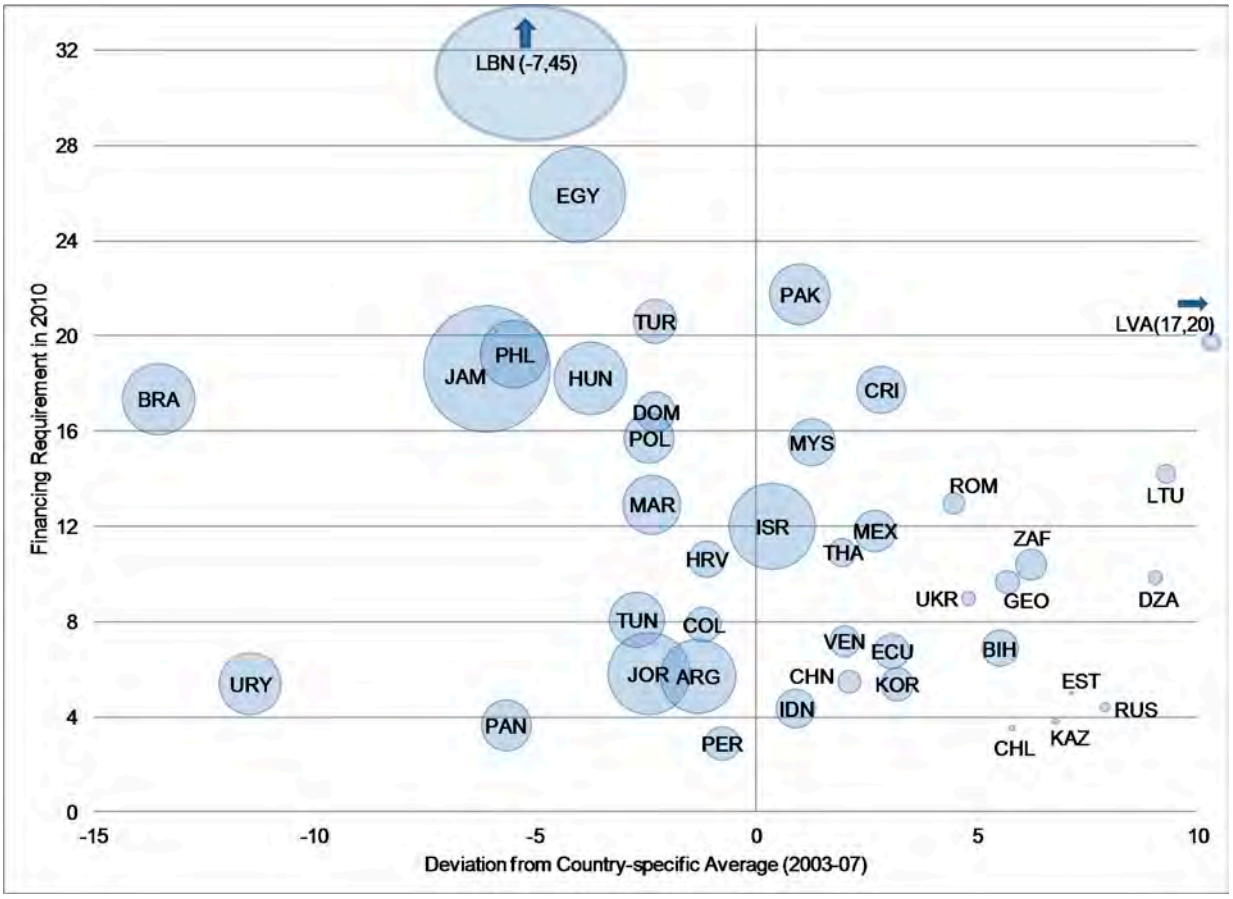
14. **By contrast, financing needs remain more moderate among emerging and low-income economies**.

- In **emerging economies**, debt ratios on average declined before the crisis, while lengthening maturities also helped create fiscal space for some countries (e.g., Brazil, Malaysia, Peru, and Turkey) and limit rollover needs. The median aggregate gross financing requirement for a group of 49 emerging economies was 6½ to 7½ percent of GDP during 2004–2008. It rose to 11 percent of GDP in 2009 but is projected to decline to 9 percent in 2010. Some economies are expected to experience significant increases in funding needs in 2010 relative to historic levels (Figure 6), including some with relatively moderate debt levels but increasing debt and credit risk spreads since 2007 (e.g., Latvia, Lithuania). Others, including some with relatively high

public debt levels (e.g., Brazil, the Philippines) have projected financing needs that are in line with or below their historical averages.

- In **low-income economies**, financing needs are manageable but require stepped-up efforts to access foreign financing. During the crisis, low-income country governments resorted to domestic sources to finance larger deficits and protect pro-growth spending. As growth resumes, access to more diversified financing sources would be helpful to avoid putting pressure on interest rates and crowding out private investment. Access to concessional financing remains particularly important in economies with higher debt distress risk; low-income economies with stronger fiscal positions are likely to resume precrisis efforts to tap capital markets to finance deficits.

Figure 6. Emerging Economies: Financing Requirements in 2010 and Deviations from Past Averages
(In percent of GDP)



Sources: April 2010 *WEO* for deficit and debt; and IMF staff estimates for amortization.
Note: The size of the bubble reflects the debt-to-GDP ratio prior to the crisis.

15. **The supply of government securities will also be affected by the eventual unwinding of large positions taken by some central banks**. The largest purchases were made by the Bank of England, which since mid-2008 has acquired gilts in excess of 14 percent of GDP (Table 7), more than a fifth of the outstanding gross debt of the general government of the United Kingdom. Purchases of government securities were part of an array of extraordinary emergency operations motivated by monetary policy objectives, namely the continued expansion of liquidity when the policy interest rate reached levels close to its zero bound and many financial markets had seized up.[8] As liquidity conditions and interest rates return gradually to more normal levels, central banks can be expected to unwind these operations and further increase the supply of government securities (or central bank instruments) in the market.

Table 7. Central Bank Holdings of Government Securities
(In percent of 2009 GDP, end of period)

	2007Q4	2008Q2	2008Q4	2009Q2	2009Q4	2010Q1	Change from 2008Q2
Japan	14.7	13.8	13.2	13.8	15.0	15.2	1.4
United Kingdom	0.0	0.1	0.3	7.3	13.8	14.5	14.4
United States	5.3	3.4	3.3	4.6	5.4	5.4	2.0

Sources: National central banks' balance sheets and flow of funds.

16. **Since mid-2009, average government debt maturities have shortened**. At the height of the crisis in 2008–09, a spike in risk aversion prompted strong demand for sovereign debt, primarily at the short-end of the yield curve. This led to increased issuance of short-term debt instruments to maintain adequate supply at that maturity. In some cases, the maturity shortening may have also reflected actual or anticipated difficulties in placing longer-term bonds, or cost considerations.[9] Notably, since the summer of 2009, average maturity declined in many advanced economies (the exception being Australia, Ireland, Italy, Norway, Slovenia, the United States), resulting in a weighted average shortening by 1.2 months.

[8] The ECB announced on May 10, 2010 that it will conduct interventions in the euro area public and private debt securities markets.

[9] The United Kingdom stands out with an exceptionally long maturity, reflecting in part a deliberate strategy to lengthen maturities and facilitated by the size of its financial system (including large pension and insurance industries). However, some economies with large debt ratios, such as Japan, have relatively short average maturities.

B. Government Bond Yields and Spreads[10]

17. **Yields on government securities in most advanced economies remain relatively low, but spreads have risen sharply in some countries, reflecting concerns about the fiscal outlook**. Over the course of 2009, government bond yields in most advanced economies increased from record lows reached at the beginning of the year. This reflected a pickup of economic activity, a dissipation of deflation risks, and a stabilization of financial market sentiment. Yields generally remain low, as monetary conditions continue to be relaxed and private sector activity weak (Figure 7). However, concerns about fiscal developments had led recently to a surge in yields in Greece, Portugal and Ireland, and to a lesser extent Spain, triggered, to varying degrees across these countries, by downgrades and limited success in rolling over debt (Figure 8). In the immediate aftermath of the announcement on May 10 of a package of measures adopted by the EU and the ECB to address financial market pressures, yields declined substantially.

18. **Other indicators of the risk attached to investing in government securities in advanced economies also remain relatively muted, except in a handful of countries**. Relative asset swap (RAS) spreads—measuring the difference between benchmark government bond yields and the fixed-rate arm of an interest rate swap in the same currency and of the same maturity (usually 10 years) as the bond—confirm the heightened concern over sovereign fiscal positions in Greece, Portugal, and Ireland, and to a lesser extent for Spain (Figure 9). RAS spreads are quite low for other countries, although they have recently become positive for the United Kingdom. CDS spreads have been more volatile than bond yields and RAS spreads since the inception of the crisis, probably due to the more limited size of the market (Figure 10).[11] This said, evidence suggests the CDS market has led the pickup in bond yields in the recent episodes in Greece and Portugal.[12]

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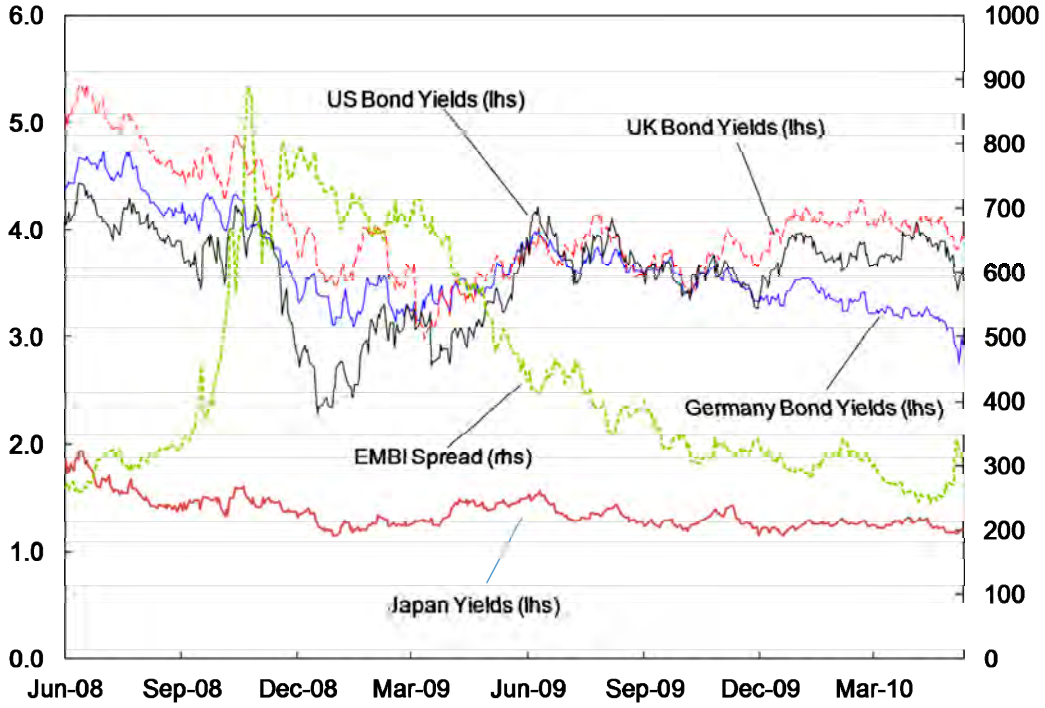
[10] Data for yields and spreads reported in this section are up to May 11, 2010.

[11] The sovereign risk reallocated via CDS markets remains contained compared to the total amount of debt outstanding. Net CDS positions amount to only about 5 percent of outstanding government debt in Portugal (the country with the highest share), 4 percent in Ireland, and 2 percent in Greece and Spain. In other countries, including Italy, the ratio is even lower, and it is extremely small for Japan, the United Kingdom, and the United States. Net CDS positions are obtained as the sum of the net protection bought by net buyers (or equivalently net protection sold by net sellers); the source is the Depository Trust & Clearing Corporation. Debt levels and exchange rates are from the April 2010 *WEO*.

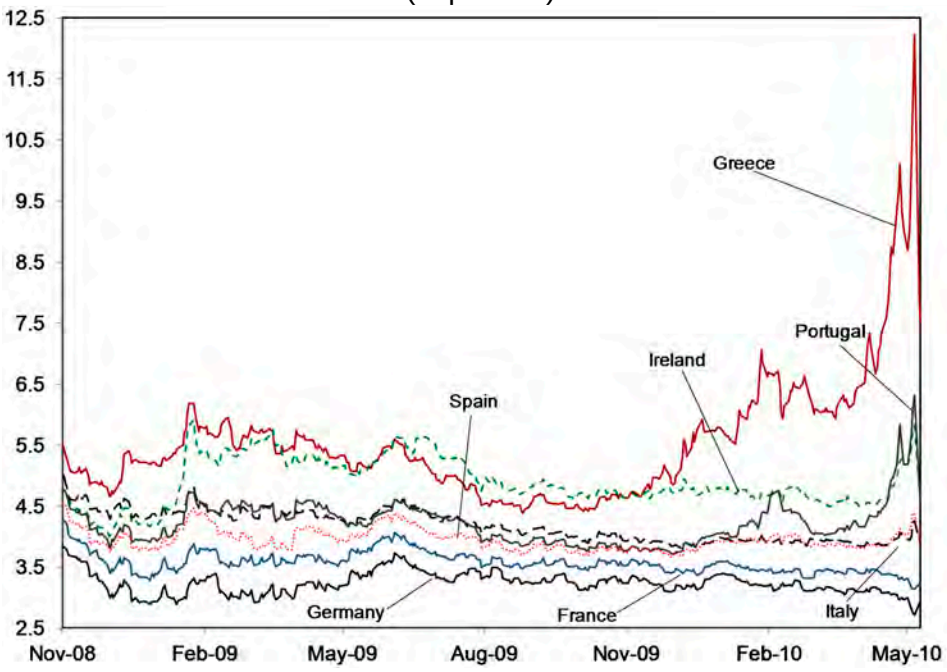
[12] The analysis uses 5-year CDS and 10-year bonds, as they are the most liquid maturities. Granger causality tests over the period January 2008–April 2010 show that the CDS spreads anticipated bond spreads (measured by the Relative Asset Swap spreads), while the reverse is not true.

Figure 7. Bond Yields and EMBI Spread
(Bond yields in percent; Spreads in basis points)



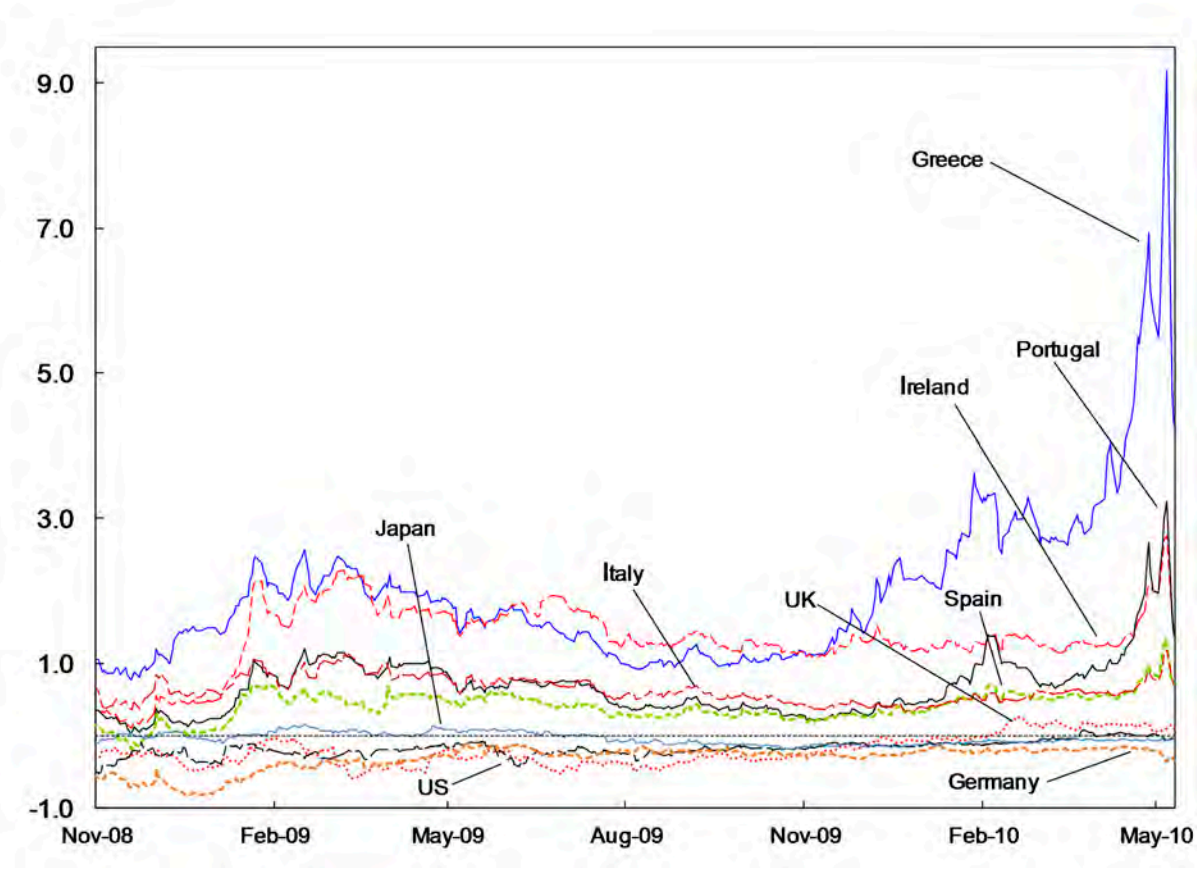
Sources: DataStream for bond yields (10-year maturity) and Bloomberg (EMBI).

Figure 8. Bond Yields in Selected Euro Area Economies
(In percent)



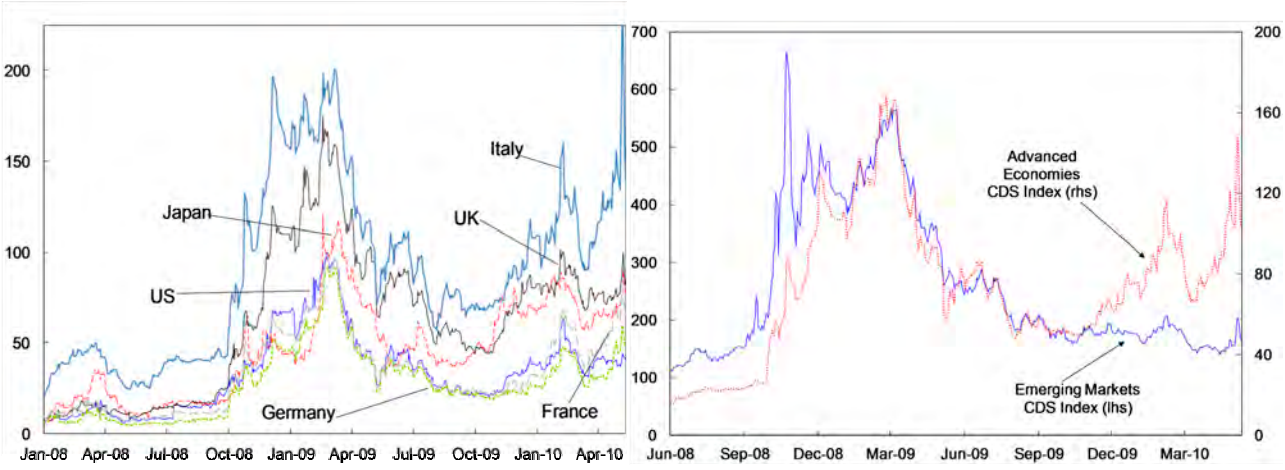
Source: DataStream (10-year maturity).

Figure 9. Relative Asset Swap (RAS) Spreads
(In percentage points)



Source: DataStream.

Figure 10. Sovereign CDS Spreads: Advanced vs. Emerging and G-7 Economies
(In basis points)



Source: DataStream and IMF staff calculations.
Note: For Canada sovereign CDS spread data were not available.

19. **Yields and spreads have evolved favorably for emerging economies in recent months**. With increased risk appetite and an associated search for yields, demand for emerging economy sovereign debt rose sharply, leading to shrinking emerging market spreads. The changing perception of sovereign risk is also reflected in a divergence of CDS spreads between advanced and emerging economies.

20. **Fiscal-financial sector linkages also continue to affect risk perceptions**. As evidenced by several episodes during 2008–09, sovereign risk premiums increased sharply following financial sector distress events, as weak financial institutions can trigger implicit and explicit fiscal obligations. Conversely, sovereign credit problems could affect the financial sector on the asset side, if falling sovereign debt prices increase losses on bank holdings of sovereign debt and downgrades weaken their capital positions. Recent BIS data show that financial sector exposure to this risk has increased.[13] There could also be negative effects through the liability side, to the extent that bank wholesale funding costs rise in tandem with increasing sovereign funding costs. Furthermore, the weakening financial position of sovereigns may reduce the perceived value of sovereign guarantees to the banking system.[14]

[13] Data from the BIS Consolidated Banking Statistics (April 2010) show that the foreign claims of BIS reporting banks on the public sector as a share of total consolidated foreign claims has increased in each of the last eight quarters (up to the fourth quarter of 2009), from about 14 percent to almost 19 percent. Higher holdings of the debt of the United States and of various European governments account for most of the expansion.

[14] See Chapter I, Section B, of the Global Financial Stability Report (April 2010) for an extensive analysis of how financial channels can amplify sovereign risk.

III. THE FISCAL POLICY OUTLOOK: ADJUSTMENT NEEDS AND PLANS

21. **Major fiscal consolidation will be needed over the years ahead**. The increase in budget deficits played a key role in staving off an economic catastrophe. As economic conditions improve, the attention of policymakers should now turn to ensuring that doubts about fiscal solvency do not become the cause of a new loss of confidence: recent developments in Europe have clearly indicated that this risk cannot be ignored. A distinct, but equally important risk to be averted is that the accumulated public debt, even if does not result in overt debt crises, becomes a burden that slows long-term potential growth. This section looks at fiscal strategies to address these risks, focusing on the goals of fiscal policy in the years ahead. The next section looks at specific measures and institutional reforms to achieve needed adjustment.

A. Debt Stabilization Strategy and Associated Fiscal Adjustment

22. **As discussed in the November 2009 *Monitor*, countries will need to make a key strategic decision whether to stabilize public debt at post-crisis levels or to bring it down**. Earlier projections indicated that lowering the gross general government debt-to-GDP ratio back to 60 percent for advanced economies by 2030[15]—the pre-crisis median—would require improving the CA primary balance by 8 percentage points of GDP.[16] Owing to the weakening of CA positions discussed in Section I, the required adjustment is now projected at 8.7 percentage points, from a projected deficit of 4.9 percent in 2010 to a surplus of 3.8 percent of GDP in 2020 (Figure 11 and Table 1 in Appendix 2).[17] For emerging economies, using a similar methodology but assuming a lower debt target (40 percent, a threshold beyond which fiscal risks are often considered to rise in emerging economies), the adjustment averages 2.7 percentage points of GDP, confirming that fiscal policy challenges are more modest for these countries (Table 2 in Appendix 2).

23. **Given the significant required adjustment in the above scenario for advanced economies, less ambitious debt targets could be considered, but this could have important implications for economic performance**. In addition to more limited fiscal space

[15] For Japan, a target of 200 percent of GDP was used for gross debt (equivalent to a target of 80 percent for net debt). Even with this less ambitious target—which is close to the pre-crisis level— the adjustment in the primary balance for Japan is the largest in the advanced economy grouping, as discussed below.

[16] This assumes: (i) that the CA primary surplus target would be achieved by 2020 and maintained for the following decade; (ii) an average interest rate-growth differential of 1 percentage point; and (iii) that the whole adjustment is implemented through the improvement in the primary balance. Of course, countries with large asset positions that exceed their (country-specific) needs could choose to reduce their gross debt by liquidating assets (although this would have no impact on net debt ratios). Even in these cases, however, an adjustment that at least eliminates any initial primary deficit will be needed.

[17] These adjustments are averages using PPP GDP weights. The simple cross-country average is much smaller because some of the countries with the largest adjustment needs are themselves large.

to respond to economic shocks, higher debt levels are likely to be accompanied by higher interest rates and lower potential growth. More specifically:

- The November *Monitor* presented econometric results showing that a 10 percentage point increase in the debt ratio is likely to lead to an increase in long-term real interest rates of around 50 basis points over the medium run.[18] Given the average increase in debt ratios in advanced economies, this suggests that interest rates could increase by almost 2 percentage points over the medium term (with respect to a scenario of stabilization at precrisis level).[19] Such an increase in interest rates for advanced economies would also adversely affect emerging economy financing conditions.[20]

- New econometric evidence on the impact of high debt on potential growth—based on a panel of advanced and emerging economies over almost four decades—shows an inverse relationship between initial debt and subsequent growth, controlling for other determinants of growth (Appendix 3). Estimates based on a range of econometric techniques suggest that, on average, a 10 percentage point increase in the initial debt-to-GDP ratio is associated with a slowdown in annual real per capita GDP growth of around 0.2 percentage points per year, with the impact being smaller (around 0.15) in advanced economies.[21] There is some evidence of nonlinearity, with only medium (30 to 60 percent of GDP) to high (above 90 percent) levels of debt having a significant negative effect on growth. This adverse effect largely reflects a slowdown in labor productivity growth, mainly due to reduced investment and slower growth of the capital stock. On average, a 10 percentage point increase in initial debt is associated with a decline of investment by about 0.4 percentage points of GDP, with a larger impact in emerging economies. To some extent, higher initial debt is also associated with higher macroeconomic volatility, and with lower total factor productivity growth.

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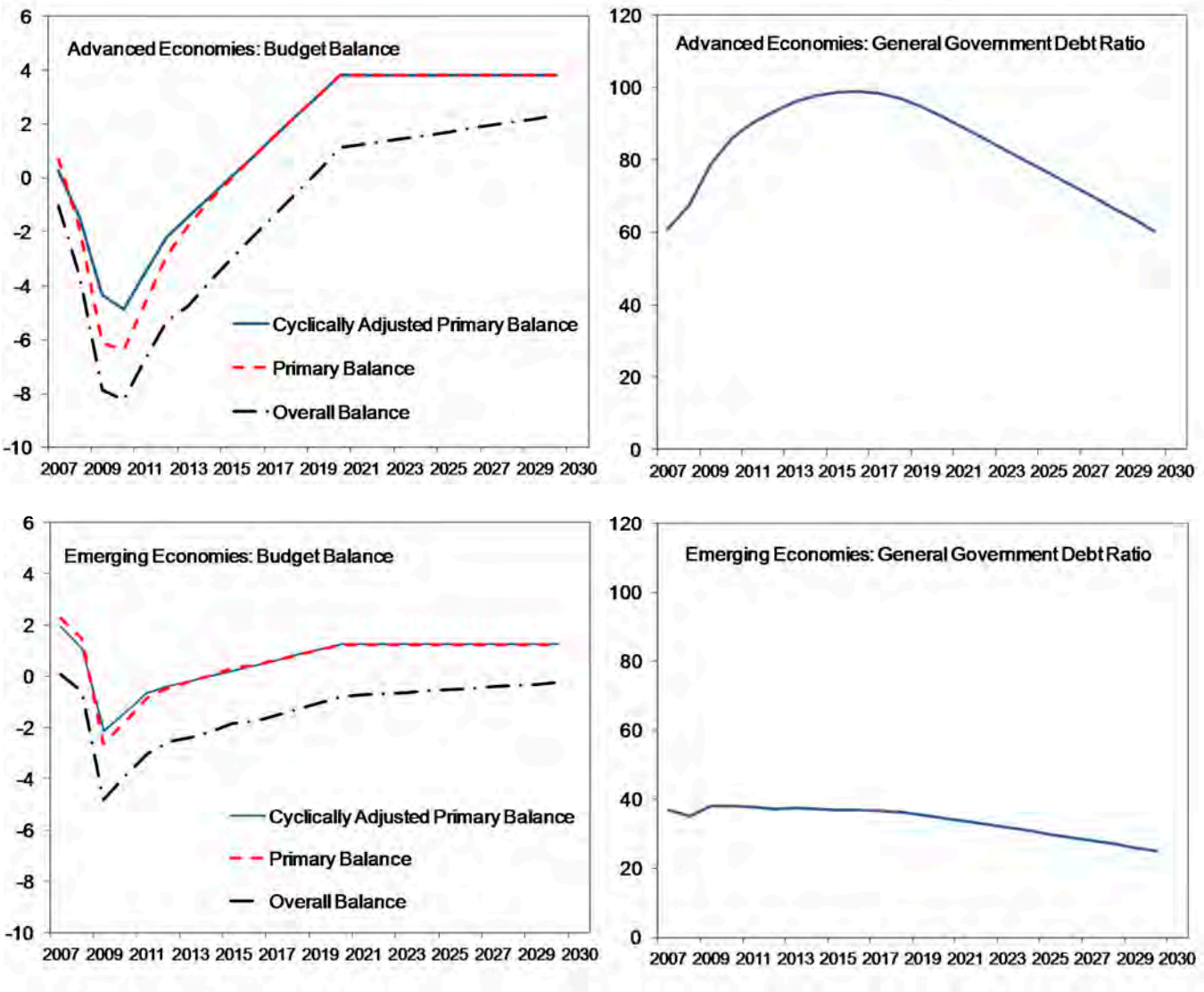
[18] See Baldacci and Kumar (2010) for a more detailed discussion of these results. Similar results are found in previous studies: see, for instance, Faini (2006) and Laubach (2009).

[19] Strictly speaking, the difference would be between stabilizing debt at 2015 levels (110 percent of GDP) and bringing debt down to the 2007 levels (73 percent of GDP). This is similar to the scenario described above, as in the latter the debt ratio is lowered to an average of 74 percent (60 percent for all countries except approximately 200 percent of GDP for Japan).

[20] Preliminary evidence suggests that an increase in U.S. bond yields by 100 basis points is associated with an increase in emerging market bond yields of around 30 to 60 basis points (taking into account domestic conditions and global liquidity).

[21] The analysis pays particular attention to a range of estimation issues including reverse causality, endogeneity, and outliers.

Figure 11. Advanced and Emerging Economies: Illustrative Scenario for Fiscal Adjustment
(In percent of GDP)



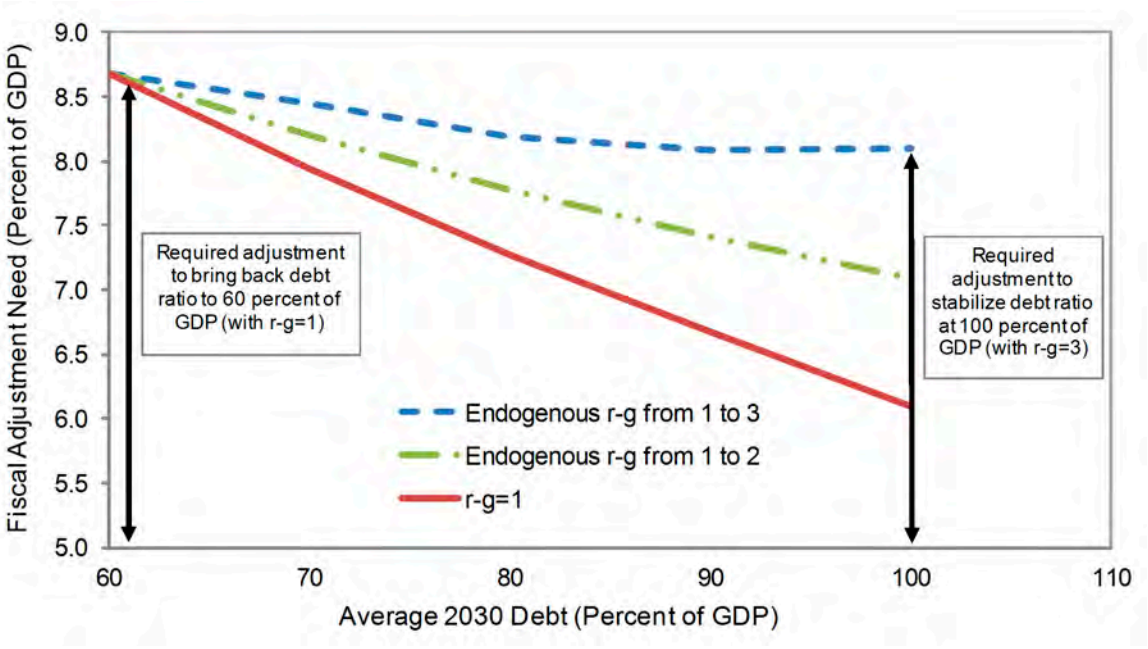
Sources: April 2010 *WEO* and IMF staff estimates.
Notes: For advanced economies, all concepts of fiscal balance exclude losses from financial sector support measures. CA balances are reported in percent of nominal GDP. In this scenario, the CA primary balance (CAPB) is assumed to improve gradually from 2011 to 2020; thereafter, the CAPB is maintained constant until 2030. The CAPB path is set to stabilize a country's debt-to-GDP ratio at its end-2012 level by 2030 if this is less than 60 percent (40 percent for emerging economies); otherwise, it is set to reduce the debt-to-GDP ratio to 60 percent (40 percent for emerging economies) by 2030. The analysis is illustrative and makes some simplifying assumptions: in particular, up to 2015, a zero interest rate–growth rate differential is assumed, broadly in line with *WEO* assumptions, and 1 percentage point afterward regardless of country-specific circumstances. For Japan, a gross debt target of 200 percent of GDP (net debt target of 80 percent of GDP) is assumed. For Norway and Saudi Arabia, maintenance of primary surpluses at the projected 2012 level is assumed.

24. **Taking into account the impact of high debt on interest rates and potential growth, a strategy of debt stabilization at post-crisis levels is less appealing**. The increase in the primary balance needed to stabilize or lower the debt ratio depends on the interest rate (r) − growth (g) differential ("r − g"). The larger the differential, the larger the increase in the primary balance needed to stabilize or lower the debt ratio. In Figure 12, the relationship between a particular debt reduction target and the needed fiscal adjustment needed is shown as the line "r − g=1," under the assumption that the differential (1 percentage point, as in Figure 11) is unaffected by the debt level. As noted, the goal of reducing the debt ratio below 60 percent by 2030 requires an average improvement in the CA primary balance by 8.7 percentage points of GDP, while stabilizing the debt ratio at its postcrisis level would require a smaller—albeit still sizable—improvement (about 6.5 percentage points of GDP). However, the trade-off is much less favorable if the differential is influenced by the target level of debt. This is shown in the line of Figure 12 labeled "Endogenous r − g from 1 to 3," which assumes that the interest rate-growth differential increases linearly from 1 to 3 percentage points as the average debt ratio rises from 60 to 100 percent of GDP.[22]

25. **If governments fail to signal a credible commitment to reduce debt ratios, the resulting increase in interest rates (and decline in growth rates) could increase the required effort markedly**. Indeed, it would warrant a fiscal effort merely to stabilize debt ratios at their postcrisis levels that is almost as large as what would have been required to reduce the debt ratio had interest rates remained at more moderate levels. This underscores the importance of early actions to demonstrate a commitment to lower debt ratios. A more optimistic alternative scenario limits the increase in the interest rate−growth differential to 2 percentage points, but even in this scenario about half of the fiscal adjustment gains with a constant interest rate−growth differential of 1 percentage point are lost to more adverse debt dynamics.

[22] This is consistent with the econometric results relating interest rates and potential growth to the debt level described above.

Figure 12. Advanced Economies: Illustrative Fiscal Adjustment Need as Function of Debt Target and Interest Rate-Growth Differential



Source: IMF staff estimates based on the April 2010 *WEO*.
Notes: The baseline simulation with a constant interest rate-growth differential r-g of 1 percentage point is similar to the illustrative fiscal adjustment scenario depicted in Figure 11, with the only difference that low-debt countries are assumed to stabilize their 2015 debt level (2012 in the illustrative scenario) as a proxy for the postcrisis debt level. The simulations here vary the debt target. The starting point is a target of 60 percent of GDP (200 percent of GDP in the case of Japan). The debt target is then incrementally increased, with average long-run debt ratios rising to approximately 100 percent of GDP. The two alternative simulations allow for the possibility that interest rates rise and growth rates decline as debt ratios increase. Specifically, they model this differential as a linear function of the long-run average debt ratios, bounded by 1 percentage point at the lower end for average debt ratios below 60 percent of GDP and either 2 or 3 percentage points at the upper end for an average long-run debt ratio of 100 percent.

26. **The extent of fiscal adjustment required to achieve certain debt targets varies significantly across advanced economies**.

- The adjustment is highest—close to or above 10 percent of GDP in the baseline scenario described above—in countries with high initial CA primary deficit and debt levels (Greece, Ireland, Japan, Spain, the United Kingdom, and the United States) (Figure 13 and Appendix 2).

- Greater adjustment need also reflects larger deterioration of CA primary balances during the crisis—for example, in Germany—compared to other countries where initial debt ratios were higher but changes in balances were more limited—for example, Italy. More generally, even countries with low debt would have to adjust to eliminate the primary imbalances existing in 2010. Some countries (e.g., Australia) would have to adjust not because debt levels are higher than the threshold, but because running primary deficits would prevent debt stabilization at any level.

- As noted above, the size of the adjustment depends on the assumed interest rate-growth differentials. Figure 13, top panel, refers to a uniform r − g differential across all countries, which could be plausible if all countries adopt credible adjustment strategies, and (for some of them) remove long-standing impediments to growth. Figure 13, second panel, presents adjustment needs based on country-specific r − g differentials, reflecting the initial debt levels. This implies a somewhat larger adjustment for higher debt countries, such as Japan and Italy.

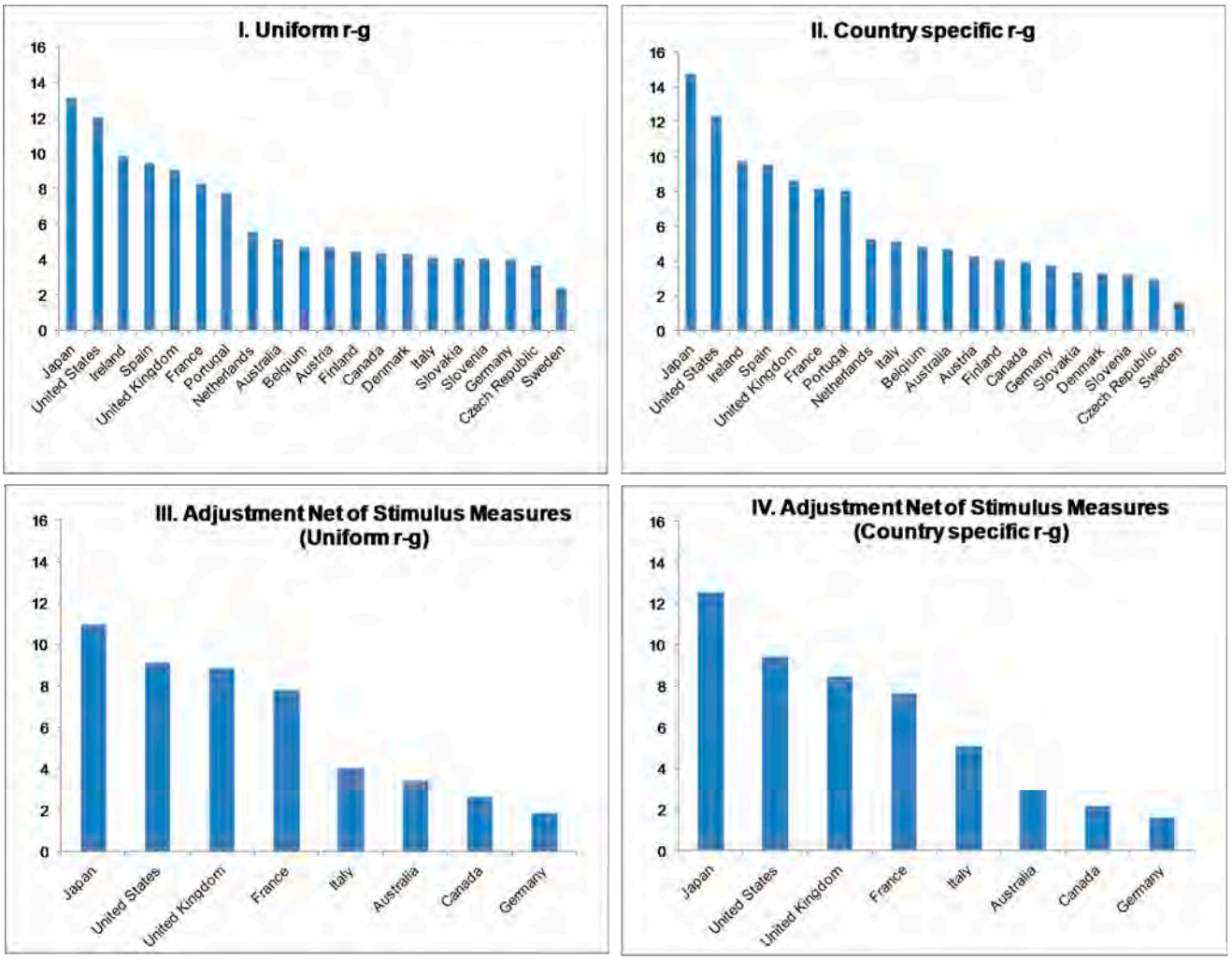
- Moreover, similar adjustments hide differences across countries in terms of the effort required to achieve them. In some countries, the initial CA primary deficit incorporates substantial temporary fiscal stimulus which is presumably easier to reverse than structural spending. In contrast, in countries with more limited stimulus, consolidation would need to address pre-existing structural weaknesses (see last two panels of Figure 13 for G-20 advanced economies).

27. **Among emerging economies, illustrative adjustment needs vary equally widely**. China has fiscal space to continue supporting the economy, in particular by strengthening spending for education, health, and pensions. This would help reduce uncertainties about income security that have contributed to a sharp decline in the private consumption ratio in recent years (pre-dating the crisis) thus strengthening domestic demand and helping address global imbalances (Box 4). For several others also—for example, Chile, Kazakhstan, and Panama—little or no adjustment is needed, given relatively low initial debt levels and strong CA primary positions. Yet in others, the gap is large—up to 8 percentage points of GDP under the scenario assumptions—reflecting initial high debt, the impact of the crisis on CA primary balances, or both (Appendix 2). These economies need to adjust more rapidly.

28. **The above scenario focuses on a gross debt target**. Some countries, in particular those with large holdings of assets, prefer to focus their fiscal policy on the attainment of net debt targets. Accordingly, Appendix 2 presents, for advanced economies, the results of similar calculations based on achieving a net debt ratio of 45 percent of GDP, equal to the median for the advanced G-20 economies in 2007.[23] Calculated adjustment needs are similar to those for gross debt with differences in the cumulative 10-year illustrative adjustment need exceeding 1 percent of GDP only for Canada (1.7 percent), Iceland (1.3 percent), and Ireland (1.2 percent). In each of these cases, the required adjustment needed to achieve the net debt target is less than that for the gross debt target.

[23] The target is 80 percent for Japan.

Figure 13. Illustrative Fiscal Adjustment in Cyclically Adjusted Primary Balance, 2011–30
(In percent of GDP)

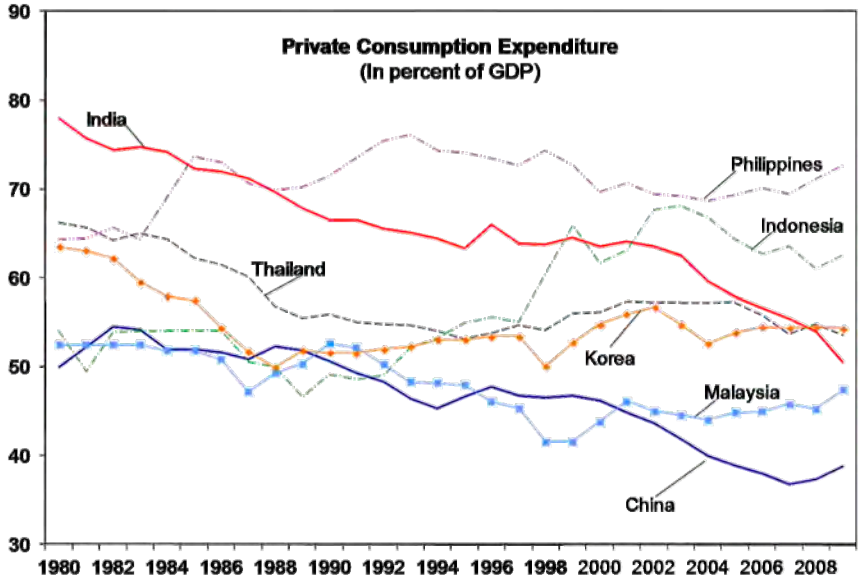


Notes: Crisis-related stimulus is provided only for G-20 economies. The baseline fiscal adjustment need for a uniform interest rate-growth differential across countries corresponds to the illustrative fiscal adjustment scenario depicted in Figure 11. The alternative scenario uses country-specific interest rate growth differentials. Until 2015, they use country-specific projections for the interest rates (computed as the implied interest rate from fiscal interest expenditures) and GDP growth rates. From 2016-30, country-specific differentials are determined as a function of the country's post-crisis (2015) indebtedness relative to the advanced country average. Specifically, a country with a post-crisis debt ratio that is higher by 10 percentage points than the average is assumed to have a higher interest rate-growth differential by 0.25 percentage points, and vice versa for countries with lower-than-average post-crisis indebtedness (this assumption is conservative compared to empirical estimates on the link between indebtedness and interest and growth rates). For Australia, the figures do not reflect the latest federal government budget released May 11. For Greece (not shown), the illustrative required adjustment from 2011 to 2020 is 9.2 percent of GDP; this is premised on adjustment measures of 7.6 percent of GDP (as in the authorities' program) being implemented in 2010. For Portugal and Spain, the figures do not reflect additional deficit reduction plans announced May 10.

Box 4. Increasing Social Expenditures and Household Consumption in China

Household consumption as a share of GDP in China has fallen dramatically since 1980 and is low by regional and international standards (see figure below). In Asia, only India has experienced such a dramatic decline in its consumption-to- GDP ratio, though starting from a much higher level.

Most of the decline in China's consumption ratio reflects a decline in the household consumption rate. A decline in consumption of GDP (the "consumption ratio") can occur either because consumption is falling as a share of household income (a declining "consumption rate"), or because household income is falling as a share of GDP. Between 1990 and 2007, the fall in the consumption ratio is accounted for mostly by a decline in the household consumption rate and only in small part by the decline in the share of household disposable income in GDP.



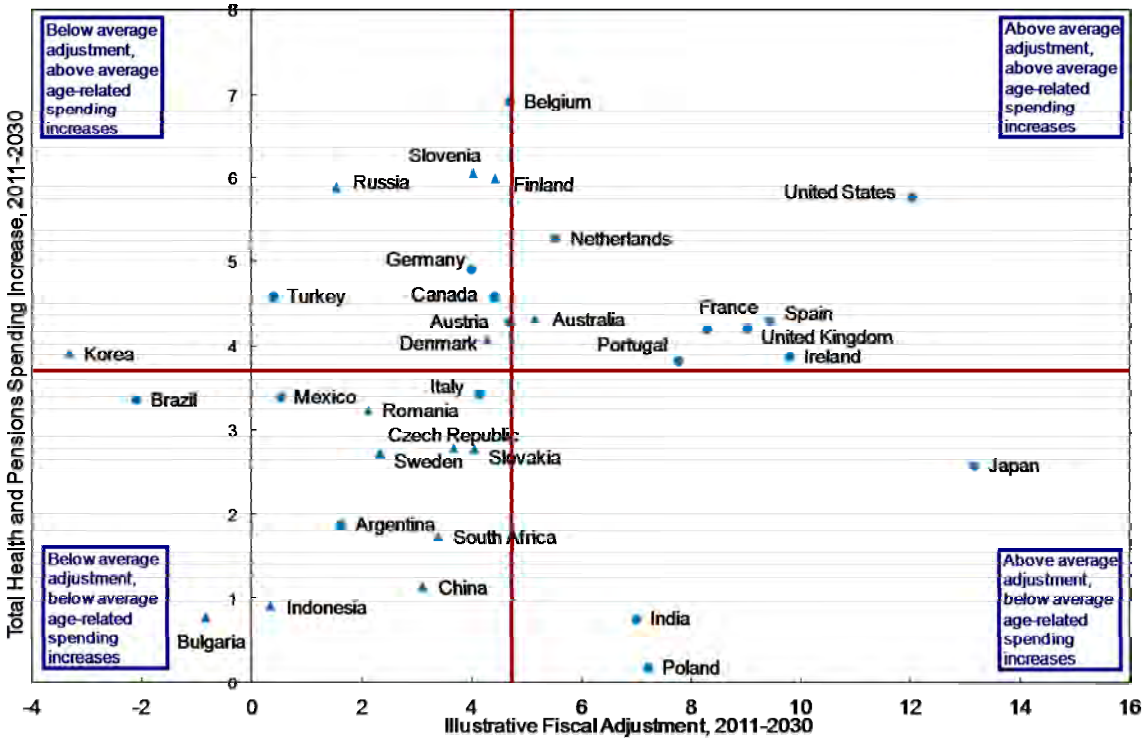
Sources: CEIC Data, April 2010 *WEO*, and IMF staff estimates.

Studies have emphasized the role of decreasing government social expenditures in explaining the decrease in the consumption ratio in China. The withdrawal of the "iron rice bowl" over the last few decades has meant that Chinese households now have to save more to finance future expenditures on health, old age consumption, and education, so that risk-averse households respond by increasing "precautionary savings" substantially.
A recent IMF study finds that increases in social expenditure in China could have sizable effects on household consumption: a 1 percent of GDP increase in spending allocated equally across education, health, and pension spending and financed by reducing fiscal surpluses of government and state enterprises would increase household consumption by 1.2 percent of GDP (Baldacci and others, 2010). Allocating a larger proportion of the expenditure increase to health and pensions would generate even bigger consumption impacts, because a larger proportion of these expenditures benefit the elderly who have higher propensities to consume. Allocating all of the 1 percent expenditure increase to health or pension would raise consumption by 1.3 percent and 1.6 percent of GDP, respectively. Targeting expenditures at poorer rural households would increase the impact further.

Although such expenditure increases could be financed out of existing surpluses in the short run, eventually they would have to be tax-financed to be fiscally sustainable. However, even then, the net impact on consumption would be positive. Financing fully through income taxation would reduce the consumption impact by half to 0.6 percent of GDP. The positive net impact reflects the redistributive nature of these tax-financed expenditure increases and a decrease in the need for precautionary savings.

29. **The fiscal adjustment described above will be made more challenging by the spending pressures that will arise in the decades ahead, particularly in advanced economies**. The adjustments discussed above do not take into account those needed to offset the spending pressures already in train due to population aging and other spending trend increases. In particular, for several countries, total adjustment required goes well beyond the net improvement needed in the primary balance, as measures will also be required to offset higher health and pension spending (let alone pressures arising from global warming). On average, spending increases in health and pensions are projected at 4 to 5 percentage points of GDP in advanced economies over the next 20 years (see IMF 2010c). The relative position across countries along these two dimensions—the needed change in the primary balance to lower public debt below 60 percent of GDP for advanced economies, and the increase in spending pressures for pensions and health—is illustrated in Figure 14. Countries with adjustment requirements clearly above the (simple) averages in both dimensions—those located far in the upper right quadrant—include the United States, Spain, the United Kingdom, France, and the Netherlands.

Figure 14. Illustrative Fiscal Adjustment and Projected Age-Related Spending Increases in 2011–2030 (In percent of GDP)



Source: IMF staff estimates and projections; IMF (2010c).

Note: Fiscal adjustment refers to improvement in the cyclically adjusted primary balance needed to achieve the illustrative gross government debt target. Circles indicate debt ratios above 60 percent for advanced economies and 40 percent for emerging economies, projected at end-2012 (higher debt); triangles indicate debt ratios below 60 percent for advanced economies and 40 percent for emerging economies, projected for the same period (lower debt). See note in Figure 11 for further details. The vertical and horizontal lines represent unweighted averages.
For Australia, the figures do not take into account the federal government budget, released on May 11, which envisages a return to federal government surpluses by 2012/13. For Greece (not shown), the illustrative 2011–30 adjustment need is 9.2 percent of GDP, after measures of 7.6 percent of GDP undertaken in 2010. The increase in health and pension spending is projected at 7.6 percent of GDP.

30. **In some countries, fiscal adjustment at the central government level will have to be accompanied by adjustment at the subnational level**. The crisis has adversely affected the finances of local governments in many countries. Revenues collapsed, and in many cases, spending needs increased. Country responses have differed: some have allowed local deficits to widen, while others opted not to ease limits on local government deficits and borrowing, responding to the crisis with procyclical spending cuts, tax base broadening, and even tax rate increases (Appendix 4). Countries that allowed a discretionary countercyclical easing at the subnational level—for example, cutting tax rates or increasing investment spending—will need to gradually reverse this policy to ensure that local governments contribute to fiscal adjustment and debt reduction. Where local governments have cut spending and raised revenues, recovery should ease pressures on local budgets by strengthening revenue collection, allowing a phase-out of at least some of the spending restraint or tax measures.

B. Medium-term Adjustment Plans

31. **Most advanced economies plan significant adjustment starting from 2011, but few details about concrete policy measures have been spelled out**. Announced consolidation targets and timeframes reflect the different dimensions of country adjustment needs. Advanced G-20 economies with the lowest deficits projected for 2010 (Australia, Canada, Korea) envisage returning close to budget balance or surplus by 2012/13–16. For EU member states, requirements under the Stability and Growth Pact dictate an adjustment that would bring budget balances below the 3 percent of GDP deficit threshold between 2012 and 2014. By contrast, despite sizable adjustment in medium-term budget proposals in the United States, an overall deficit of about 6 percent of GDP would remain by 2014 (Table 8).

32. **Among emerging economies, some have announced adjustment targets, albeit predominantly for the short term**. For instance, Brazil plans to restore the deficit of the non-financial public sector to its precrisis level of 1.5 percent of GDP. Mexico aims to return the debt ratio to a declining trend by 2011 and to balance the budget by 2012.

33. **The planned composition of adjustment during 2010–15 differs between advanced and emerging economies**. From broad announcements made so far, it appears that advanced economies intend to rely more on expenditure adjustment or a combination of spending and revenue measures, while emerging economies foresee greater reliance on revenue recoveries (Table 9). Based on IMF *WEO* projections, real primary spending is expected to decline modestly in the advanced economies over 2010–12 and subsequently to grow, albeit at a much slower pace compared to the 2007–09 period (Figure 15). In emerging economies, revenue growth, which slowed markedly during the crisis, is expected to recover; primary spending will continue to rise in line with robust GDP growth.

Table 8. Medium-term Fiscal Consolidation Plans

Argentina	No exit strategy is anticipated beyond the functioning of automatic stabilizers.
Australia	As the economy recovers, the budget will return to surplus by allowing improvements in expected tax receipts to flow to the budget bottom line; and when the economy is expected to grow at above-trend rates, restraining real growth in spending to 2 percent a year until the budget returns to surplus.
Brazil	No concrete consolidation plans have been announced beyond the 2010 target of a non-financial public sector (NPFS) deficit 1.5 percent of GDP (precrisis levels). Public investment remains low by international standards but is expected to increase substantially under the Growth Acceleration Program and boosted by the 2014 Fédération Internationale de Football Association (FIFA) World Cup and 2016 Olympic Games.
Canada	The fiscal plan projects returning to a small deficit of -0.1 percent of GDP by 2014–15. The winding-down of the Action Plan would cut the federal budget deficit in half by 2011–12; moreover, the growth of direct program spending is to be restrained and would yield savings of $17.6 billion over five years.
China	The fiscal stimulus package is temporary with an explicit timeline through 2010. No specific medium-term fiscal plans are yet available.
France	The medium-term fiscal plan is to reduce the deficit to 3 percent of GDP by 2013 through a mix of revenue and expenditure measures as well as structural reforms. Revenue measures include an increase in taxes included in the social security budget, the reversal of the 0.6 percent of GDP revenue loss in 2010 due to the abolishment of the local business tax and the introduction of new green taxes. Expenditure measures envisage limiting real public expenditure growth at the general government level to 0.9 percent per year between 2010 and 2012.
Germany	Fiscal consolidation will start in 2011. The Stability and Growth Pact (SGP) requires lowering the general government deficit to 3 percent of GDP by 2013; and the constitutional rule mandates a 0.35 structural deficit at the federal level by 2016 (to be achieved in roughly equal annual steps) and balanced structural budgets at the state levels by 2020. The consolidation program is planned to be expenditure based. If needed, however, revenue measures will be considered. A permanent income tax cut of about 1 percent of GDP is planned in 2011 as part of an income tax reform.
India	Gradual fiscal consolidation is envisaged by reducing the central government fiscal deficit to 3 percent of GDP by 2013/14. The planned reduction would be mainly revenue-driven, from higher growth and from measures to simplify the tax code, raise voluntary compliance, and reduce exemptions.
Indonesia	A gradual fiscal consolidation is envisaged with an overall deficit target of 1.2 percent of GDP in 2014. The consolidation is revenue-based with a projected increase in the revenue-to-GDP ratio of 1.6 percentage points (2009–14), underpinned by reforms to modernize tax administration and enhance tax collection as well as policies aiming to increase oil and gas production. The expenditure-to-GDP ratio is projected to increase gradually to support economic development and poverty reduction.
Italy	A gradual fiscal consolidation is envisaged in line with the requirements of the SGP. Net borrowing is planned to fall from 5.3 percent of GDP in 2009 to 5.0 percent in 2010, 3.9 percent in 2011 and 2.7 percent in 2012. The adjustment in 2010 would come from a reduction in total expenditures of 0.8 percent of GDP partially compensated by a reduction in revenues (0.5 percent of GDP). For the following years, program details are yet to be decided. The biggest improvements are expected from the implementation of fiscal federalism following the approval of the delegation law in May 2009.
Japan	By mid-2010, the government is expected to announce a medium-term fiscal framework that will cover the next three years, and develop a "Fiscal Management Strategy" that will include fiscal deficit and debt targets geared toward maintaining the medium- to long-term fiscal discipline.
Korea	The 2010–13 budget envisages a continued strengthening in the fiscal balance to 2 percent of GDP by 2013, largely through expenditure reduction. Tax measures are also planned and cover the scaling back of income tax allowances, increasing social security contributions and raising environmental taxes. However, at the same time, the authorities plan to introduce further rate cuts, including additional targeted tax incentives and the final stage of the postponed tax cuts for the highest corporate and personal income tax (CIT and PIT) brackets. On the spending side, suspension or downsizing of temporary projects are envisaged as well as expansion of PPPs and better prioritization of investments.
Mexico	Fiscal adjustment starts in 2010 as a tax package of 1 percent of GDP was enacted, including an increase of VAT, excise, and income tax rates. The authorities aim to return the debt ratio to a declining trend by 2011 and the fiscal balance, as defined under the fiscal rule, to zero by 2012.

Table 8. Medium-term Fiscal Consolidation Plans (concluded)

Russia	Reflecting a gradual unwinding of the anti-crisis package, in 2010 the general government deficit is projected to improve by 3 percent of GDP. Beyond 2010, the authorities' 2010–12 federal government budget implies a steady decline in the non-oil balance by about 1–2 percent of GDP a year, to 9½ percent of GDP by 2012, mainly through lower spending on public administration and low-priority infrastructure projects, but also higher social security contributions. Over the longer term, the authorities plan to reduce the non-oil deficit to their sustainable target of 4.7 percent of GDP by 2013.
Saudi Arabia	There is no fiscal consolidation plan and fiscal policy will continue to be guided by a philosophy of saving sufficient oil wealth to enable countercyclical action and preserve intergenerational equity, while meeting the increasing demands on the budget as a result of demographic pressures. Total expenditure is expected to remain at historically elevated levels over the medium term, driven by social sector and infrastructure spending.
South Africa	A gradual recovery from the crisis-related weakening through cyclical improvements is projected, not an active fiscal adjustment. Large scale infrastructure projects related to the FIFA 2010 World Cup and to addressing transportation and energy sector bottlenecks will continue. A stepped-up labor intensive public work program remains in place. Revenue measures will be discussed if needed.
Turkey	Some exit measures were already implemented in the second half of 2009 (increases in excise taxes as well as reversal of previously reduced rates in VAT and excises). The medium-term fiscal plan foresees a general government primary surplus from 2011, supported by a fiscal rule. Most of the adjustment from 2011 is expected on the expenditure side by efforts to control health costs, limiting the recruitment of new personnel, and allocate resources to priority economic and social infrastructure. Revenue adjustment will rely on excise increases (in 2010), tackling the informality in the economy, strengthening tax administration and compliance, and broadening the tax base.
United Kingdom	The 2010 Budget reaffirmed the objective of halving the deficit— 11.8 percent of GDP in 2009–10—over the next four years, but did not provide key details of the consolidation strategy. As announced earlier, current expenditure is expected to grow at a slower real rate of 0.8 percent a year on average from 2011–12 to 2014–15, while net public investment will fall to 1¼ percent of GDP by 2013–14, from 3.3 percent of GDP in 2008–09.
United States	The budget proposal includes a 3-year freeze on nonsecurity discretionary funding, requiring the financial services industry to fully pay back the costs of the TARP, allowing the 2001–03 tax cuts for households earnings more than $250,000 to expire, broadening tax base for corporate and upper-income taxpayers, and eliminating funding for inefficient fossil fuel subsidies. By 2014, the deficit is projected to reach 3.9 percent of GDP. The enacted health care reform is projected by the CBO to lower federal deficits by US$143 billion by 2019. The administration has created a fiscal commission to identify further savings with the goal of achieving primary balance by FY2015 and achieving long-run fiscal sustainability.

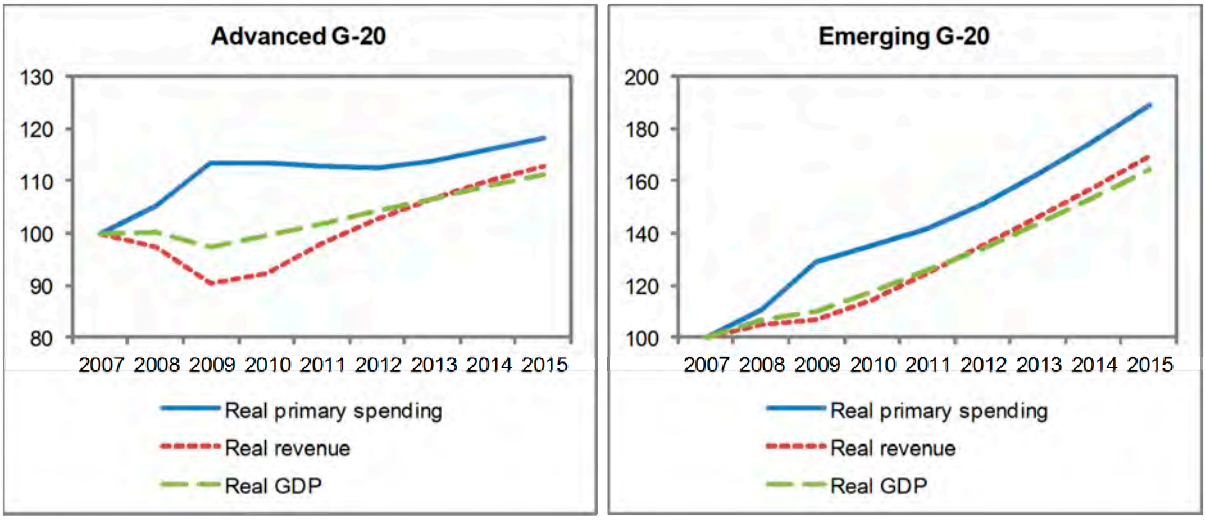
Sources: IMF country reports and authorities' reports; IMF staff estimates and projections.

Table 9. G-20 Economies: Composition of Adjustment Plans

Fiscal Adjustment Need 1/	Mostly Revenue	Revenue and Expenditure	Mostly Expenditure	Detailed plans in preparation
HIGH *(> 6 percent)*	India	France United States	United Kingdom	Japan
MEDIUM *(between 3 and 6 percent)*		Australia	Canada Germany	China Italy South Africa
LOW *(< 3 percent)*	Indonesia Mexico	Korea Russia	Turkey	Argentina Brazil Saudi Arabia

Sources: Authorities and IMF country reports; and IMF staff projections.
1/ Fiscal adjustment needs are calculated as changes needed in the CAPB to achieve certain debt targets (see Appendix 2 for details on the methodology and variations in debt targets for advanced and emerging economies).

Figure 15. Projected Real Revenue and Spending Levels, 2007–15
(Index, 2007=100)



Source: IMF staff projections; April 2010 *WEO*.

34. **Plans for reforms in entitlement spending vary**. Some countries have already undertaken meaningful pension reforms (e.g., Italy, Sweden), or have relatively limited entitlement coverage (China). In several countries health care reforms have recently moved onto the policy agenda (e. g., France, Germany), although few concrete plans have been announced (Table 10). The health care reform just passed in the United States aims primarily at expanding coverage, although the Congressional Budget Office (CBO) projects that higher outlays for expanded coverage will be more than offset by reduced payments to healthcare providers and higher payroll tax contributions (Box 5).

35. **Action on entitlement reform should start now in all countries facing aging pressures, but the timing of stimulus withdrawal should vary according to country circumstances**. Pension and health reforms may take several years to bear fruit, indicating that there is little reason to delay their implementation. Some potential reforms, such as an increase in retirement ages, may even have a positive effect on demand in the short term, as individuals reduce their saving in the expectation of funding a shorter retirement period. For most countries, the timing of the withdrawal of stimulus will depend on macroeconomic conditions. As noted, many emerging economies facing a rapid pickup in growth have already begun withdrawing fiscal stimulus this year. Should the baseline scenario of the April *WEO* materialize, all countries should be in a position to withdraw stimulus spending by 2011, when the recovery in advanced economies is expected to be widely consolidated. Of course, countries facing market pressures have already begun withdrawing stimulus spending, and will need to continue doing so even if—as is likely to be the case—macroeconomic conditions remain challenging.

Table 10. G-20 Economies: Planned Health Care and Pension Reforms as Part of the Exit Strategy 1/

Country	Projected Increase in Pension and Health Care Spending 2010–30 (In percent of GDP) 2/	Health Care Reform	Pension Reforms
Argentina	1.9	---	---
Australia	4.3	Long-term health reforms are planned following a recent report (July 2009) on the health care system. Means testing of health insurance rebates and reforms in the family payment system have already been implemented.	In the 2009/10 budget the government announced major pension reforms. They include tighter income tests for pensions and an increase in the retirement age from 65 to 67 years.
Brazil	3.4	---	---
Canada	4.6	---	---
China	1.1	In 2009–11, the government plans to provide RMB 850 billion (2.6 percent of 2009 GDP) to support the reform of the medical and health system.	Old-age insurance schemes in urban areas will be further improved to address their systematic deficits and to expand coverage; the pilot program for the new rural social old-age insurance scheme started in 2009 with the intention to cover all qualified persons by 2020.
France	4.2	A commission has been set up to recommend rules ensuring that the tight healthcare spending norms are respected; in addition, negotiations with healthcare providers on cost reduction continue.	On April 14, 2010 the Pensions Orientation Committee published the report emphasizing the long-term sustainability problem of the pension system and the pressing need for reform. In parallel, the authorities have launched a pro-reform public information campaign.
Germany	4.9	A commission was set up in early 2010 to draw up reform proposals.	---
India	0.8	---	---
Indonesia	0.9	---	---
Italy	3.4	Some provisions governing the control of health expenditure were changed with the 2010 Budget Law. The law specifies the size of regional deficits that will trigger the need to submit a three-year adjustment plan. Moreover, it strengthens procedures in case the deficit-reduction objectives are not abided by (including additional automatic rate increases for the personal income surtax and the local business tax or IRAP, a freeze in hiring health staff, and a ban on nonmandatory expenditure).	---
Japan	2.6	---	---

Table 10. G-20 Economies: Planned Health Care and Pension Reforms as Part of the Exit Strategy 1/ (concluded)

Country	Projected Increase in Pension and Health Care Spending 2010-30 (In percent of GDP) 2/	Health Care Reform	Pension Reforms
Korea	3.9	Subject to a feasibility review after 2010, the insurance-premium and out-of pocket expenses could be increased, while costs for low-income groups could be reduced.	The government plans to set up a public pension fund management company; pensions will be reduced and contributions increased for special occupational pensions currently in deficit.
Mexico	3.4	The authorities continue to aim at achieving universal coverage over time. No cost cutting-health care reform is planned.	No major pension reform is planned after the 2007 reform of public-sector pensions, which put in place a fully-funded scheme and reduced the net present value of public-sector pension liabilities by about 35 percentage points of GDP from about 60 percent of GDP. Short-terms costs included recognition bonds and payment of current retirees' pensions. Some small pension systems may be moved to a fully-funded individual accounts scheme.
Russia	5.9	---	---
Saudi Arabia	2.3	Expansion of mandatory insurance for health is under consideration (part of insurance sector reforms).	A review of benefits and measures to improve the efficiency of the pension system is under way.
South Africa	1.7	---	The pension age for men is being reduced to bring it in line with that for women. A new mandatory pension scheme is being introduced (as planned before the crisis).
Turkey	4.6	Health care reform will include an increase in copayments to reduce fiscal costs while maintaining quality. A health transformation program is also envisaged.	---
United Kingdom	4.2	---	---
United States	5.8	Health care reform has been approved by U.S. congress and signed by the president. It aims at expanding coverage to reach 94 percent of the population by 2019. The expansion is to be financed by: (i) reductions in the growth of Medicare payments to providers; (ii) increases in payroll taxes for Medicare; and (iv) an excise tax on expensive health plans. In addition, the act forbids insurance companies from denying coverage for preexisting conditions. The enacted health care reform is projected by the CBO to lower federal deficits by US$143 billion by 2019.	---

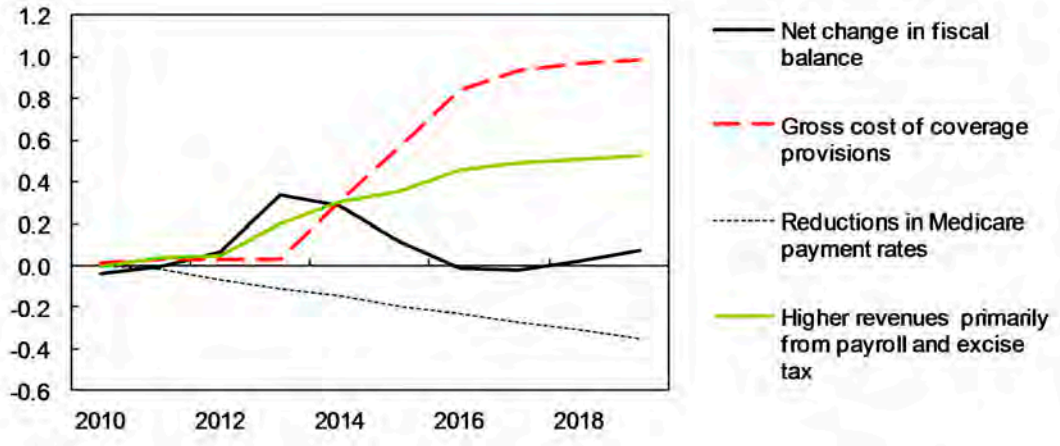
Sources: IMF (2010c); IMF staff estimates; IMF country reports; and authorities' reports.
1/ Includes only reforms recently adopted or announced. Earlier reforms, which are in part being gradually implemented, such as increases in the retirement age, are reflected in projections of age-related spending increases and not listed in the table.
2/ See IMF (2010c) for the methodology of the projections.

Box 5. Health Care Reforms in the United States 1/

In March 2010, the U.S. Congress passed health care reform legislation that aims mainly to expand insurance coverage. Coverage is expected to increase by 11 percentage points to reach 94 percent of the population by 2019. This expansion will be achieved by: (i) raising limits on Medicaid eligibility to 133 percent of the poverty line; and (ii) providing tax breaks and subsidies to individuals between 133 percent and 400 percent of the poverty line who purchase insurance on exchanges. The law also forbids insurance companies from denying coverage for preexisting conditions.

The legislation includes measures for cost containment and revenue increases, which the CBO projects will result in small budgetary savings. These measures include: (i) reductions in the growth of Medicare payments to providers; (ii) increases in payroll taxes for Medicare hospital insurance; and (iii) an excise tax on expensive employer-provided health plans. The CBO estimates that the bill would reduce the federal budget deficit by a cumulative US$143 billion by 2019, or about 1 percent of today's GDP (or about 0.1 percent of GDP per year, on average), with further savings of about ½ percent of GDP in the following decade (see figure below). There are some risks to the CBO estimates, however, including that the substantial decrease in Medicare payment rates to health care providers may prove difficult to implement.

Estimated Effects of U.S. Health Care Reform
(In percent of GDP)



Source: United States Congressional Budget Office.

1/ Prepared with Marcello Estevao and Evridiki Tsounta of the IMF Western Hemisphere Department.

IV. Adjustment Measures and Institutions

A. Strategies for Adjustment

36. **Achieving large fiscal adjustments will require a variety of measures, with emphasis likely on the expenditure side**. This section summarizes recent work by IMF staff on spending and revenue measures and institutions in support of fiscal adjustment (IMF 2010c, IMF 2010d). In advanced economies, high pre-existing tax burdens may limit scope to raise tax rates without adverse effects on economic efficiency.[24] This, together with the fact that stimulus measures consisted primarily of spending increases, as well as the need to offset the projected increase in age-related spending, implies a higher reliance on expenditure measures. Nevertheless, given the magnitude of the needed consolidation in many advanced economies, fiscal adjustment will likely require revenue measures as well. Moreover, in emerging economies, where the scope for improving revenues is substantial, reforms could also include tax measures, especially as many emerging economies envisage increased spending on stronger and better-targeted social programs.

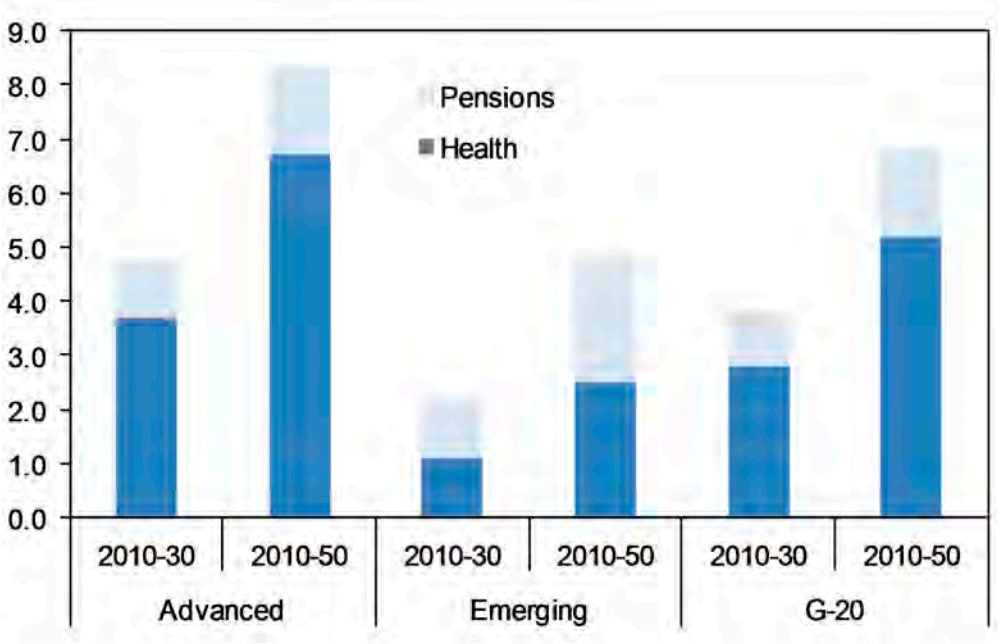
Expenditure Measures

37. **Regarding non-age-related spending, a possible strategic goal would be to freeze per capita spending in real terms over the medium term**. Such a strategy would generate structural savings of 3 to 3½ percentage points of GDP in the advanced economies over the next 10 years. This approach helped underpin successful consolidations in Belgium (1983–89), Denmark (1982–86), Finland (1993–2000), Israel (1980–83), and Sweden (1993–2000). Specific measures to support the spending freeze should focus on rationalizing wages and improving targeting of subsidies, transfers, and expenditures on social benefits. Subsidy spending on energy products absorbs about 1 percent of world GDP (Appendix 5).

38. **Health care constitutes the key challenge in stabilizing age-related spending pressures**. Health care spending is projected to rise by 3½ percentage points of GDP in 2010–30 in advanced economies due to aging and technology-induced cost pressures (Figure 16). Reforms will need to contain the growth of spending, while ensuring broad access to high-quality health care. Specific measures will be required to strengthen supply-side incentives or to reduce the demand for public health services. In general, supply-side measures—such as global budgets for provider reimbursement and evaluation of the cost-effectiveness of medical treatments and technology—are most effective at containing costs. On the demand side, measures include increasing cost sharing to discourage moral hazard and reducing tax expenditures from subsidies for private health insurance. In several emerging economies, the challenge differs and is focused on expanding health care coverage in a fiscally sustainable manner.

[24] There are important exceptions, however, notably carbon pricing, which could raise revenues in a relatively efficient manner even in countries with a high tax-to-GDP ratio.

Figure 16. Projected Increases in Pension and Health Spending



Source: IMF staff projections; see IMF 2010c.

39. **Regarding pensions, in many advanced economies legislated reforms are expected to moderate the effect of aging on spending, but further measures are needed**. Pension expenditure is currently projected to rise by 1 percentage point of GDP over the next 20 years (Figure 16). To stabilize pension spending relative to GDP, reforms should focus on increases in statutory retirement ages, although benefit reductions and increases in contributions may also be needed. A two-year increase in the statutory retirement age phased over the next two decades would be sufficient to stabilize pension spending as a share of GDP at its 2010 level by 2030 (the same result could be achieved by cutting benefits by 15 percent or by a 2 percentage point increase in payroll taxes).[25]

Revenue Measures

40. **Boosting revenues in an efficient manner requires strengthening broad-based taxes on relatively immobile bases and increasing externality-reducing taxes**. Table 11 summarizes possible revenues that could be raised through relatively efficient measures. There is substantial scope for improving the revenue performance of the VAT in almost all countries (i.e., reducing the VAT "policy gap"), including by eliminating exemptions and reduced rates. Many countries have room to significantly increase revenues from tobacco and

[25] IMF (2010c) discusses in more detail the pension reforms undertaken in the advanced economies and specific measures and considerations to achieve the reduction of benefits.

alcohol excises and fuel taxes. Pricing greenhouse gas emissions—by taxing carbon or auctioning emissions permits—could raise large sums. Property taxes also are an efficient source of revenues with a benign impact on growth. Altogether, these relatively efficient measures could yield an estimated 2.8 percentage points of GDP (on a weighted average basis) in G-7 economies. Additional revenues could be raised by introducing a VAT or by raising the standard rate where it is low. For instance, introducing a VAT in the United States, and doubling the very low VAT rate in Japan, could raise 4.5 percent and 2.6 percent of GDP, respectively, in those countries. While there is also scope for stronger income taxation, in part to address equity objectives, efficiency concerns loom larger there. Nevertheless, there may be room for base-broadening measures to raise revenues here as well. Tax-policy reforms have contributed to sustained revenue increases in past episodes of adjustment (Box 6).

Box 6. Past Episodes of Sustained Fiscal Revenue Increases

Past sustained, substantial increases in tax revenues have typically been supported by comprehensive tax policy and/or administration reform. In a sample of 44 advanced and emerging economies over the past three decades, it is possible to identify 29 episodes in 20 countries where tax revenues increased by more than 3 percentage points of GDP over 2 consecutive years. In 14 of these cases involving 10 countries, the increase of tax revenues was sustained broadly without reversal for 10 years (i.e., through the cycle). Natural resources-related revenues accounted for four of these cases, two in Indonesia and one each in Norway and the United Kingdom. The 10 other cases involved 7 countries, and revenue gains were the result of "regime change," or comprehensive tax policy reforms. These included: introduction of the VAT in Portugal and Spain in 1986 and in Iceland in 1989; comprehensive base-broadening tax policy measures in Italy in 1997 and 2004 (while lowering some rates); and far-reaching tax administration reforms in Peru during the 1990s. In the cases when adjustment was long-lasting, 90 percent of the increase in revenues was accounted for by increases in income taxes (50 percent) and consumption-based taxes (40 percent). In other countries such as Ireland in the 1990s, tax policy reforms reduced rates or narrowed bases and led to lower revenues.

41. **Strengthening tax compliance, including through better international cooperation, would also contribute to higher revenues**. This requires renewed efforts to tackle aggressive tax planning, evasion, and fraud. International collaboration in tax information exchange and transparency are important in this regard. There is significant scope to increase revenues through more effective efforts to thwart tax evasion. For example, VAT evasion is estimated to average 0.7 percent of GDP in advanced economies (IMF, 2010c).

Table 11. Estimated Potential Revenue Increases in Selected Advanced G-20 Economies 1/
(In percent of GDP)

Country	Reduce VAT Policy Gap by Half	Tobacco and Alcohol Excises 2/	Fuel Excises 3/ 4/	Property Taxes 5/	Total	VAT at 10 percent Rate 6/	Full Auctioning/ Taxation of Carbon Emissions 7/	Total
France	3.8	0.1	0.3	1.0	5.1	n/a	0.2	5.3
Germany	2.4	0.2	0.3	1.0	3.8	n/a	0.6	4.5
Italy	3.1	0.3	0.3	1.0	4.6	n/a	0.5	5.1
Japan	0.3	0.9	0.3	1.0	2.4	2.6	0.0	5.0
United Kingdom	3.3	0.0	0.2	0.0	3.5	n/a	0.5	4.0
United States	0.0	0.3	0.6	0.0	0.9	4.5	0.8	6.1
Unweighted average	2.1	0.3	0.3	0.7	3.4	...	0.4	...
PPP GDP weighted average	1.1	0.3	0.4	0.4	2.2	...	0.6	...

Source: IMF staff estimates; calculations and methodological details can be found in International Monetary Fund (2010c).
1/ Figures do not include any increases from base broadening or rate increases in income taxes.
2/ Based upon raising rates for alcohol and tobacco to the 2006 average level of each tax across the six countries shown, where existing rates are below the mean. For illustrative purposes, the demand elasticity is assumed to be zero.
3/ Based on raising gasoline and diesel rates by 10 cents per liter in each case.
4/ Raising the U.S. tax to 30 cents per liter would raise an additional 0.6 percentage point of GDP in the United States.
5/ Increase revenue from property taxes to yield average ratio to GDP in Canada, the United Kingdom, and the United States.
6/ For Japan, estimate of increased revenue from doubling VAT rate to 10 percent; for the United States approximation of receipts from introduction of broad based federal VAT at 10 percent.
7/ Estimates for European countries derived by weighting allocation of emission rights based upon per-country levels of emissions in 2007; a small proportion of these revenues would represent double-counting of the carbon emission externality correcting portion of fuel excises.

B. Institutional Arrangements

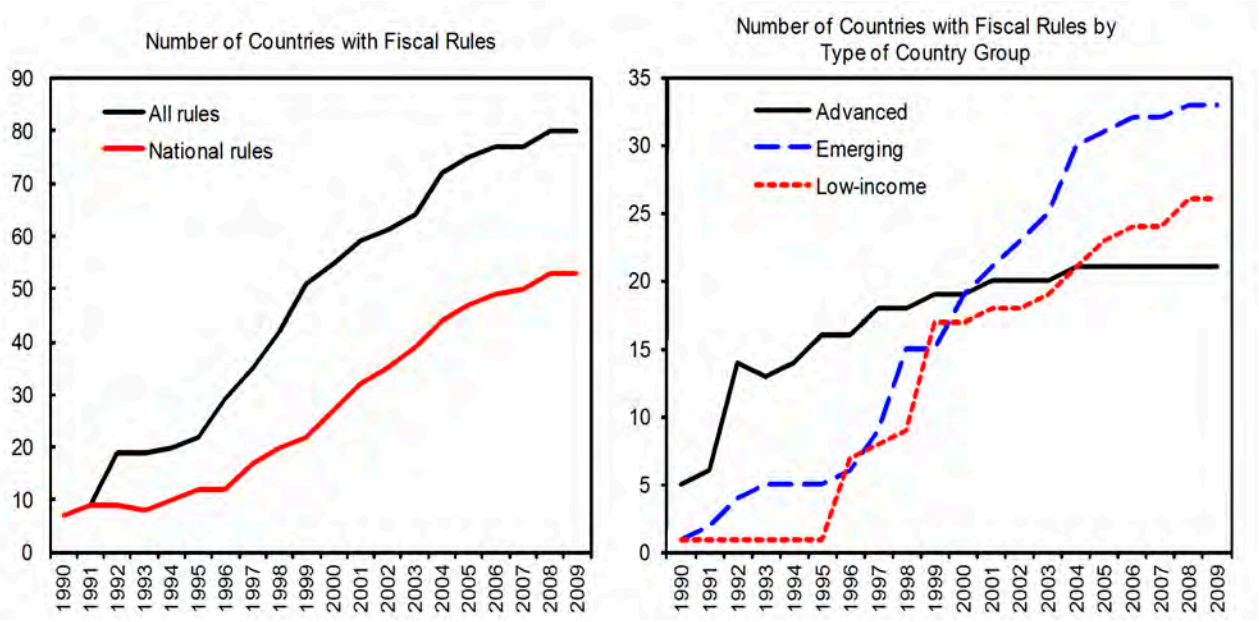
42. **Strong fiscal institutions can play an important role in supporting the requisite fiscal adjustment**. They can improve fiscal performance by providing a clear medium-term orientation, highlighting the need for sustainable policies, and raising the cost of deviating from stated fiscal objectives. Robust institutions are particularly important during fiscal retrenchment, when tensions between short-term, sectoral interests and long-term, collective aims often are at their highest.

43. **In the area of budgetary institutions, there is room for improvement in many countries**. These institutions include practices, procedures, and mechanisms that govern the preparation, passage, execution, and monitoring of the budget over the short and medium terms as well as the legal requirements. While advanced G-20 economies tend to have stronger budgetary institutions than emerging economies, they also face larger adjustment challenges. Recent IMF staff analysis identifies reform needs in particular in three areas. First, the breadth, depth, and timeliness of fiscal reporting and analysis of risks surrounding fiscal forecasts could be improved in many countries. Second, more clearly articulated fiscal objectives, and more comprehensive and binding medium-term budget frameworks with greater independent scrutiny, are needed. And third, a greater use of top-down budgeting—enforcing clearer prioritization across sectors and hard budget constraints—and more robust contingency arrangements are needed to ensure that plans are effectively implemented through the annual budget process.

44. **Moreover, a medium-term budgetary framework, supported by numerical fiscal rules, can help guide policy and anchor expectations regarding sustainability**. Comprehensive, stable, and transparent medium-term fiscal objectives, against which governments can be held accountable, provide a stable anchor for policy decisions and raise the costs of deviating from the consolidation path. Formalizing such medium-term fiscal objectives as permanent fiscal rules can signal a strong commitment to the consolidation effort. That fiscal rules confer benefits is reflected in their widespread introduction over the past two decades.[26] In 1990, only 7 countries had fiscal rules; by 2009, 80 countries used them (including national and supranational rules covering at least the central government) (Figure 17). While the crisis has strained existing rules, many countries are adopting new rules or strengthening existing ones as part of their exit strategies (Box 7).

[26] See IMF (2010d) for an analysis of the role that fiscal rules have played in past consolidations, experiences with fiscal rules worldwide, and a discussion of design features of fiscal rules, in particular with a view to support credible exit strategies from the crisis.

Figure 17. The Use of Fiscal Rules around the World 1/



Sources: IMF (2010d); and IMF staff calculations.
1/ As of early 2009. Includes national and supranational rules covering at least the central government.

45. **Looking ahead, strong fiscal institutions can enhance the credibility of consolidation plans, which could mitigate any adverse short-term impact of fiscal withdrawal on activity**. A credible growth-oriented package of fiscal reforms could have a positive effect on investment and on potential output through expectations of lower interest rates and lower future taxes. To illustrate this, Figure 18 shows simulations of the impact of a hypothetical, supply-enhancing, five-year fiscal consolidation program under different assumptions as to its initial credibility: (i) a somewhat unrealistic case with full credibility from the onset; and (ii) cases where full credibility is delayed by two, three, and four years, as agents remain unconvinced until progress in implementing the package is demonstrated.[27] The impact of the credibility of the consolidation package on output and investment is measured as deviations from the baseline projection—which itself incorporates the dampening effect that current fiscal consolidation plans would have on activity. The key insights from the simulations are that lack of credibility undermines the positive investment and output effects to the point of eliminating them; conversely, strong credibility could mitigate to a large extent the negative demand effects prompted by fiscal consolidation.

[27] The figure is drawn from Chapter 1 of the April 2010 WEO. The simulations were prepared by the IMF Research Department using the Global Integrated Monetary and Fiscal Model. The fiscal packages are designed to produce a deficit reduction (as a ratio to GDP) relative to the WEO projections baseline of 3 percentage points for the United States and Japan, and 2 percentage points in the euro area. Illustratively, the simulated fiscal packages include cuts in current government expenditure, consumption tax hikes, and tax cuts in capital and labor taxes—designed to raise potential output.

Box 7. Fiscal Rules—Recent Developments

In some countries, the adoption of new fiscal rules was already under way prior to the crisis or was decided during the crisis. As these rules have entered into force, in some cases with transition regimes, they will provide guidance to fiscal policy making and set constraints during the consolidation path.

Austria: The reform of the Federal Budget Law, adopted by constitutional law in 2007, includes the requirement for the government to set up rolling 4-year expenditure ceilings that are extended annually by another year. These ceilings apply to the federal government and contain a cyclical component. This rule took effect with the 2009 budget.

Germany: A new structural balance rule was enshrined in the constitution in June 2009. After a transition period, starting in 2011, it will take full effect in 2016 for the Federal government and 2020 for the states. The rule calls for a structural deficit of no more than 0.35 percent of GDP for the federal government and structurally-balanced budgets for the Länder.

Hungary: In November 2008, Hungary adopted a primary budget balance rule and a real debt rule as part of the adoption of a Fiscal Responsibility Law. The rules will take effect in 2012. Transition rules call for a reduction of the budget deficit (in percent of GDP) and limit real expenditure growth in 2010 and 2011. A new independent fiscal institution was also established to monitor fiscal developments.

Mexico: To promote savings, caps on accumulation of revenues in oil funds were removed for 2010. Consideration is being given to (i) introducing a new structural rule to reinforce savings at the top of the cycle and further reduce debt ratios; and (ii) improving medium-term expenditure planning.

Several other countries are considering adjusting or strengthening existing rules-based frameworks or adopting new rules as part of their exit strategies. Examples include:

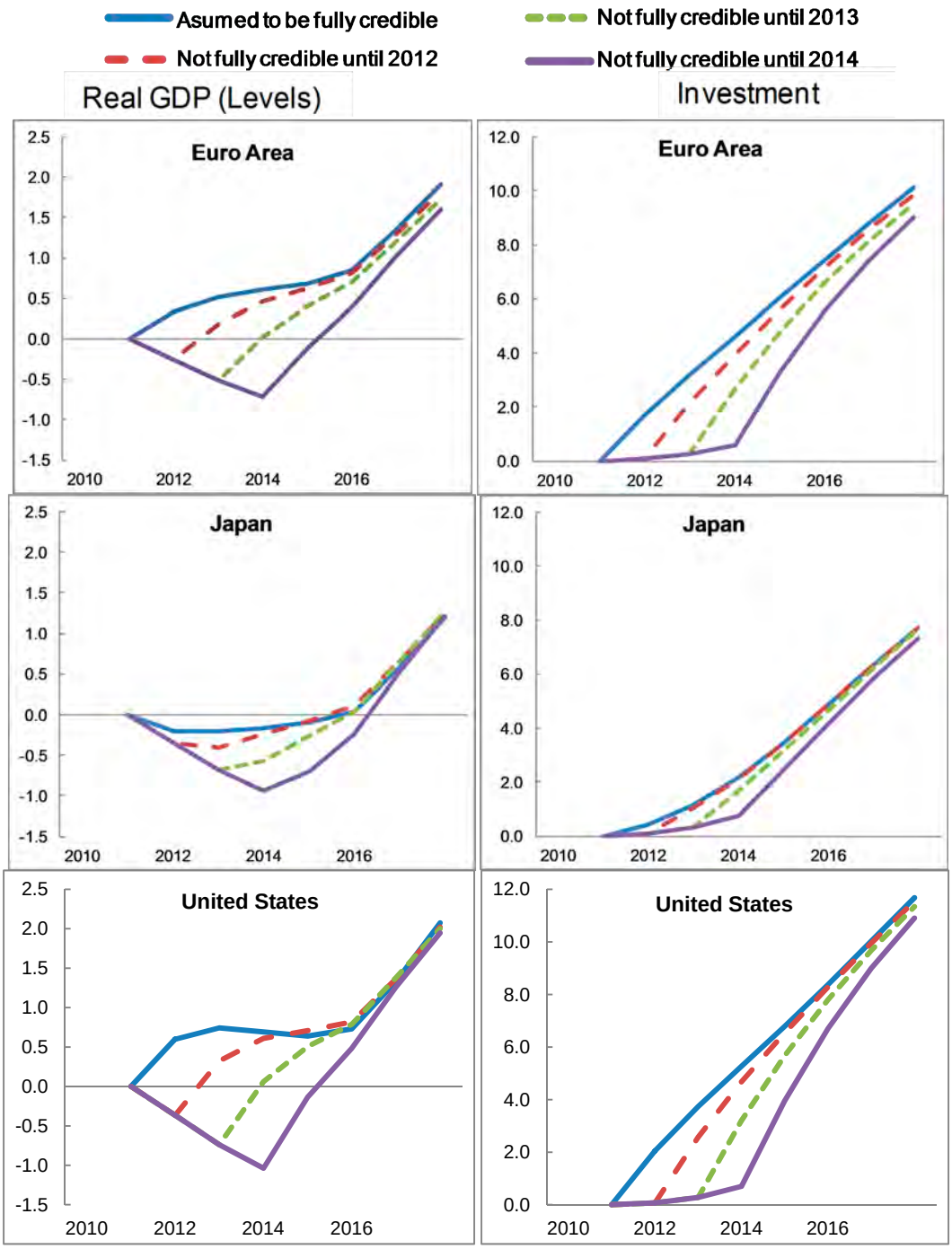
France: A high-level commission was set up to assess the introduction and the design of a new fiscal rule to redress budgetary imbalances over the medium term.

Poland: The new Public Finance Act, which entered into force in January 2010, has defined corrective measures to be taken in case the thresholds under the debt rule are breached. Moreover, the government announced its intention to implement a temporary fiscal rule limiting the growth rate of discretionary expenditure to CPI inflation plus one percentage point until the medium-term objective (structural deficit of 1 percent of GDP) is reached. At that point a permanent rule—yet to be determined—will come into effect.

Serbia: A working group has been set up to study options for introducing a fiscal rule over the medium term and for the transition period. Expenditure ceilings are being considered for the transition phase.

Turkey: The government is currently drafting legislation to adopt a budget balance rule to facilitate fiscal adjustment and reduce public debt. The proposed rule includes an adjustment mechanism for deviations of real GDP growth from a trend. The government plans to adopt the rule this year so that it can become effective for 2011.

Figure 18. Fiscal Consolidation Packages Designed to Raise Potential Output under Different Assumptions about Credibility 1/
(Percent deviation from baseline)



Source: April 2010 *WEO*, Chapter I, based on the *GIMF* model simulations.
1/ The medium-term effects of fiscal consolidation in the advanced economies will depend on the type of expenditure and tax instruments that are used. Some illustrative simulations with the *GIMF* model show that fiscal policies designed to raise potential output (lower taxes on capital and labor and higher taxes on consumption goods) could be successful in raising world output in the short run if they resulted in large downward revisions in expectations of future levels of debt and taxes on capital and labor. The simulations have been constructed under different assumptions about credibility, to show the implications if agents are skeptical initially that the policies will be adhered to in the future.

GLOSSARY

Term	Definition
Automatic stabilizers	Change in the cyclical balance over time.
CDS spreads	The spread on Credit Default Swap (CDS) refers to the annual amount (in bps 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. Typically computed as the difference between cyclical revenues and cyclical expenditure. 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 expenditures and revenues, respectively.
Cyclically adjusted (CA) expenditure and revenue	Revenues and expenditure adjusted for the effect of the economic cycle (i.e., net of cyclical revenues and expenditure).
CA primary balance (CAPB)	Primary balance adjusted for the effects of the economic cycle, usually expressed in percent of potential GDP. This is typically computed as the difference between CA primary revenue and CA primary expenditure.
Fiscal stimulus	Discretionary fiscal policy actions adopted in response to the financial crisis that affect the overall fiscal balance.
General government	The general government sector consists of all government units and all nonmarket nonprofit institutions that are controlled and mainly financed by government units, comprising the central, state, and local governments. The general government sector 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 SDRs, currency and deposits, debt securities, loans, insurance, pensions and standardized guarantee schemes, and other accounts payable. The term "public debt" is used in this *Monitor*, for simplicity, as synonymous of 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).
Gross financing needs	Overall new borrowing requirement plus debt maturing during the year.
Net debt	Gross debt minus financial assets, including those held by within the broader public sector, for example in some cases, social security funds. These financial assets are monetary gold and SDRs, currency and deposits, debt securities, loans, shares, equities, insurance, pension, standardized guarantee schemes, and other accounts receivable.
Output gap	Deviation of actual from potential GDP, in percent of potential GDP.

Term	Definition
Overall fiscal balance (also "headline" fiscal balance)	Net lending/borrowing, defined as the difference between revenue and total expenditure (using the IMF's *GFSM 2001*). Does not include policy lending. During this transitional period to *GFSM 2001,* not all countries have adopted the new presentation; for some, the overall balance continues to be based on GFSM 1986, 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 minus interest revenue plus interest expenditure.
Public debt	See gross debt.
Public sector	The public sector consists of the general government sector plus government-controlled entities, known as public corporations, whose primary activity is to engage in commercial activities.
Relative asset swap (RAS) spreads	RAS spreads measure the difference between benchmark government bond yields and the interest rate on the fixed-rate arm of an interest rate swap in the same currency and of the same maturity (usually 10 years) as the bond.

Appendix 1. Update on Crisis-Related Discretionary Fiscal Stimulus in G-20 Economies

Since the November *Monitor*, a handful of G-20 economies have adjusted their stimulus, adding new measures to address worsening unemployment, as well as to further support key sectors and private consumption. With new measures in Germany, Japan, Russia, and the United States, stimulus will be higher (by 0.3 percent) than previously expected in 2010 (Table 1). In some countries, stimulus has been reoriented, for example from investment to transfers (Japan). Elsewhere, changes reflect a front-loading of 2009–10 stimulus (France), or an earlier withdrawal of part of the crisis-related support due to a stronger-than-expected recovery and the objective of containing the rise in the public debt ratio (Korea). On balance, implementation in 2009 was broadly in line with expectations (2 percent of GDP for the G-20 economies as a whole).

Table 1. Update on Crisis-Related Discretionary Fiscal Stimulus in G-20 Economies (In percent of GDP)

	Previously-Reported Crisis-Related Stimulus 1/		Update		Comment
	2009	2010	2009	2010	
Argentina	1.5	0.0	1.5	0.0	No update.
Australia	2.9	2.0	2.8	1.8	Estimated stimulus implementation in 2009-10 is slightly lower, due largely to higher nominal GDP.
Brazil	0.6	0.6	0.7	0.6	2009 estimates higher, due to greater revenue impacts. 2010 is higher in nominal terms, but the same in percent of (higher) GDP. Public lending via the state-owned bank BNDES were also stepped up in 2009 and is expected to continue at high levels in 2010.
Canada	1.9	1.7	1.8	1.7	Implementation in line with expectations and higher GDP.
China	3.1	2.7	3.1	2.7	No update; from overall data, stimulus appears to have been implemented, particularly at the central government level.
France	0.7	0.8	1.0	0.5	Some stimulus brought forward to 2009.
Germany	1.6	2.0	1.5	2.1	2009 estimates lower, partly due to higher GDP and lags in capital spending implementation. 2010 estimates reflect new business tax rebates and higher family benefits. Additional discretionary measures in 2010 are, however, much smaller than the estimated deterioration of the CAPB (2.8 percentage points). This reflects mainly a drop in revenues, which exceeds the estimates obtained by the standard approach (using fixed revenue elasticities) to calculate the CAPB.
India	0.6	0.6	0.6	0.4	2009 stimulus implemented in full. Revised estimate for 2010 reflects increased excise tax rates in the 2010/11 budget.
Indonesia	1.4	0.6	1.1	0.6	Stimulus allocated in 2009 was lower, 1.3 percent of GDP, due to lower fuel subsidies; outturn reflected less-than-full implementation of tax incentives.

Table 1. Update on Crisis-Related Discretionary Fiscal Stimulus in the G-20 Economies (concluded)

	Previously-Reported Crisis-Related Stimulus 1/		Update		Comments
	2009	2010	2009	2010	
Italy	0.2	0.1	0.0	0.1	Updated estimate for 2009 stimulus is near zero on a net basis. New measures introduced for 2010 in a deficit-neutral manner, with spending increase of 0.2 percent of GDP expected to be fully offset by expenditure savings and collecting the postponed income tax installment from 2009.
Japan	2.4	1.8	2.8	2.2	Update reflects new measures and a shift from investment to transfers and expanded energy efficient product incentives.
Korea	3.6	4.7	3.6	1.1	No update for 2009. With faster-than-expected recovery, stimulus is being withdrawn in the 2010 budget, which implies a withdrawal relative to 2009 of 2.5 percent of GDP and more than 3½ percent of GDP relative to earlier plans.
Mexico	1.5	1.0	1.5	1.0	Outturns suggest that the 2009 stimulus (freezing some prices, spending increases, development bank lending) was largely implemented. No new stimulus plans for 2010. Social spending, subsidies, and investment will decline in 2010; sizeable tax package introduced (1 percent of GDP).
Russia	4.1	1.3	4.5	2.8	2009 stimulus fully implemented, with more support to strategic sectors. Higher 2010 stimulus reflects new social and labor market measures and further support to strategic sectors.
Saudi Arabia	3.3	3.5	3.3	3.5	2009 stimulus implementation in line with expectations. Sizeable stimulus will continue in 2010 as expected.
South Africa	3.0	2.1	3.0	2.1	2009 and plans for 2010 in line with expectations.
Turkey	1.2	0.5	1.2	0.5	2009 implemented as planned, with offsetting differences in impacts of specific measures. 2010 estimates are unchanged.
United Kingdom	1.6	0.0	1.6	0.2	2009 implemented in full. Revised 2010 reflects new transfers and income tax allowances, partly offset by efficiency savings.
United States	2.0	1.8	1.8	2.9	Additional corporate tax breaks, extended unemployment benefits, and homebuyer tax credits of 0.3 percent of GDP adopted in November 2009. 2010 also includes March 2010 jobs bill (0.1 percent of GDP), as well as additional possible sizeable mitigation measures to support the unemployed, families with children, and disadvantaged groups under consideration in the Congress.
G-20 Average 2/	2.0	1.6	2.0	1.9	
Advanced	1.9	1.6	1.8	2.0	
Emerging	2.2	1.6	2.3	1.8	

Source: Survey of IMF G-20 country desks; national budget documents and medium-term fiscal plans. For Argentina, IMF staff estimates are based on preliminary information. According to the authorities, the stimulus actually implemented was larger, but official pledged amounts are not available.
1/ As previously reported and relative to precrisis baseline (see, for example, November 2009 *Fiscal Monitor*, Annex Table 2).
2/ PPP GDP weighted.

Appendix 2. Fiscal Adjustment Requirements: Gross and Net Debt Targets

The policy goal driving the illustrative fiscal adjustment scenarios is to reduce public debt to prudent levels over the next two decades. The average adjustment needed for the scenario targeting a gross debt-to-GDP ratio of 60 percent for advanced economies is estimated at around 8¾ percent of GDP (Table 1). For emerging economies, using a gross debt target of 40 percent, the average adjustment need is considerably smaller, at only 2¾ percent of GDP (Table 2). These calculations are based on the following debt dynamics equation:

$$\text{(A1)} \quad \Delta d_t = -pb_t + \frac{r_D - g}{1+g} d_{t-1} + \Delta a_t - \frac{r_A - g}{1+g} a_{t-1},$$

where d_t denotes the general government gross debt-to-GDP ratio; pb_t is the primary balance in percent of GDP (defined as the overall balance minus interest revenue plus interest expenditure); a_t denotes the asset-to-GDP ratio; r_D and r_A represent the nominal interest rates on gross debt and assets, respectively; and g denotes the nominal GDP growth rate. In using this equation to compute the fiscal adjustment need, it is assumed that asset accumulation is equal to interest revenue. With this assumption, the above equation simplifies to

$$\text{(A2)} \quad \Delta d_t = -pb_t + \frac{r_D - g}{1+g} d_{t-1}.$$

For the asset ratio, this implies that $\Delta a_t = \frac{r_A - g}{1+g} a_{t-1}$. The evolution of the asset-to-GDP ratio thus depends on the interest rate-growth differential for assets ($r_A - g$): if it is zero, the asset-to-GDP ratio remains constant over time, but it increases (falls) for a positive (negative) differential.

This framework could also be applied to a net debt instead of a gross debt target, assuming $r_A = r_d$ and letting *d* equal net debt. The choice between targeting gross or net debt depends in part on the types of risk one wishes to monitor. In addition, there are data availability considerations that guide the choice of net or gross debt targets (see Box 2 in the main text).

- Rollover risk: gross debt tends to be the natural choice to assess this type of risk, as it is the gross debt stock that countries need to roll over. Assets can matter as well if they are sufficiently liquid, as they can be sold and the proceeds used to retire maturing debt. Given that reliable cross-country data on asset composition is scarce, however, basing the analysis on gross debt is often preferable.

- Impact on interest rates and growth: whether net debt or gross debt is more relevant for assessing the impact of debt on interest rates and economic growth is mostly an empirical question, as good theoretical arguments could be made to support the choice of either indicator. The analysis in this issue of the *Monitor* uses gross debt to investigate these impacts, in part because data scarcity makes a similar analysis for net debt difficult.

- Cross-country comparability: accounting and reporting methodologies for net debt lack an internationally-agreed standard, which limits cross-country comparability. This is much less of a problem for gross debt (with the notable exception of Japan, where general government gross debt is reported on an unconsolidated basis).

In practice, the choice of a net or gross debt target has limited impact on the amount of adjustment called for under the illustrative scenario considered in the *Monitor*. Conducting the analysis using a net debt target of 45 percent of GDP (equal to the precrisis median for advanced G-20 economies) results in an illustrative adjustment need that is similar to that which emerged from the gross debt exercise conducted in Section III). Only three countries—Canada, Iceland, and Ireland—have a cumulative adjustment need that differs by more than one percentage point between the net and gross debt exercises. (In each case, the adjustment need associated with the net debt target is smaller than with the gross debt target.) As Canada's postcrisis net debt is projected to be below the target level, its adjustment need in the net debt exercise is limited to what is needed to eliminate its primary deficit. Iceland and Ireland would benefit from their large asset position, which leave them exiting the crisis with net debt levels that are closer than are their gross debt levels to the respective targets for these variables. Other countries with sizable assets tend to be low-debt countries. The adjustment need under the net debt target scenario is somewhat larger than with the gross debt target for a number of high-debt advanced economies with limited assets, e.g., Germany, Italy, and the United Kingdom.

Table 1. Advanced Economies: Needed Fiscal Adjustment—An Illustrative Scenario (Gross Debt Target)

(In percent of GDP)

	Current WEO Projections, 2010			Illustrative Fiscal Adjustment Strategy to Achieve Debt Target in 2030	
	Gross Debt	Primary Balance	Cyclically Adjusted Primary Balance	Cyclically Adjusted Primary Balance in 2020-30	Required Adjustment between 2010 and 2020
Australia*	19.8	-4.7	-4.6	0.6	5.2
Austria	70.7	-3.0	-2.4	2.2	4.7
Belgium	100.1	-1.4	-1.1	3.6	4.7
Canada	83.3	-4.3	-2.2	2.2	4.4
Czech Republic	37.6	-3.7	-2.4	1.2	3.7
Denmark	51.2	-5.1	-3.1	1.2	4.3
Finland	49.9	-5.1	-3.0	1.4	4.4
France	84.2	-6.0	-4.6	3.7	8.3
Germany	76.7	-3.4	-1.6	2.4	4.0
Greece*	133.2	-2.4	-2.4	6.8	9.2
Hong Kong SAR	0.6	-1.4	-3.5	0.3	3.8
Iceland	119.9	-2.7	1.7	2.6	0.9
Ireland	78.8	-10.0	-6.0	3.8	9.8
Israel	77.5	-1.3	-1.0	1.8	2.8
Italy	118.6	-0.8	0.9	5.0	4.1
Japan*	227.1	-8.3	-6.5	6.7	13.1
Korea	33.3	2.5	2.8	-0.5	-3.3
Netherlands	64.2	-4.1	-3.4	2.1	5.5
New Zealand	30.3	-2.8	-0.4	0.5	0.9
Norway*	53.6	8.3	8.5	8.6	0.1
Portugal	86.6	-5.6	-4.1	3.7	7.8
Singapore	88.0	-3.0	-2.7	2.1	4.7
Slovak Republic	37.3	-4.2	-3.2	0.8	4.1
Slovenia	35.2	-4.9	-3.3	0.7	4.0
Spain	66.9	-8.7	-5.8	3.6	9.4
Sweden	42.9	-4.0	-1.6	0.7	2.3
Switzerland	39.8	0.1	0.8	0.0	-0.8
United Kingdom	78.2	-8.8	-5.4	3.6	9.0
United States*	92.6	-9.2	-7.6	4.4	12.0
Average (PPP-weighted)	97.8	-6.5	-4.9	3.8	8.7
Advanced G-20	104.4	-7.0	-5.3	4.0	9.3
Higher debt	106.4	-7.2	-5.5	4.2	9.7
Lower debt	32.7	-0.9	-0.4	0.8	1.1

Sources: April 2010 *WEO* and IMF staff estimates.

Notes: The table reports gross debt; for some countries with sizable assets, net debt is considerably smaller. CA balances are reported in percent of nominal GDP (in contrast to the conventional definition in percent of potential GDP). General government data are used where available. In the illustrative fiscal adjustment strategy, the CAPB is assumed to improve gradually from 2011 until 2020; thereafter, it is maintained constant until 2030. The last column shows the CAPB adjustment needed to stabilize debt at the end-2012 level by 2030 if the respective debt-to-GDP ratio is less than 60 percent (no shading, "lower debt"); or to bring the debt ratio to 60 percent in 2030 (shaded entries, "higher debt"). The analysis is illustrative and makes some simplifying assumptions: in particular, up to 2015, an interest rate–growth rate differential of 0 percentage point is assumed, broadly in line with *WEO* assumptions, and 1 percentage point afterward regardless of country-specific circumstances.

* For Australia, the figures do not take account of the latest federal government budget, released on May 11, which envisages a return to federal government surpluses by 2012/13. Data for Greece are based on the assumption that adjustment amounting to 7.6 percent of GDP (as in the authorities' program) is implemented in 2010. Illustrative scenarios for Japan are based on its net debt, and assume a target of 80 percent of GDP, which corresponds to a target of 200 percent of GDP for gross debt. For Norway, maintenance of primary surpluses at their projected 2012 level is assumed (primary balance includes oil revenue whereas elsewhere in this document the non-oil balance is shown). For Portugal and Spain, the figures do not reflect additional deficit reduction plans announced May 10. For the United States, the CAPB excludes losses from financial sector support.

Table 2. Emerging Economies: Needed Fiscal Adjustment—An Illustrative Scenario (Gross Debt Target)

(In percent of GDP)

	Current WEO Projections, 2010			Illustrative Fiscal Adjustment Strategy to Achieve Debt Target in 2030	
	Gross Debt	Primary Balance	Cyclically Adjusted Primary Balance	Cyclically Adjusted Primary Balance in 2020-30	Required Adjustment between 2010 and 2020
Argentina	51.4	-0.8	-0.6	1.0	1.6
Brazil	67.2	3.3	3.4	1.3	-2.1
Bulgaria	16.2	-1.0	0.7	-0.1	-0.8
Chile	4.4	-2.1	-2.6	0.3	3.0
China	20.0	-2.5	-2.5	0.6	3.1
Colombia	35.1	-1.4	-0.6	0.5	1.1
Estonia	9.7	-2.2	1.1	1.0	-0.1
Hungary	78.9	0.1	3.5	2.2	-1.3
India	79.0	-3.6	-3.7	3.3	7.0
Indonesia	27.5	-0.3	-0.1	0.2	0.3
Kenya	47.3	-3.6	-3.3	1.3	4.5
Latvia	48.8	-10.7	-7.1	1.7	8.8
Lithuania	39.2	-6.9	-4.9	3.0	8.0
Malaysia	57.2	-4.2	-4.0	2.8	6.8
Mexico	44.5	-0.8	0.1	0.6	0.5
Nigeria	16.0	-6.0	-5.8	0.2	6.0
Pakistan	56.4	-0.2	0.0	1.3	1.3
Peru	26.7	-0.3	-0.9	0.1	1.1
Philippines	48.0	-0.3	-0.4	0.4	0.8
Poland	55.0	-4.8	-4.5	2.7	7.2
Romania	35.0	-4.7	-1.6	0.6	2.1
Russia	8.1	-2.4	-1.1	0.4	1.6
Saudi Arabia*	12.8	5.1	5.6	7.3	1.7
South Africa	34.7	-3.3	-3.2	0.2	3.4
Thailand	47.9	-1.4	-0.8	1.6	2.3
Turkey*	44.5	0.1	0.0	0.4	0.4
Ukraine*	36.7	-1.5	-1.8	0.4	2.2
Average (PPP-weighted)	38.0	-1.7	-1.4	1.2	2.7
Emerging G-20	37.0	-1.6	-1.4	1.2	2.6

Sources: April 2010 *WEO* and IMF staff estimates.

Notes: In computing the primary balance, policy lending was excluded from primary expenditure. CA balances are reported in percent of nominal GDP. In the illustrative fiscal adjustment strategy, the CAPB is assumed to improve gradually from 2011 until 2020; thereafter, the CAPB is maintained constant until 2030. The last column shows the CAPB adjustment needed to stabilize debt at the end-2012 level by 2030 if the respective debt-to-GDP ratio is less than 40 percent; or to bring the debt-to-GDP ratio to 40 percent in 2030. The analysis is illustrative and makes some simplifying assumptions: in particular, up to 2015, an interest rate–growth rate differential of 0 percentage point is assumed, broadly in line with *WEO* assumptions, 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.

* For Saudi Arabia, maintenance of primary surpluses at their projected 2012 level is assumed. For Turkey, fiscal projections assume the authorities maintain their medium-term program target for 2010 and implement the fiscal rule from 2011 onwards. For the Ukraine, the primary deficit excludes costs related to bank recapitalization and gas utility.

Table 3. Advanced Economies: Illustrative Fiscal Adjustment (Net Debt Target) (In percent of GDP)

	2007		2010			Required Adjustment Between 2010 and 2020		Difference	
	Net Debt	Gross Debt	Net Debt	Gross Debt	Cyclically Adjusted Primary Balance	/w Net debt	/w Gross debt	2010 Assets-to-GDP ratio (Gross minus net debt)	Req adj (Gross debt) minus Req adj (Net debt)
Australia	-6.8	9.4	5.4	19.8	-4.6	5.0	5.2	14.4	0.1
Austria	49.0	59.5	60.5	70.7	-2.4	4.9	4.7	10.1	-0.3
Belgium	73.4	82.8	91.1	100.1	-1.1	5.0	4.7	9.0	-0.3
Canada	23.1	65.0	32.2	83.3	-2.2	2.7	4.4	51.1	1.7
Czech Republic	...	...	...	...	...	...	...	...	...
Denmark	-1.5	34.1	3.1	51.2	-3.1	3.8	4.3	48.1	0.5
Finland	-8.7	35.2	-8.8	49.9	-3.0	3.7	4.4	58.7	0.7
France	54.1	63.8	74.5	84.2	-4.6	8.5	8.3	9.7	-0.2
Germany	58.4	65.0	68.6	76.7	-1.6	4.4	4.0	8.1	-0.4
Greece	...	...	...	...	...	...	...	...	...
Hong Kong SAR	...	...	...	...	...	...	...	...	...
Iceland	11.0	29.3	77.2	119.9	1.7	-0.4	0.9	42.7	1.3
Ireland	12.0	24.9	47.8	78.8	-6.0	8.5	9.8	30.9	1.2
Israel	73.3	78.1	72.8	77.5	-1.0	3.4	2.8	4.7	-0.6
Italy	101.2	103.4	116.0	118.6	0.9	4.9	4.1	2.7	-0.8
Japan*	81.5	187.7	121.6	227.1	-6.5	13.1	13.1	105.5	0.0
Korea	...	...	...	...	...	...	...	...	...
Netherlands	30.8	45.5	46.0	64.2	-3.4	5.2	5.5	18.2	0.3
New Zealand	-5.7	17.4	3.3	30.3	-0.4	0.7	0.9	27.0	0.2
Norway	-142.5	58.6	-153.6	53.6	8.5	0.1	0.1	207.2	0.0
Portugal	58.8	63.6	82.2	86.6	-4.1	8.4	7.8	4.4	-0.6
Singapore	...	...	...	...	...	...	...	...	...
Slovak Republic	...	...	...	...	...	...	...	...	...
Slovenia	...	...	...	...	...	...	...	...	...
Spain	26.5	36.1	57.5	66.9	-5.8	9.7	9.4	9.4	-0.3
Sweden	-19.9	40.5	-16.1	42.9	-1.6	1.8	2.3	59.0	0.5
Switzerland	43.0	43.6	39.2	39.8	0.8	-0.8	-0.8	0.5	0.0
United Kingdom	38.3	44.1	71.6	78.2	-5.4	9.5	9.0	6.6	-0.5
United States	42.3	62.1	66.2	92.6	-7.6	11.1	12.0	26.4	0.9
Average (PPP-weighted)	47.4	75.7	70.1	102.0	-5.2	8.9	9.3	31.9	0.3
Advanced G-20	51.3	80.2	75.1	107.7	-5.7	9.5	9.9	32.6	0.4
Median:	48.2	64.4	70.1	83.8	-4.6	6.8	6.7	12.1	-0.1
Higher debt	53.0	79.5	77.6	107.5	-5.6	9.6	9.9	29.9	0.3
Lower debt	-2.3	42.4	3.7	53.3	-1.7	2.7	3.5	49.6	0.8

Sources: April 2010 WEO, and IMF staff estimates.

Notes: Net debt simulations assume a target of 45 percent of GDP, broadly in line with the pre-crisis (2007) median in advanced G-20 countries. Gross debt simulations assume a target of 60 percent of GDP. The methodology for computing the required adjustment is described in the notes for Table 1 (shading corresponds to countries with "higher debt"). The country averages for debt ratios and the gross debt simulations differ slightly from those depicted in Figure 11, because the country sample here is smaller on account of missing data. *For Japan, net debt is used for all scenarios, with a constant target of 80 percent (this corresponds to a gross debt target of 200 percent of GDP). For Australia, the figures do not reflect the latest federal government budget released May 11. For Greece (not shown), the illustrative required adjustment from 2011 to 2020 is 9.2 percent of GDP; this is premised on adjustment measures of 7.6 percent of GDP (as in the authorities' program) being implemented in 2010. For Portugal and Spain, the figures do not reflect additional deficit reduction plans announced May 10.

Appendix 3. Government Debt and Growth

This appendix presents empirical analysis regarding the potential impact of government debt on investment and growth.[28] There is a large literature on the potential adverse effects of high government debt via higher long-term interest rates, and expectations of higher future distortionary taxation (Elmendorf and Mankiw, 1999). Also, high debt may limit space for countercyclical fiscal policies, which can result in higher volatility and lower growth, and increase vulnerability to crises.[29] To date, there are few studies that assess the magnitude and significance of potential adverse effects of high public debt (Box 1).

The empirical analysis examines the relationship between *initial* government debt and *subsequent* economic growth in a panel of advanced and emerging economies for the period 1970–2007.[30] Building on the empirical growth literature (Aghion and Durlauf, 2005), a standard set of explanatory variables is used to explore the impact of initial government debt on growth. The growth regressions are complemented by a growth accounting exercise which allows an exploration of the channels (factor accumulation and factor productivity) through which government debt may influence growth. Nonlinearities and threshold effects—whether there is a certain level beyond which debt begins to have an adverse effect on growth—are also examined. The analysis pays particular attention to a variety of estimation issues that can have an important bearing on the estimation. In particular, by using the initial level of debt, it avoids the "reverse causality" between debt and growth—low growth may raise debt, rather than high debt lowering growth. In addition, the possible endogeneity problem—that is, debt and growth might be jointly determined by a third variable—is taken into account in the analysis.[31] Various robustness checks are also conducted.

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[28] For detailed results, see Kumar and Woo (2010).

[29] For example, see Baldacci and Kumar (2010) on debt and interest rates; Dotsey (1994) on debt and future distortionary taxation; Hemming, Kell, and Schimmelpfennig (2003) on debt and crises; Aghion and Kharroubi (2007) on countercyclical fiscal policy and industrial growth; and Woo (2009) on procyclicality and volatility of fiscal policy and growth.

[30] The focus is on the medium- or long-run relationship between initial government debt and subsequent economic growth. Panel data comprise eight non-overlapping five-year periods. The reported econometric results are for advanced and emerging economies with over 5 million of population. However, the results using the full sample of countries including developing economies are qualitatively similar. As a robustness check, single cross-country regression was also tried for longer time periods. The results are consistent with those from panel regressions.

[31] Specifically, several estimation methods are employed: pooled OLS, robust regression, between estimator (BE), fixed-effects (FE) panel regression, and dynamic system GMM (SGMM) estimation. While this analysis uses the initial level of government debt and avoids the reverse causality, using pre-determined variables such as initial debt does not necessarily get around the endogeneity problem. Given the difficulty of finding appropriate external instruments, it addresses the endogeneity of all the regressors and incorporates fixed effects by using SGMM regression (Arellano and Bover, 1995).

Box 1. Government Debt and Growth: Existing Empirical Studies

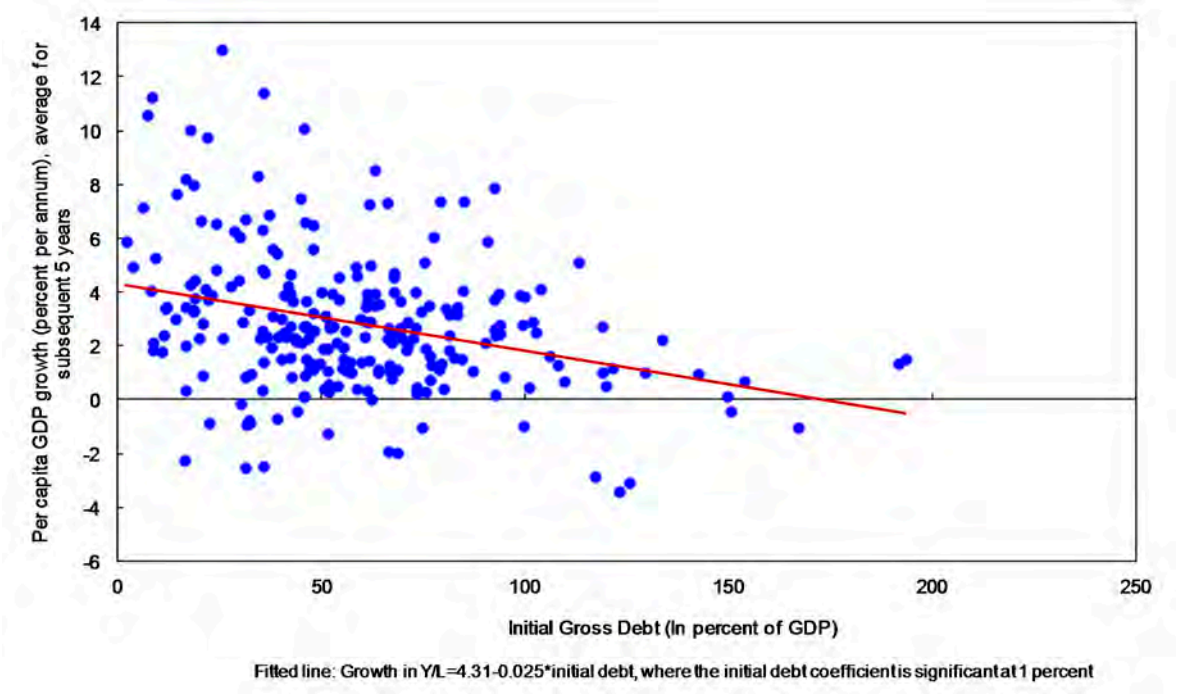
There is little systematic analysis of the impact on GDP growth of high public debt in advanced economies. A notable exception is Reinhart and Rogoff (2010), who find that the median GDP growth rate differential between low debt (below 30 percent of GDP) and high debt (above 90 percent of GDP) countries is 2.6 percent, based on a comparison of annual growth rates of GDP for the four debt level categories over the period 1946 to 2009.

However, a number of studies have looked at the impact of *external* debt on economic growth in developing economies. Most of the studies are motivated by the "debt overhang" hypothesis—a situation where a country's debt service burden is so heavy that a large portion of output accrues to foreign lenders and consequently creates disincentives to invest (Krugman, 1988). Imbs and Ranciere (2009) and Pattillo, Poirson, and Ricci (2002, 2004) find a nonlinear effect of external debt on growth, that is, a negative and significant impact on growth of high debt levels (typically, over 60 percent of GDP), but an insignificant impact at low debt levels. Similarly, Reinhart and Rogoff (2010) report that when external debt reaches 60 percent of GDP or above, annual GDP growth declines by about 2 percent or more in emerging economies. Cordella, Ricci, and Arranz (2005) find evidence of debt overhang for intermediate debt levels, but insignificant debt-growth relationship at very low and very high levels of debt.

Some stylized facts

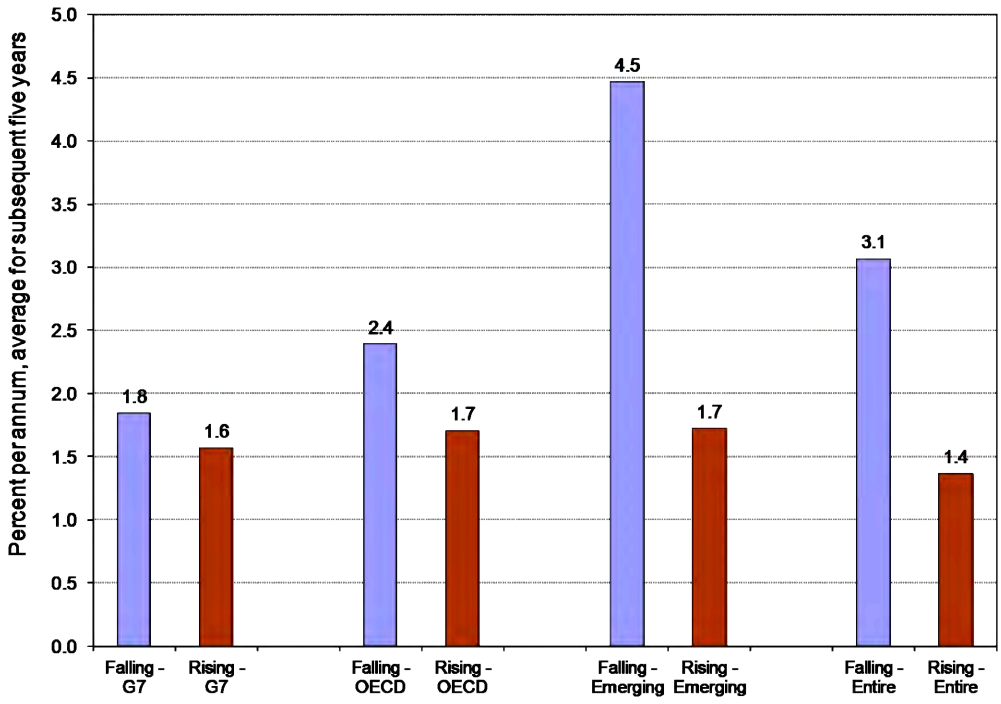
There is a negative relationship between *initial* government debt and *subsequent* per capita GDP growth. The fitted line (OLS) of a scatter plot of initial debt against subsequent growth over five-year periods shows a coefficient of initial debt of -0.025 (Figure 1). Taken at face value, this suggests that a 10 percentage point of GDP increase in initial debt is associated with a slowdown in per capita GDP growth of 0.25 percentage points. This magnitude is consistent with that obtained using econometric estimation (see below). Second, the average growth rate during periods of rising debt is lower than that during the periods of falling debt (Figure 2). Third, the adverse impact of debt on growth appears to be larger in emerging economies.

Figure 1. Government Debt and Per Capita GDP Growth



Source: IMF staff estimates.

Figure 2. Growth of Real per Capita GDP during Periods of Rising and Falling Debt (Initial Debt > 60 percent of GDP)



Source: IMF staff estimates.

Econometric analysis [32]

Higher initial government debt is generally found to be associated with lower subsequent growth. Econometric results suggest that, on average, a 10 percent of GDP increase in initial debt is associated with a decline in real per capita GDP growth of around 0.2 percent per year (Box 2 provides an illustrative example based on a simple production function framework). Table 1 presents the main results. Columns 1 and 2 show that the coefficients of initial debt are all negative and significant at the 5 percent level in the regressions of per capita GDP growth, ranging from -0.018 to -0.02. The negative impact of initial debt on growth in advanced economies tends to be smaller than that in emerging economies. This may reflect limited borrowing capacity of emerging economies due to less-developed domestic financial markets or uncertain access to international capital markets. There is some evidence of nonlinear effects: medium to high levels of debt have significant negative effects on subsequent growth, whereas low levels of debt have insignificant effects on growth.[33]

Growth accounting

The adverse effects of high debt on growth appear to occur through a variety of channels. From a growth accounting perspective, the adverse effects on growth largely reflect a slowdown in labor productivity growth mainly due to slower growth of the capital stock per worker.[34] (Figure 3 shows a scatter plot of initial debt against subsequent growth of capital per worker.) There is also a mild negative relationship between higher initial debt and

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[32] The baseline panel regression specification is:

$$y_{it} - y_{it-1} = \alpha y_{it-1} + \mathbf{X}_{it}'\beta + \gamma Z_{it} + \eta_t + \nu_i + \varepsilon_{it},$$

where i and t denote country and time period; y is the logarithm of real per capita GDP; ν_i is the country-specific fixed effect; η_t is the time-fixed effect; ε_{it} is an unobservable error term; $\mathbf{X}_{it}$ is a vector of economic and financial variables; Z_{it} is the initial government debt (in percent of GDP). $\mathbf{X}_i$ includes a set of explanatory variables (other than lagged per capita GDP): (i) log of average years of secondary schooling, as a proxy for human capital; (ii) initial government size as measured by government consumption share of GDP; (iii) initial trade openness (sum of export and import as a share of GDP); (iv) initial financial market depth (quasi-liquid liabilities as a share of GDP); (v) initial inflation; (vi) terms of trade growth rates; (vii) a measure of banking crisis; (viii) fiscal deficit. For robustness checks, parsimonious specifications were tried and additional variables were included (such as aged-dependency ratio, population growth, urbanization, investment, private saving, or constraints on executive decision making). However, the results do not change appreciably.

[33] At a lower level of debt, it is plausible that the positive effect of growth-enhancing government expenditures financed by debt may outweigh the adverse effect of debt.

[34] This is based on a detailed growth accounting exercise on components of growth of output per worker (capital stock per worker, human capital, TFP). The relation between labor force participation and debt is also examined.

total factor productivity (TFP) growth. The estimated coefficients of initial debt suggest a 10 percent of GDP increase in initial debt is associated with a decline in growth of output per worker of about 0.2 percent per year (Column 3); a decline in TFP growth of around 0.1 percent per year (Column 4); and a decline in growth of capital per worker of around 0.4 percent per year.[35] The result also suggests that high debt is associated with lower investment: a 10 percent of GDP increase in initial debt is associated with a decline in investment of about 0.4 percentage points of GDP, with a larger impact (0.9) in emerging economies (Column 5). To some extent, higher initial debt is also associated with greater macroeconomic volatility (Figure 4).[36]

Box 2. Debt and Growth: An Analytical Perspective

The above empirical results can be supplemented by an analytical assessment based on a simple Cobb-Douglas production framework. For illustrative purposes, the starting point is the premise, which has support in the literature, that in the United States each dollar of debt crowds out one dollar of capital in the long run (Elmendorf and Mankiw, 1999). If factors of production earn their marginal product, then the marginal product of capital equals the capital share of income divided by the capital-output ratio. Historically, the capital income share has been about one third, and the capital-output ratio in the United States is around 3.7 in 2010. The implied marginal product of capital is about 9 percent.[1] An increase in the ratio of net debt to GDP of 40 percent over the next five years amounts to an increase in net debt of around US$6,450 billion (in real terms based on the projection of 2 percent average growth of real GDP). Other things equal, a full crowding out, that is, capital stock declining by the same amount as the increase in net debt, implies that output would decline by about 4.4 percent in total. (This is obtained as a product of the marginal productivity of capital and the decrease in capital stock, as a percent of initial GDP). This is approximately equivalent to growth slowdown of around 0.8 percent; or 0.2 percent per year on average for a 10 percent of GDP increase in government debt (assuming that the output decline mostly occurs in the following five-year period).

The above result will depend on a number of other factors. If private savings rise in response to an increase in public debt, or there are capital inflows from abroad, crowding out would be reduced as would be the effect of debt on growth. Thus, the full crowding out assumption may exaggerate the magnitude of effects of debt on growth. However, there may be externalities that are not captured in standard economic models. The endogenous growth models suggest that the accumulation of capital stimulates technological change and increase economy-wide productivity (Romer, 1987). The opposite will occur in the case of (partial) crowding out.

[1] Elmendorf and Mankiw (1999) estimate the marginal product of capital to be 9.5 percent in the United States at the time of writing.

[35] This effect appears to partly reflect the impact of debt on interest rates; for an analysis of the latter, see November 2009 Fiscal *Monitor*, and Baldacci and Kumar (2010).

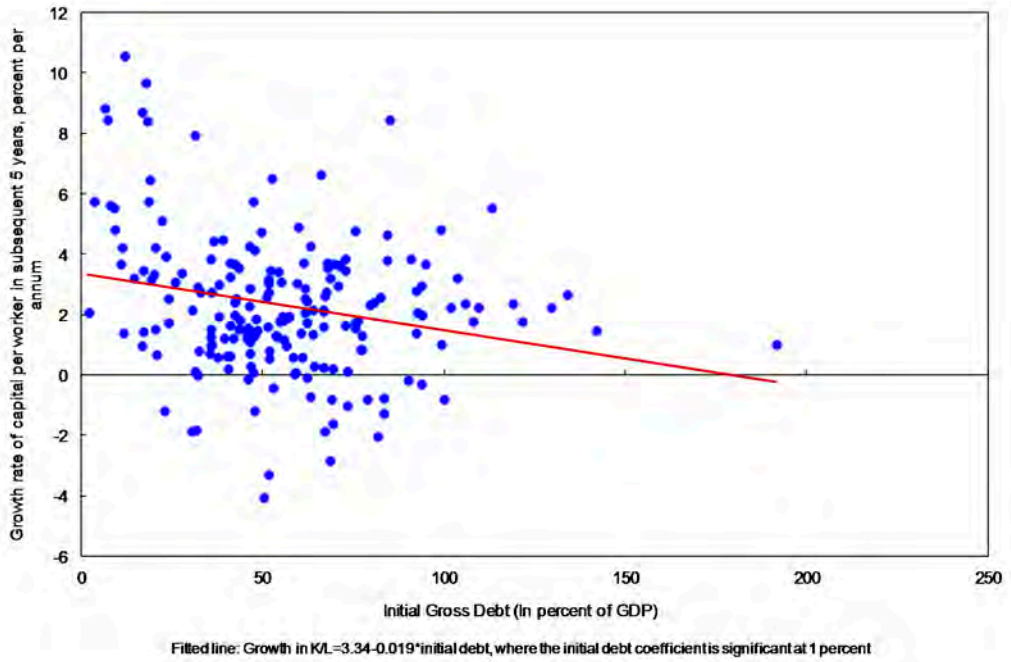
[36] Measured by standard deviation of annual GDP growth rates over each five-year period.

Table 1. Panel Regression—Growth and Initial Government Debt, 1970–2007 (Five-year Period Panel): OECD and Emerging Economies (with over 5 million of population)

Explanatory Variables	(1) OLS	(2) SGMM	(3) SGMM	(4) SGMM	(5) SGMM
	Dependent variable: Growth of real per capita GDP		Growth of output per worker	Growth of TFP	Domestic Investment
Lagged dependent variable			-2.810**	-4.459*	0.828***
			(-2.19)	(-1.96)	(7.16)
Initial per capita real GDP	-2.187***	-2.823***			
	(-2.74)	(-3.33)			
Initial years of schooling	2.863***	4.161**	3.493	0.29	6.985**
	(2.72)	(2.12)	(0.87)	(0.13)	(2.30)
Initial inflation rate	-2.234***	-2.296	-6.987*	-6.839*	-3.924**
	(-3.49)	(-1.43)	(-1.79)	(-1.92)	(-2.57)
Initial government size	0.087**	0.168	0.080	0.077	0.332
	(2.29)	(1.20)	(0.74)	(0.79)	(1.29)
Initial trade openness	-0.001	-0.004	-0.009	0.002	-0.044**
	(-0.25)	(-0.71)	(-0.85)	(0.18)	(-2.36)
Initial financial depth	0.019***	0.026***	0.025**	0.018*	0.029
	(2.87)	(2.72)	(2.36)	(1.86)	(1.02)
Terms of trade growth	-0.019	-0.025	-0.063	-0.053**	0.173*
	(-0.88)	(-0.96)	(-1.44)	(-2.27)	(1.80)
Banking crisis	-0.728**	-1.519	0.063	0.425	-0.420
	(-2.27)	(-1.42)	(0.11)	(0.26)	(-0.31)
Fiscal deficit	-0.044***	-0.036*	-0.007	-0.028	-0.01
	(-4.91)	(-1.78)	(-0.22)	(-0.91)	(-0.20)
Government debt, initial	-0.018**	-0.020**	-0.022**	-0.011	-0.038*
	(-2.66)	(-2.49)	(-2.29)	(-1.12)	(-1.78)
Arellano-Bond AR(2) test p-value		0.12	0.16	0.94	0.99
Hansen J-statistics		0.26	0.24	0.48	0.42
No. of observations	166	166	159	159	159
Time-fixed effects	Yes	Yes	Yes	Yes	Yes

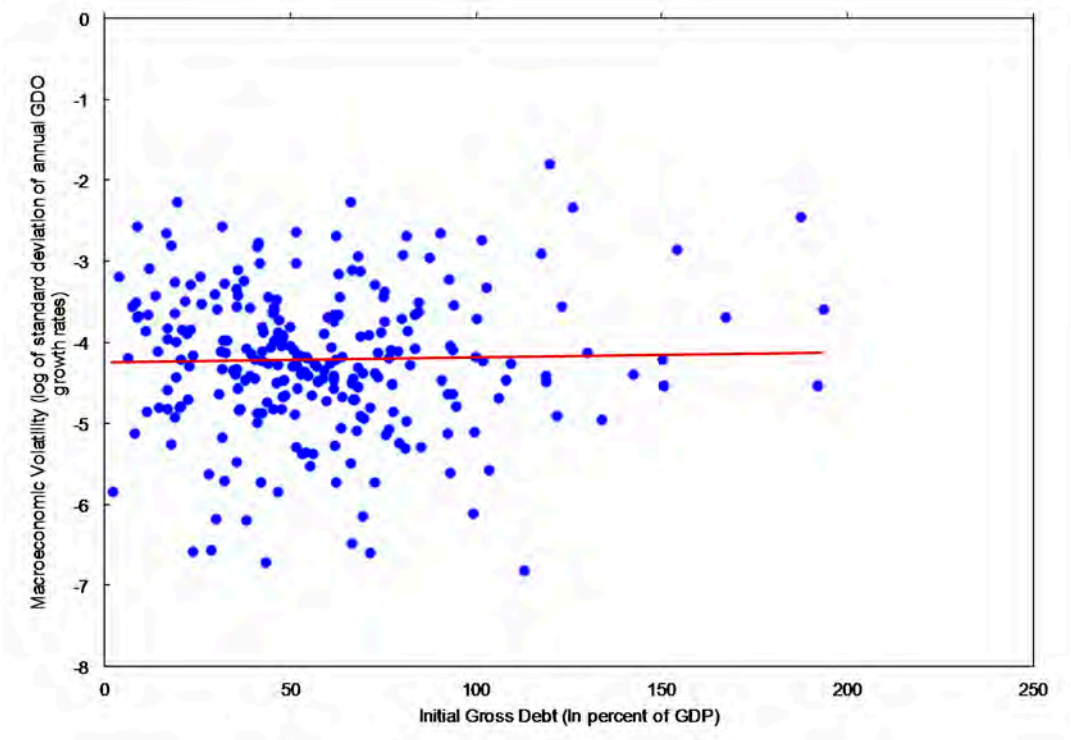
Note: Heteroskedasticity and country-specific autocorrelation consistent *t-statistics* are in parentheses. Levels of significance: *** 1%, ** 5%, * 10%. In the pooled OLS, regional dummies are included (OECD, Asia, Latin America and Sub-Saharan Africa). For the dynamic panel estimation, a two-step system GMM (SGMM) with the Windmeijer's finite-sample correction for the two-step covariance matrix (Arellano and Bond, 1995). Time dummies are included in the regressions (not reported).

Figure 3. Government Debt and Capital per Worker Growth



Source: IMF staff estimates.

Figure 4. Government Debt and Macroeconomic Volatility



Source: IMF staff estimates.

Appendix 4. The Impact of the Crisis on Subnational Governments

Subnational government (SNG) spending represents a large share of total government spending in some countries, and fiscal policies at the local level can have important macroeconomic implications. This appendix provides a brief summary of how the crisis affected SNG budgets, how countries responded to revenue losses and spending pressures at the local level, and the implications of these developments for the future.

The crisis had a significant adverse effect on SNG finances. For the OECD countries, SNG revenues fell on average by 3.5 percent in 2009, although in some countries, where reliance on more cyclically sensitive income taxes is greater, the decline was almost 10 percent (Johnson, Collins, and Singham, 2010). In addition, SNG budgets were hit by increased spending, particularly in cases where SNGs were tasked by central governments with providing part of the crisis-related stimulus response without a fully-matching increase in funding.

Country responses to crisis-related fiscal pressures at the SNG level have varied (Table 1). In a number of countries (Canada, Germany, Japan, and Spain), SNGs have pursued countercyclical discretionary easing. In Germany, state and local government balances moved from a surplus of 0.3 percent of GDP in 2008 to a projected deficit of 2 percent of GDP in 2010 and 2011. In other countries such as France, the United Kingdom, and the United States, SNGs responded by procyclical fiscal tightening. The different policy response mainly reflects legal constraints on local deficits and borrowing.

Table 1. OECD Countries: Response to the Crisis at the SNG Level

Procyclical response	Passive policy	Countercyclical response 1/
Finland	Australia	Austria
France	Denmark	Belgium
Slovak Republic	Korea	Canada
Sweden		Germany
United Kingdom		Japan
United States		Norway
		Portugal
		Spain
		Switzerland

Source: Blöchliger and others (2010).
1/ Includes cutting tax rates, increasing investment spending, etc.

To avoid undermining fiscal stimulus, some central governments sought to mitigate the impact of the crisis on SNGs, increasing transfers, particularly grants. In Canada, Japan, and Spain, the increase in grants represented over one-half of national stimulus spending (Blöchliger and others, 2010).[37] Some countries eased SNG financing constraints by providing loans (Canada, Switzerland), or guarantees (Australia, Korea, Spain), or temporarily easing balanced budget rules (Spain). Finally, other countries (Finland) have temporarily increased the share of tax revenue going to SNGs.

In countries where borrowing rules were not eased and where central governments covered only part of the budget gap, SNGs had to resort to tightening. For example, in the United States, all states except Vermont are legally required to balance their budgets. The crisis has hit their budgets hard: the total state budget shortfall in FY 2010 is projected to peak at US$196 billion or 1.4 percent of GDP (Table 2).[38] State governments were forced to take substantive measures to balance their books, drawing down accumulated reserves from a high of US$66 billion in 2007 to US$32 billion in 2009;[39] cutting spending by 4 percent in FY 2009 and 4.8 percent in FY 2010; and (for two-thirds of the states) eliminating tax exemptions, broadening tax bases, or increasing rates. These measures boosted tax revenues by US$32 billion.

Comparing SNG budgetary projections and outcomes in the United States and Germany illustrates the effect of enforcing borrowing constraints. Table 2 shows projected SNG budget balances in Germany and projected total U.S. state budget shortfalls (a proxy for state deficits in the absence of borrowing constraint). The U.S. budget shortfalls should be brought to zero. During 2009–13, balances would need to be cumulatively tighter by about US$600 billion (4 percent of annual GDP, or almost 80 percent of the 2009 stimulus package).

[37] The allocation of part of stimulus funds to SNGs can increase its effectiveness. Without intergovernmental transfers, central government would be hard-pressed to spend effectively a significantly higher amount of funds on new investment projects, while the SNGs would be unable to start or complete projects under way.

[38] See Johnson, Collins, and Singham (2010).

[39] The Fiscal Survey of States, December 2009. National Governors Association and the National Association of State Budget Officers.

Table 2. State and Local Government (SLG) Balance, Germany and the United States
(In percent of GDP)

	2008	2009	2010	2011	2012	2013
Germany SLG balance	+0.3	-1.0	-2.0	-2.0	-1.5	-1.5
U.S. state budget shortfall 1/	…	-0.8	-1.4	-1.2	-0.75	…

Sources: German Stability Program, January 2010 Update, Federal Ministry of Finance; Johnson, Collins, and Singham (2010).
1/ Fiscal year ends September 30.

The state of SNGs finances will need to be considered when designing exit policies. When the crisis erupted and private demand collapsed, strictly enforcing borrowing constraints would have risked weakening the beneficial effects of fiscal stimulus. But as consolidation becomes the priority, SNGs, too, will need to start strengthening their fiscal positions. The consolidation at the local level could be even more difficult than at the central level, as exit from central government stimulus will entail, in part, phasing out discretionary transfers to local governments. Moreover, in some cases, the recovery in tax revenue may be slow.[40]

[40] For example, California's state revenues fell from US$103 billion in FY 2008 to US$88.1 billion in FY 2010, and are projected to increase only slightly to US$89.3 billion in FY 2011. In a slow-growth recovery, tax revenue can take even longer than the three to five years for "normal" recovery to reach the precrisis peak (Donald J. Boyd, Recession, Recovery and State-Local Finances. Presentation at the Forecasters Club of New York, January 28, 2010).

Appendix 5. Reforming Petroleum Subsidies

Subsidies on petroleum products (gasoline, kerosene, etc.) are again on the rise with the rebound in international oil prices. These consumer subsidies are inefficient, inequitable, and environmentally unfriendly. Eliminating them can make an important contribution to reducing the large fiscal deficits that have accumulated in many countries during the recent financial crisis.

Measuring petroleum product subsidies

A recent paper by Coady and others (2010) estimates the global magnitude of fuel subsidies by comparing retail prices with "optimal" benchmark prices. Reflecting the fact that the optimal level of taxation can vary across countries for many legitimate reasons, the paper estimates subsidies based on pretax benchmark prices as well as on tax-inclusive subsidies for optimal tax rates of $0.30 and $0.40 per liter of gasoline, kerosene, and diesel.

The magnitude of subsidies

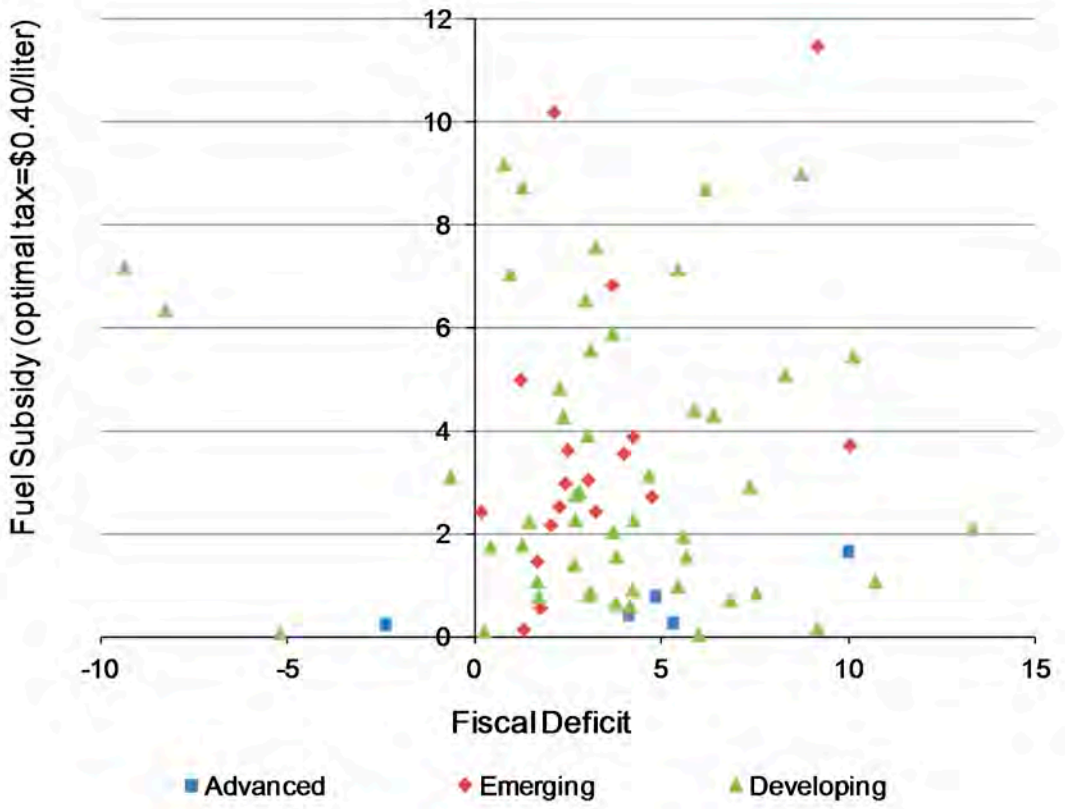
Although subsidies fell sharply in the second half of 2008 due to the steep decline in international prices, they have again started to increase with the rebound in international oil prices. Pretax subsidies are projected to reach almost $250 billion, or 0.3 percent of global GDP by end-2010. Projected tax-inclusive subsidies are substantially higher at between 1.0 and 1.3 percent of GDP, depending on the benchmark optimal tax. Whereas advanced economies have zero pretax subsidies, they account for about a quarter of tax-inclusive subsidies.

This increase in subsidies is taking place in the context of a more challenging fiscal backdrop. Of the 83 countries with tax-inclusive subsidies in 2010 (based on a benchmark tax of US$0.40 per liter), 69 have projected fiscal deficits for 2010: in 43, the deficit will exceed 3 percent of GDP; and in 22, it will exceed 5 percent of GDP (Figure 1). Reducing tax-inclusive subsidies by one-half in these countries would result in their average deficit falling from 4.2 percent of GDP to about 2.5 percent of GDP.

Reforming subsidies

A number of measures can be implemented to support the reform of petroleum subsidies. Replacing subsidies with improved social safety nets can reduce the fiscal cost of protecting the poor from price increases. Transparently recording subsidies in government accounts ensures that they more explicitly compete with alternative uses of public funds. Although a liberalized approach to petroleum pricing is best, countries can adopt an automatic pricing mechanism in the interim while they develop a competitive supply system and an effective regulation capacity.

Figure 1. Projected 2010 Fiscal Deficit and Fuel Subsidies
(In percent of GDP)



Source: Coady and others (2010).

Methodological and Statistical Annex

This annex comprises four sections: (i) assumptions; (ii) data and conventions; (iii) economy groupings; and (iv) statistical tables. The assumptions underlying the estimates and projections for 2010–15 are summarized in the first section. The second section provides a general description of the data and of the conventions used for calculating country 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 mid-April 2010.

I. Fiscal Policy Assumptions

The historical data and projections of key fiscal aggregates are in line with those of the April 2010 *WEO* (IMF, 2010f), unless highlighted. For the underlying assumptions, other than on fiscal policy, see April 2010 *WEO*.

The short-term fiscal policy assumptions used in the *Fiscal Monitor* and *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 by IMF staff. For countries supported by an IMF program, the medium-term projections are those under the program. In cases where 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. Below are the specific assumptions relating to selected economies.

Argentina. The 2010 forecasts are based on the 2009 outturn and IMF staff projections. For the medium term, the IMF staff assumes unchanged policies.

Australia. The fiscal projections are based on the Mid-Year Economic and Fiscal Outlook (2009–10) and IMF staff projections. Due to the proximity of the release of the Australian government's budget (May 11) and the issuance of the *Monitor*, the *Monitor* does not reflect the budget figures.

Brazil. The 2010 forecasts are based on the budget law and IMF staff projections. For the medium term, the IMF staff assumes unchanged policies, with an increase in public investment in line with the authorities' intentions.

Canada. Projections use the baseline forecasts in the latest Budget 2010—Leading the Way on Jobs and Growth. 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 Statistics Canada, including provincial and territorial budgetary outturns through the end of 2009.

China. For 2010–11, the government is assumed to continue and complete the stimulus program it announced in late 2008. In view of available information, IMF staff assumes the stimulus continues through 2010 and is withdrawn in 2011.

France. Projections for 2010 are based on the 2010 budget and the latest Stability Program, and are adjusted for differences in macroeconomic projections. Projections for the medium-term years incorporate the IMF staff's assessment of current policies and implementation of announced adjustment measures.

Germany. Projections for 2010 are based on the 2010 budget, adjusted for differences in the IMF staff's macroeconomic framework. The IMF staff's projections for the medium-term outlook incorporate the withdrawal of fiscal stimulus, planned income tax cuts envisaged for 2011, and IMF staff's assessment of feasible adjustment policies already announced.

India. Projections are based on available information on the authorities' fiscal plans, with some adjustments for the IMF staff's projections. Projections are based on the budget as well as the semiannual budget review. IMF presentation differs from Indian national accounts data, particularly regarding subsidies and certain loans.

Indonesia. The 2010 projections are based on the revised budget draft but adjusted by the IMF staff to reflect the fact that due to built-in cushions and a track record of under-execution, the deficit could be slightly smaller. Medium-term projections are based on the authorities' exit strategy (broad-based revenue reforms to support gradual fiscal consolidation), combined with IMF staff's projections.

Italy. The fiscal projections incorporate the impact of the 2010 Budget Law, and the authorities' latest revisions to the unchanged legislation scenario, which was presented in the January 2010 "Nota di aggiornamento 2010–2012." In the absence of specific measures and details underlying their policy scenario, the authorities' estimates for an unchanged legislation scenario are used as a basis for the projections, adjusted mainly for differences in the macroeconomic assumptions. From 2013 onward, a constant structural primary balance (net of one-time items) is assumed.

Japan. The 2010 projections assume that fiscal stimulus will be implemented as announced by the government. The medium-term projections assume that expenditure and revenue of the general government are adjusted in line with current underlying trends (excluding fiscal stimulus).

Korea. The fiscal projections are based on the 2010 budget. Expenditure numbers for 2010 correspond to the expenditure numbers presented in the government's budget. Revenue projections reflect the IMF staff's macroeconomic assumptions, adjusted for the estimated

costs of tax measures included in the multiyear stimulus package introduced last year and discretionary revenue-raising measures included in the 2010 budget. The medium-term projections assume that the government will resume its consolidation plans and balance the budget (excluding social security funds) in 2014.

Mexico. Fiscal projections are based on: (i) the IMF staff's macroeconomic projections; (ii) the modified balanced budget rule under the Fiscal Responsibility Legislation; and (iii) the authorities' projections of spending on pensions and health care and of wage-bill restraint. For 2010–11, projections take into account the departure from the balanced budget target under the exceptional clause of the fiscal framework, which allows for a small deficit reflecting cyclical deterioration in revenues.

Portugal. Projections do not reflect additional deficit reduction plans announced May 10.

Russia. Projections for 2010 are based on the nominal expenditures in the 2010 Budget and the IMF staff's revenue projections. Projections for 2011–12 are based on the non-oil deficit in percent of GDP implied by the 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 2012–15.

Saudi Arabia. Projections are based on the 2010 budget but modified to reflect IMF staff projections of oil-related revenue and some expenditure adjustments. The pace of spending is projected to slow over the medium term, leading to a tightening of the fiscal stance.

South Africa. Fiscal projections are based on the authorities' 2010 budget and policy intentions stated in the budget review published on February 17, 2010, and are adjusted for differences in the IMF staff's macroeconomic framework. The IMF staff's projections for the medium-term outlook incorporate the gradual completion of the government's infrastructure investment plans.

Spain. Projections do not reflect additional deficit reduction plans announced May 10.

Turkey. Fiscal projections assume that the authorities maintain the medium-term program target for 2010 and implement the fiscal rule from 2011 onward.

United Kingdom. The fiscal projections for 2010 and onward are based on Budget 2010, adjusted for differences in IMF staff projections of macroeconomic and financial variables.

United States. The fiscal projections are based on the administration's draft budget for fiscal year 2011 and the U.S. Congressional Budget Office's outlook for 2010–19. The projections include the American Recovery and Reinvestment Act and other recent support measures. The projections are adjusted for differences in forecasts of macroeconomic and financial variables, and costs to support financial institutions and government-sponsored enterprises.

II. DATA AND CONVENTIONS

Data and projections for key fiscal variables are based on the April 2010 *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 exceptions of Pakistan and Singapore where data 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 PPP as a share of the group GDP in 2009. Fixed weights are assumed for all years, except in figures where annual weights are used.

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 the financial sector support measures are based on the IMF's Fiscal Affairs and Monetary and Capital Markets Departments' database on public interventions in the financial system, revised following a survey of the G-20 economies. Survey questionnaires were sent to all G-20 members in early December 2009 to review and update IMF staff estimates of financial sector support, consisting of recapitalization, asset purchases, liquidity support comprising asset swaps and treasury purchases, and guarantees. For each type of support, data were compiled for the amounts that had been initially announced or pledged, actually utilized, and recovered to-date. The period covered is June 2007–December 2009.

Table 3 of this annex presents IMF staff estimates of the general government cyclically adjusted primary balance. For some countries, the series reflect additional adjustments, including for natural resource-related revenues or commodity-price developments (Chile, Norway, Peru), for land revenue and investment income (Hong Kong SAR), for royalties from a large hydroelectric power station (Paraguay), for tax policy changes and the effects of asset prices on revenues (Sweden), and for extraordinary operations related to the banking sector (Switzerland).

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

Argentina. Following the national definition the general government balance, primary balance, cyclically adjusted primary balance, and expenditure include accrued interest payments (while it is excluded in the WEO).

Bulgaria. The general government balance projections for 2010 reflect the data presented in the April 2010 *WEO* (on a cash basis). They do not yet account for the recently announced new government cash deficit target of 2.5 percent of GDP in 2010, or the government's new policy measures which are being discussed.

Colombia. Historical figures for the overall fiscal balance as reported in the *Monitor* and *WEO* differ from those published by the Ministry of Finance as they do not include the statistical discrepancy.

Estonia. Gross and net debts have been revised with respect to the *WEO* to reflect full consistency with Eurostat methodology.

Greece. The projections for the overall balance, primary balance, cyclically adjusted primary balance, and gross debt are those under the IMF-supported program and reflect measures in the program affecting both the revenue and expenditure side. However, the government expenditure and revenue ratios in Tables 4 and 5 of this annex do not include these measures, consistent with the presentation of the selected economic indicators provided on May 9, 2010 (Press Release No. 10/187).

Latvia. In accordance with *WEO* conventions, the fiscal deficit shown in the *Monitor* includes bank restructuring costs and is thus higher than the deficit in official statistics. Exclusive of bank restructuring costs, which are incurred between 2008 and 2011 only, the overall general government deficit is: 3.3 percent of GDP (2008), 7.0 percent of GDP (2009), 8.5 percent of GDP (2010), and 6.5 percent of GDP (2011).

Philippines. Fiscal data are for central government.

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

Turkey. Information on general government balance, primary balance and cyclically adjusted primary balance as reported in this *Monitor* and the *WEO* differ from those published in the authorities' official statistics or country reports, which still include net lending.

III. ECONOMY GROUPINGS

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

Advanced Economies	Emerging Economies	G-7	G-20	Advanced G-20	Emerging G-20	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	Finland
Czech Republic	China	Japan	China	Italy	Indonesia	France
Denmark	Colombia	United Kingdom	France	Japan	Mexico	Germany
Finland	Estonia	United States	Germany	Korea	Russia	Greece
France	Hungary		India	United Kingdom	Saudi Arabia	Ireland
Germany	India		Indonesia	United States	South Africa	Italy
Greece	Indonesia		Italy		Turkey	Luxembourg
Hong Kong SAR	Kenya		Japan			Malta
Iceland	Latvia		Korea			Netherlands
Ireland	Lithuania		Mexico			Portugal
Israel	Malaysia		Russia			Slovak Republic
Italy	Mexico		Saudi Arabia			Slovenia
Japan	Nigeria		South Africa			Spain
Korea	Pakistan		Turkey			
Netherlands	Peru		United Kingdom			
New Zealand	Philippines		United States			
Norway	Poland					
Portugal	Romania					
Singapore	Russia					
Slovak Republic	Saudi Arabia					
Slovenia	South Africa					
Spain	Thailand					
Sweden	Turkey					
Switzerland	Ukraine					
United Kingdom						
United States						

Economy Groupings (continued)

Emerging Asia	Emerging Europe	Emerging Latin America	Low-income Economies		Oil Producers
China	Bulgaria	Argentina	Bangladesh	Mali	Algeria
India	Estonia	Brazil	Benin	Mauritania	Angola
Indonesia	Hungary	Chile	Burkina Faso	Mozambique	Azerbaijan
Malaysia	Latvia	Colombia	Burundi	Myanmar	Cameroon
Pakistan	Lithuania	Mexico	Cambodia	Nepal	Chad
Philippines	Poland	Peru	Central African Rep.	Niger	Congo, Republic of
Thailand	Romania		Chad	Papua New Guinea	Ecuador
	Russia		Comoros	Rwanda	Equatorial Guinea
	Turkey		Congo, Dem. Rep. of	Sao Tome & Principe	Gabon
	Ukraine		Cote d'Ivoire	Senegal	Indonesia
			Eritrea	Sierra Leone	Iran
			Ethiopia	Solomon Islands	Kazakhstan
			Gambia	Tajikistan	Mexico
			Ghana	Tanzania	Nigeria
			Guinea	Togo	Russia
			Guinea-Bissau	Uganda	Sudan
			Haiti	Uzbekistan	Syria
			Kyrgyz Republic	Vietnam	Timor-Leste
			Laos	Yemen	Trinidad and Tobago
			Liberia	Zambia	Venezuela
			Madagascar		Vietnam
			Malawi		Yemen

Statistical Table 1. General Government Balance (In percent of GDP)

	2000	2005	2006	2007	2008	2009	2010	2011	2014	2015
Advanced economies:										
Australia 1/	1.7	2.4	1.9	1.4	-0.5	-4.1	-5.0	-3.4	-0.7	-0.2
Austria	-1.9	-1.7	-1.7	-0.7	-0.5	-3.6	-4.8	-4.5	-3.8	-3.7
Belgium	0.0	-2.7	0.3	-0.2	-1.2	-5.8	-5.1	-4.4	-3.0	-2.6
Canada	2.9	1.5	1.6	1.6	0.1	-5.1	-5.2	-2.8	-0.4	0.0
Czech Republic	-3.7	-3.6	-2.6	-0.7	-2.0	-6.0	-5.1	-5.3	-5.2	-5.3
Denmark	1.9	4.8	4.9	4.7	4.5	-3.0	-5.4	-4.1	-0.8	0.0
Finland	6.8	2.6	4.0	5.2	4.2	-2.4	-4.1	-2.8	-4.2	-4.3
France	-1.5	-3.0	-2.3	-2.7	-3.4	-7.9	-8.2	-7.0	-4.6	-4.1
Germany	1.3	-3.3	-1.6	0.2	0.0	-3.3	-5.7	-5.1	-2.3	-1.7
Greece	-3.7	-5.1	-3.1	-3.7	-7.7	-13.6	-8.1	-7.6	-2.6	-2.0
Hong Kong SAR	-0.6	1.0	4.1	7.7	0.2	0.8	-1.4	-1.2	-0.1	-0.1
Iceland	1.7	4.9	6.3	5.4	-0.5	-12.4	-9.4	-5.3	2.7	2.7
Ireland	4.8	1.6	2.9	0.1	-7.2	-11.4	-12.2	-11.0	-6.3	-5.3
Israel	-2.2	-2.2	-1.2	-0.2	-1.9	-5.4	-4.4	-4.0	-3.0	-2.8
Italy	-0.9	-4.4	-3.3	-1.5	-2.7	-5.3	-5.2	-4.9	-4.7	-4.6
Japan	-7.6	-4.8	-4.0	-2.4	-4.1	-10.3	-9.8	-9.1	-7.6	-7.3
Korea	3.4	2.1	2.4	4.2	1.7	0.0	1.1	1.0	2.9	2.9
Netherlands	2.0	-0.3	0.6	0.3	0.7	-4.9	-5.9	-5.1	-4.3	-4.3
New Zealand	1.6	3.8	2.6	2.5	0.1	-3.6	-4.5	-4.0	-2.1	-1.7
Norway	15.4	15.1	18.5	17.7	19.1	9.7	10.8	11.1	11.2	10.9
Portugal 2/	-3.0	-6.1	-3.9	-2.7	-2.8	-9.4	-8.8	-7.6	-4.8	-4.4
Singapore	8.9	8.3	7.4	12.4	5.6	-2.0	-2.2	0.4	2.2	2.9
Slovak Republic	-8.7	-2.8	-3.5	-1.9	-2.3	-6.3	-5.8	-4.1	-3.0	-3.0
Slovenia	-1.2	-1.0	-0.8	0.3	-0.3	-6.1	-6.1	-4.9	-2.4	-1.7
Spain 2/	-1.0	1.0	2.0	1.9	-4.1	-11.4	-10.4	-9.6	-8.0	-7.7
Sweden	3.8	2.0	2.4	3.8	2.5	-2.2	-3.3	-2.1	-0.6	0.1
Switzerland	2.4	-0.3	1.4	2.1	0.8	1.4	-1.0	-0.9	0.3	0.0
United Kingdom	1.3	-3.3	-2.6	-2.7	-4.8	-10.9	-11.4	-9.4	-5.2	-4.3
United States	1.6	-3.2	-2.0	-2.7	-6.6	-12.5	-11.0	-8.2	-6.0	-6.5
Emerging economies:										
Argentina	-3.6	-1.8	-1.1	-2.1	-0.3	-3.9	-3.5	-3.6	-2.7	-2.2
Brazil	-3.4	-3.4	-3.5	-2.7	-1.4	-3.3	-1.5	-2.0	-0.9	-0.7
Bulgaria	-0.6	2.4	3.5	3.5	3.0	-0.8	-1.8	-1.5	0.1	0.5
Chile	...	4.7	7.9	8.9	5.3	-4.4	-1.8	-0.9	0.5	1.3
China	-3.3	-1.4	-0.7	0.9	-0.4	-3.0	-3.0	-2.0	-2.2	-2.4
Colombia	-3.1	-0.2	-0.8	-1.0	0.1	-2.7	-3.5	-3.2	-2.3	-2.0
Estonia	-0.9	1.6	3.3	2.9	-2.3	-2.1	-2.4	-2.9	-4.9	-5.1
Hungary	-2.7	-7.8	-9.3	-4.9	-3.7	-3.9	-3.8	-2.8	-0.5	0.1
India	-9.8	-6.9	-5.7	-4.4	-7.9	-10.5	-9.2	-7.7	-4.7	-4.4
Indonesia	-2.0	0.6	0.2	-1.2	0.0	-1.6	-2.0	-1.9	-1.7	-1.6
Kenya	-1.4	-3.0	-3.6	-4.0	-4.9	-5.9	-6.2	-5.0	-3.5	-3.4
Latvia	-2.5	-1.3	-0.5	0.6	-7.5	-7.7	-12.9	-9.1	-1.6	-1.8
Lithuania	-4.0	-0.5	-0.4	-1.0	-3.3	-8.9	-8.6	-9.8	-8.3	-7.3
Malaysia	-4.4	-3.4	-2.7	-3.0	-3.7	-6.5	-6.1	-5.5	-5.4	-5.4
Mexico	-3.3	-1.4	-1.0	-1.4	-1.5	-4.7	-3.4	-3.0	-2.7	-2.7
Nigeria	5.9	9.3	7.0	-1.1	3.7	-10.1	-7.5	-2.3	-0.1	0.0
Pakistan	-4.1	-4.2	-4.8	-5.5	-7.3	-4.7	-4.6	-3.8	-2.7	-2.0
Peru	-2.8	-0.5	1.9	3.2	2.2	-2.2	-1.6	-1.1	0.0	0.0
Philippines	-4.5	-3.0	-1.4	-1.5	-1.3	-3.8	-3.4	-2.1	0.1	0.3
Poland	-3.0	-4.1	-3.6	-1.9	-3.7	-7.2	-7.5	-6.9	-4.4	-3.8
Romania	...	-0.7	-1.4	-3.1	-4.8	-7.4	-6.5	-5.0	-3.1	-2.6
Russia	3.3	8.2	8.3	6.8	4.3	-6.2	-2.9	-2.6	-3.5	-4.2
Saudi Arabia	6.2	21.9	24.6	15.7	35.5	-0.8	5.3	9.2	6.3	4.9
South Africa	-1.6	0.0	0.8	1.2	-1.9	-6.1	-6.1	-4.6	-2.5	-1.2
Thailand	-1.8	1.5	2.1	0.2	0.1	-3.1	-2.3	-2.0	-1.0	-0.5
Turkey	...	0.0	0.1	-1.7	-2.4	-5.6	-3.4	-3.0	-2.1	-1.9
Ukraine	-3.2	-2.2	-1.3	-1.8	-2.9	-6.1	-3.1	-2.0	-2.0	-2.0
Average:	-1.1	-1.7	-0.9	-0.6	-2.4	-7.2	-6.5	-5.2	-3.7	-3.7
Advanced	0.2	-2.3	-1.3	-1.1	-3.7	-8.8	-8.4	-6.7	-4.7	-4.7
Emerging	-3.2	-0.8	-0.2	0.0	-0.6	-4.9	-3.9	-3.0	-2.4	-2.3
G-7	-0.1	-3.3	-2.3	-2.1	-4.7	-10.0	-9.5	-7.6	-5.4	-5.4
G-20	-1.3	-2.0	-1.2	-0.9	-2.7	-7.5	-6.8	-5.4	-3.9	-3.9
Advanced G-20	0.1	-2.9	-2.0	-1.7	-4.3	-9.4	-8.9	-7.1	-4.9	-4.9
Emerging G-20	-3.4	-0.7	-0.1	0.3	-0.4	-4.8	-3.7	-2.9	-2.4	-2.5

Source: April 2010 *WEO* and IMF staff calculations.
1/ Does not reflect the latest federal government budget released May 11.
2/ Does not reflect additional deficit reduction plans announced May 10.

Statistical Table 2. General Government Primary Balance (In percent of GDP)

	2000	2005	2006	2007	2008	2009	2010	2011	2014	2015
Advanced economies:										
Australia 1/	2.6	2.2	1.6	1.0	-0.8	-4.1	-4.7	-2.9	-0.1	0.3
Austria	0.8	0.4	0.2	1.3	1.2	-1.8	-3.0	-2.6	-1.9	-1.9
Belgium	6.2	1.3	4.0	3.4	2.4	-2.3	-1.4	-0.6	0.9	1.4
Canada	7.0	2.9	2.6	2.2	0.6	-5.1	-4.3	-2.1	-0.3	0.1
Czech Republic	-3.6	-2.8	-1.9	0.0	-1.3	-5.1	-3.7	-3.6	-3.5	-3.5
Denmark	4.0	5.7	5.5	5.1	4.8	-2.5	-5.1	-4.1	-0.9	-0.1
Finland	7.8	2.4	3.6	4.6	3.2	-3.0	-5.1	-3.8	-4.5	-4.3
France	1.1	-0.6	-0.1	-0.4	-0.9	-5.8	-6.0	-4.4	-1.6	-1.0
Germany	4.0	-0.9	0.8	2.7	2.5	-0.9	-3.4	-2.8	0.2	0.7
Greece	3.6	-0.7	1.1	0.5	-3.2	-8.6	-2.4	-0.9	5.9	6.0
Hong Kong SAR	...	1.0	4.2	7.7	0.3	0.9	-1.4	-1.2	0.0	0.0
Iceland	3.6	6.1	6.7	5.7	-0.3	-6.9	-2.7	1.3	6.9	6.9
Ireland	6.3	2.1	3.2	0.3	-6.7	-10.0	-10.0	-8.4	-2.6	-1.4
Israel	2.4	2.0	2.8	3.8	1.2	-2.1	-1.3	-1.1	-0.6	-0.5
Italy	5.2	0.1	1.1	3.3	2.2	-0.8	-0.8	-0.3	0.8	1.1
Japan	-6.3	-4.1	-3.5	-1.9	-3.4	-9.1	-8.3	-7.4	-5.2	-5.0
Korea	5.5	3.3	3.7	5.6	3.3	1.5	2.5	2.7	4.1	4.0
Netherlands	4.9	1.5	2.2	2.0	2.3	-3.1	-4.1	-3.1	-2.1	-1.9
New Zealand	3.7	5.4	4.1	3.8	1.4	-2.1	-2.8	-2.1	0.1	0.5
Norway	13.5	13.1	16.3	14.8	16.0	7.3	8.3	8.6	8.4	8.1
Portugal 2/	-0.4	-3.7	-1.3	0.1	0.1	-6.6	-5.6	-4.0	-0.6	-0.2
Singapore	8.2	7.5	6.6	11.6	4.9	-2.7	-3.0	-0.3	1.5	2.2
Slovak Republic	-6.5	-1.4	-2.1	-0.6	-1.3	-5.2	-4.2	-2.3	-1.2	-1.2
Slovenia	-0.1	0.1	0.3	1.2	0.5	-5.2	-4.9	-3.5	-0.8	-0.1
Spain 2/	2.0	2.5	3.3	3.0	-3.0	-10.1	-8.7	-7.4	-4.6	-3.9
Sweden	4.8	1.7	2.1	3.3	1.8	-3.0	-4.0	-2.9	-0.6	0.0
Switzerland	4.4	1.3	2.9	3.4	1.9	2.6	0.1	0.2	1.2	0.9
United Kingdom	3.2	-1.8	-1.1	-1.1	-3.2	-9.1	-8.8	-6.6	-2.3	-1.2
United States	...	-1.2	-0.1	-0.6	-4.7	-10.7	-9.2	-6.1	-2.2	-2.3
Emerging economies:										
Argentina	-3.6	4.4	4.0	2.4	2.7	0.2	-0.8	-0.6	-0.4	-0.1
Brazil	3.2	3.9	3.2	3.4	4.0	2.1	3.3	3.3	3.3	3.3
Bulgaria	3.4	4.0	4.8	4.6	3.9	0.0	-1.0	-0.6	0.8	1.2
Chile	0.0	5.2	8.1	8.4	4.4	-4.6	-2.1	-1.3	0.0	0.9
China	-2.5	-1.0	-0.2	1.3	0.1	-2.6	-2.5	-1.5	-1.7	-1.8
Colombia	0.8	1.9	1.7	1.7	2.3	-0.7	-1.4	-1.1	-0.3	-0.2
Estonia	-0.6	1.8	3.4	3.0	-2.2	-1.8	-2.2	-2.7	-4.5	-4.6
Hungary	2.8	-4.0	-5.6	-1.2	-0.1	0.0	0.1	1.2	3.1	3.4
India	-4.0	-1.1	0.0	1.1	-2.6	-4.9	-3.6	-2.3	0.2	0.3
Indonesia	1.6	3.1	2.6	0.8	1.8	0.1	-0.3	-0.1	-0.2	-0.3
Kenya	1.6	-0.4	-1.0	-1.5	-2.5	-3.5	-3.6	-2.3	-0.9	-0.7
Latvia	-1.6	-0.7	0.1	1.0	-7.1	-6.6	-10.7	-6.3	1.7	1.6
Lithuania	-2.9	0.1	0.1	-0.5	-2.8	-7.9	-6.9	-7.4	-5.0	-4.0
Malaysia	-2.3	-1.4	-1.1	-1.6	-2.0	-4.9	-4.2	-3.8	-4.0	-4.1
Mexico	1.3	1.5	1.8	1.3	1.2	-1.4	-0.8	-0.5	0.0	0.1
Nigeria	11.9	12.1	8.0	0.0	4.7	-9.0	-6.0	-0.8	0.9	0.9
Pakistan	2.3	-1.0	-1.7	-1.2	-2.5	-0.1	-0.2	-0.1	0.2	0.5
Peru	-0.3	1.4	3.7	4.9	3.7	-0.9	-0.3	0.2	1.1	1.0
Philippines	-0.5	1.5	2.8	1.6	1.7	-1.0	-0.3	0.7	2.6	2.6
Poland	0.0	-1.3	-1.0	0.4	-1.4	-4.8	-4.8	-4.1	-1.3	-0.7
Romania	...	0.5	-0.6	-2.4	-4.1	-6.2	-4.7	-3.1	-1.2	-0.7
Russia	7.6	9.0	8.9	6.8	4.6	-5.9	-2.4	-2.0	-2.9	-3.5
Saudi Arabia	9.9	23.1	25.6	15.4	34.9	-1.4	5.1	8.6	4.7	3.5
South Africa	3.4	3.2	3.7	3.8	0.5	-3.6	-3.3	-1.5	0.5	1.7
Thailand	-0.8	2.6	3.4	1.1	1.0	-2.4	-1.4	-1.1	-0.1	0.4
Turkey	...	5.3	5.2	3.2	2.0	-1.0	0.1	0.6	1.7	1.6
Ukraine	-0.1	-1.5	-0.7	-1.2	-2.3	-4.9	-1.5	-0.2	-0.2	-0.2
Average:	0.9	0.5	1.2	1.3	-0.5	-5.2	-4.5	-3.1	-1.2	-1.1
Advanced	1.9	-0.5	0.4	0.7	-1.9	-7.1	-6.5	-4.6	-1.7	-1.5
Emerging	0.0	1.9	2.3	2.2	1.5	-2.7	-1.7	-0.8	-0.4	-0.4
G-7	0.9	-1.3	-0.4	-0.1	-2.7	-8.2	-7.5	-5.3	-2.1	-1.9
G-20	0.5	0.2	0.9	1.1	-0.7	-5.5	-4.8	-3.2	-1.2	-1.2
Advanced G-20	1.3	-1.0	-0.1	0.2	-2.4	-7.6	-7.0	-4.9	-1.8	-1.6
Emerging G-20	-0.2	2.0	2.4	2.6	1.8	-2.5	-1.6	-0.7	-0.5	-0.6

Source: April 2010 *WEO* and IMF staff calculations.
1/ Does not reflect the latest federal government budget released May 11.
2/ Does not reflect additional deficit reduction plans announced May 10.

Statistical Table 3. General Government Cyclically Adjusted Primary Balance (In percent of potential GDP)

	2000	2005	2006	2007	2008	2009	2010	2011	2014	2015
Advanced economies:										
Australia 1/	2.6	2.3	1.6	0.8	-1.0	-4.0	-4.6	-3.0	-0.1	0.3
Austria	0.0	0.6	-0.3	0.1	-0.2	-1.2	-2.4	-2.2	-1.9	-1.9
Belgium	5.7	3.9	3.0	2.5	1.5	-1.7	-1.1	0.3	1.1	1.4
Canada	5.7	2.7	2.2	1.9	1.2	-2.1	-2.1	-0.4	0.3	0.8
Czech Republic	-3.3	-2.8	-2.0	-0.6	-1.7	-3.5	-2.3	-2.5	-3.2	-3.4
Denmark	2.8	5.4	4.0	3.2	4.0	-0.8	-3.0	-2.5	-0.5	-0.1
Finland	6.7	1.7	2.1	2.1	1.2	-0.7	-2.9	-2.0	-4.1	-4.3
France	-0.1	-0.8	-0.4	-0.8	-0.8	-4.1	-4.5	-3.2	-1.3	-0.9
Germany	3.1	0.2	0.9	2.2	2.0	1.2	-1.6	-1.5	0.3	0.7
Greece	4.1	-0.7	0.4	-1.3	-5.9	-10.0	-2.4	0.8	7.2	7.1
Hong Kong SAR 2/	...	-1.3	0.3	1.6	-0.1	-1.5	-3.4	-3.9	-2.0	-2.0
Iceland	3.6	4.1	4.8	2.8	-1.6	-0.1	1.6	3.1	6.9	6.9
Ireland	0.6	-5.6	-6.1	-9.3	-11.5	-8.6	-5.8	-4.3	-2.0	-1.5
Israel	0.4	1.7	2.1	2.7	0.0	-2.0	-1.0	-0.8	-0.2	-0.1
Italy	4.6	0.4	0.7	2.5	2.5	1.0	0.8	1.1	1.1	1.1
Japan	-6.1	-3.9	-3.4	-2.0	-2.8	-6.3	-6.1	-5.8	-4.9	-4.9
Korea	5.5	3.5	3.7	5.6	3.4	2.2	2.8	2.6	4.1	4.0
Netherlands	3.3	1.5	1.9	0.5	0.5	-2.8	-3.4	-2.6	-1.9	-1.8
New Zealand	2.2	5.0	4.1	3.1	3.4	1.9	-0.4	-1.1	-0.3	-0.2
Norway 2/	-3.7	-4.6	-4.8	-5.8	-6.2	-7.7	-8.0	-7.7	-6.8	-6.6
Portugal 3/	-1.8	-3.3	-1.0	-0.2	0.1	-5.1	-4.0	-3.0	-0.5	-0.2
Singapore	7.1	7.2	6.1	10.6	4.9	-2.3	-2.6	-0.3	1.5	2.2
Slovak Republic	-7.5	-1.6	-2.5	-1.2	-1.8	-3.8	-3.1	-2.0	-1.2	-1.2
Slovenia	-0.1	0.2	-0.8	-1.4	-2.7	-3.9	-3.2	-1.9	-0.7	-0.7
Spain 3/	1.0	1.9	2.1	1.3	-4.2	-7.6	-5.6	-5.1	-4.2	-3.8
Sweden 2/	2.4	0.4	0.5	1.7	0.8	-1.4	-1.5	-1.4	-0.5	-0.5
Switzerland 2/	2.4	2.1	2.7	2.8	2.8	2.1	0.8	0.8	1.3	0.9
United Kingdom	3.4	-1.5	-1.1	-1.4	-3.5	-6.1	-5.1	-3.5	-1.5	-0.8
United States 4/	...	-1.1	-0.5	-0.6	-3.3	-6.2	-7.5	-5.2	-2.3	-2.3
Emerging economies:										
Argentina	...	10.4	8.5	5.3	3.9	1.1	-0.6	-0.3	0.2	0.2
Brazil	...	4.1	3.4	3.0	3.3	2.7	3.4	3.3	3.3	3.3
Bulgaria	...	3.6	3.3	1.7	0.8	0.8	0.7	1.1	1.2	1.0
Chile 2/	0.1	1.4	0.9	0.5	-0.2	-1.8	-2.6	-3.4	-1.5	-0.5
China	-2.4	-0.8	-0.2	0.9	-0.2	-2.6	-2.5	-1.5	-1.7	-1.8
Colombia	1.1	2.2	1.4	0.8	1.1	0.3	-0.6	-0.5	-0.3	-0.2
Estonia	...	...	...	...	...	...	...	...	...	...
Hungary	2.7	-4.9	-7.3	-2.3	-0.6	2.8	3.2	3.5	3.3	3.3
India	-3.9	-1.2	0.1	1.5	-2.4	-5.0	-3.7	-2.3	0.2	0.3
Indonesia	2.0	3.1	2.6	0.7	1.7	0.3	-0.1	0.1	-0.4	-0.7
Kenya	...	...	...	...	...	...	...	...	...	...
Latvia	...	...	...	...	...	...	...	...	...	...
Lithuania	-0.3	-0.8	-1.5	-3.6	-6.1	-5.4	-4.6	-6.0	-5.1	-4.2
Malaysia	-3.9	-1.6	-1.9	-2.1	-3.6	-5.2	-3.9	-3.9	-4.2	-4.2
Mexico	...	1.9	2.4	1.9	1.7	0.3	0.1	0.2	0.2	0.1
Nigeria	...	...	...	...	...	...	...	...	...	...
Pakistan	...	...	...	...	...	...	...	...	...	...
Peru 2/	...	...	1.5	2.7	1.6	-0.8	-0.9	-0.3	1.0	1.0
Philippines	-0.8	1.5	2.8	1.2	1.2	-1.1	-0.4	0.6	2.4	2.3
Poland	-0.4	-1.0	-1.0	-0.1	-2.1	-4.6	-4.5	-4.1	-1.3	-0.7
Romania	...	0.6	-1.3	-3.6	-6.4	-4.0	-1.4	-0.3	-1.0	-1.4
Russia	6.6	9.2	8.9	6.2	3.4	-3.2	-1.1	-1.4	-2.9	-3.7
Saudi Arabia	...	...	...	...	...	...	...	...	...	...
South Africa	3.5	4.2	4.6	4.1	0.1	-3.3	-3.2	-2.1	-1.5	-2.1
Thailand	-0.6	0.6	0.7	0.3	0.1	-2.2	-0.8	-0.2	0.1	0.5
Turkey	...	3.5	2.4	0.6	0.2	-0.5	0.0	0.5	1.4	1.3
Ukraine	0.4	-2.0	-2.0	-1.5	-2.7	-4.7	-1.6	-0.4	-0.5	-0.5
Average:	0.3	0.3	0.6	0.8	-0.9	-3.3	-3.5	-2.5	-1.2	-1.2
Advanced	1.2	-0.5	-0.1	0.1	-1.6	-4.3	-4.8	-3.5	-1.7	-1.5
Emerging	-0.8	1.4	1.6	1.7	0.3	-2.0	-1.5	-0.9	-0.6	-0.7
G-7	0.4	-1.1	-0.6	-0.3	-2.0	-4.7	-5.5	-4.0	-2.0	-1.8
G-20	-0.1	0.2	0.6	0.8	-0.8	-3.4	-3.7	-2.6	-1.3	-1.2
Advanced G-20	0.9	-0.8	-0.4	0.0	-1.7	-4.4	-5.2	-3.7	-1.7	-1.5
Emerging G-20	-1.1	1.6	1.9	2.0	0.5	-2.0	-1.6	-0.9	-0.7	-0.8

Source: April 2010 *WEO* and IMF staff calculations.
1/ Does not reflect the latest federal government budget released May 11.
2/ See Section II of Annex on Data and Convention for methodology
3/ Does not reflect additional deficit reduction plans announced May 10.
4/Cyclically adjusted primary balance excluding financial sector support recorded above the line.

Statistical Table 4. General Government Expenditure (In percent of GDP)

	2000	2005	2006	2007	2008	2009	2010	2011	2014	2015
Advanced economies:										
Australia 1/	34.6	33.9	34.4	34.1	34.0	36.9	36.7	35.5	33.7	33.3
Austria	52.1	50.1	49.7	48.8	49.0	52.1	51.9	51.5	50.9	50.9
Belgium	49.1	52.0	48.4	48.3	50.1	53.8	53.8	53.7	52.6	52.2
Canada	40.6	39.2	39.3	39.1	39.6	43.5	42.9	40.8	39.6	39.5
Czech Republic	41.8	45.0	43.7	42.5	42.9	44.6	45.4	45.7	46.4	46.4
Denmark	53.9	53.0	51.7	51.0	50.7	58.5	54.6	54.3	51.0	50.3
Finland	43.8	45.0	43.8	42.2	43.9	49.5	51.4	50.7	50.8	50.8
France	51.6	53.4	52.7	52.3	52.7	55.6	55.8	55.5	54.2	53.7
Germany	45.1	46.8	45.4	43.7	43.7	47.6	48.2	46.9	45.5	45.1
Greece	46.6	43.6	42.6	44.1	48.3	50.4	50.5	53.2	52.3	50.6
Hong Kong SAR	17.7	16.9	15.4	14.5	18.6	18.7	17.5	18.2	17.4	17.4
Iceland	43.7	42.2	41.6	42.3	44.8	51.9	48.6	46.6	41.3	41.3
Ireland	30.6	33.0	33.5	35.7	41.2	45.4	46.6	45.9	42.9	42.0
Israel	48.1	46.2	45.6	44.8	43.8	42.4	42.0	41.4	39.9	39.6
Italy	46.2	48.2	48.7	47.8	48.8	51.9	51.1	50.6	49.9	49.6
Japan	37.3	34.2	34.7	33.4	35.6	39.7	39.6	39.5	39.8	39.5
Korea	19.1	20.0	20.7	20.8	22.7	24.0	22.5	22.2	21.8	21.9
Netherlands	44.2	44.8	45.6	45.2	45.6	49.7	50.4	50.0	49.4	49.5
New Zealand	32.0	32.7	32.6	31.2	33.0	34.9	34.6	34.2	33.2	32.9
Norway	39.3	41.9	40.3	41.0	40.1	45.6	44.6	44.3	44.1	44.2
Portugal 2/	43.1	47.6	46.3	45.8	46.0	49.4	49.1	48.5	46.7	46.4
Singapore	20.8	13.2	14.1	13.0	18.6	22.2	22.4	21.8	21.9	20.4
Slovak Republic	36.9	29.7	29.9	30.7	33.5	38.3	37.8	37.3	36.2	36.2
Slovenia	41.7	42.7	42.5	40.3	41.6	46.8	47.7	46.8	43.8	42.7
Spain 2/	39.1	38.4	38.4	39.2	41.1	46.1	46.0	45.8	45.5	45.3
Sweden	53.0	52.5	51.4	49.8	50.3	53.9	54.8	53.5	53.7	54.2
Switzerland	33.7	37.3	35.0	34.5	35.4	36.5	36.7	36.8	35.5	35.5
United Kingdom	36.6	40.6	40.7	40.5	42.5	47.3	47.5	46.4	42.9	41.9
United States	30.2	36.1	35.8	36.5	38.9	42.9	41.4	40.5	40.7	41.3
Emerging economies:										
Argentina	28.2	31.2	30.9	33.6	33.6	37.8	37.4	37.5	36.9	36.7
Brazil	41.4	39.2	39.6	38.3	38.0	39.6	38.0	38.8	37.8	37.6
Bulgaria	39.0	37.4	35.3	37.2	36.5	37.1	38.8	38.4	35.7	35.0
Chile	24.5	21.2	19.9	20.5	23.1	26.5	25.9	24.9	23.5	22.9
China	17.0	18.8	19.3	19.5	20.0	23.4	23.4	22.9	24.3	24.8
Colombia	28.0	26.2	28.2	28.2	26.5	29.7	28.2	28.6	28.1	28.0
Estonia	35.0	35.2	35.0	35.8	41.6	48.0	49.9	49.2	44.9	44.8
Hungary	48.2	50.1	52.0	49.9	49.2	49.6	48.5	46.3	43.8	43.2
India	27.3	26.6	26.6	27.2	28.8	30.9	29.4	28.3	26.9	27.1
Indonesia	16.6	18.8	20.1	19.7	20.4	17.5	17.8	17.7	17.8	17.9
Kenya	20.5	24.2	24.7	26.0	26.8	28.3	29.4	28.7	27.4	27.1
Latvia	36.7	36.6	36.6	35.6	42.6	43.5	51.7	46.5	36.4	36.2
Lithuania	36.2	33.6	33.9	35.0	37.6	44.0	44.2	45.1	42.4	42.1
Malaysia	25.8	27.1	27.6	28.6	29.1	34.7	31.7	31.9	31.9	31.6
Mexico	22.7	22.2	22.4	22.8	24.3	27.1	25.1	24.5	23.5	23.3
Nigeria	36.2	28.7	26.9	29.5	29.2	29.5	34.2	28.5	25.6	25.1
Pakistan	18.3	18.4	19.5	20.8	22.2	19.4	19.5	19.3	19.3	18.9
Peru	18.1	16.7	18.2	17.7	18.8	20.8	20.9	20.2	19.6	19.4
Philippines	19.9	17.9	17.5	17.3	17.1	18.4	18.2	17.4	16.7	16.7
Poland	41.1	43.4	43.9	42.2	43.3	44.6	46.8	46.5	44.8	44.3
Romania	...	32.1	33.7	35.4	37.0	39.2	39.0	36.9	34.3	33.5
Russia	32.8	32.8	31.2	33.2	34.5	40.6	38.5	38.7	37.5	37.5
Saudi Arabia	35.6	32.1	32.0	34.4	30.9	43.1	41.8	39.6	40.3	40.5
South Africa	25.9	26.8	26.9	27.2	29.8	33.0	33.2	32.3	29.7	29.2
Thailand	19.1	20.6	19.7	20.7	21.4	23.5	23.1	22.7	23.0	22.7
Turkey	...	32.4	32.7	33.3	33.8	37.4	36.2	35.9	34.8	34.6
Ukraine	36.6	44.0	44.6	43.6	47.0	47.4	44.4	44.9	44.9	44.9
Average:	31.8	33.4	33.3	33.5	34.7	38.2	37.5	36.9	36.5	36.5
Advanced	36.3	38.8	38.5	38.4	40.1	43.9	43.2	42.5	42.0	42.0
Emerging	25.1	25.8	26.0	26.4	27.1	30.0	29.4	28.9	28.6	28.7
G-7	36.2	39.4	39.1	39.1	40.8	44.7	44.0	43.2	42.7	42.8
G-20	31.0	32.9	32.9	33.0	34.3	37.9	37.1	36.4	36.1	36.2
Advanced G-20	35.4	38.4	38.2	38.1	39.8	43.6	42.9	42.0	41.5	41.6
Emerging G-20	24.3	25.1	25.2	25.7	26.4	29.6	28.7	28.3	28.3	28.5

Source: April 2010 *WEO* and IMF staff calculations.
1/ Does not reflect the latest federal government budget released May 11.
2/ Does not reflect additional deficit reduction plans announced May 10.

Statistical Table 5. General Government Revenue (In percent of GDP)

	2000	2005	2006	2007	2008	2009	2010	2011	2014	2015
Advanced economies:										
Australia 1/	36.3	36.2	36.3	35.5	33.5	32.8	31.7	32.0	33.0	33.1
Austria	50.3	48.4	47.9	48.1	48.4	48.5	47.1	47.0	47.1	47.1
Belgium	49.1	49.3	48.7	48.2	48.9	48.0	48.7	49.3	49.6	49.6
Canada	43.5	40.7	40.9	40.7	39.7	38.5	37.8	38.0	39.2	39.5
Czech Republic	38.1	41.4	41.1	41.9	40.9	38.6	40.4	40.4	41.2	41.2
Denmark	55.8	57.8	56.6	55.7	55.3	55.4	49.2	50.2	50.2	50.3
Finland	50.6	47.6	47.8	47.4	48.1	47.1	47.3	47.8	46.6	46.5
France	50.1	50.5	50.3	49.6	49.3	47.7	47.6	48.6	49.6	49.6
Germany	46.4	43.5	43.7	43.9	43.7	44.3	42.5	41.8	43.2	43.4
Greece	43.0	38.5	39.5	40.4	40.6	36.9	40.0	39.0	37.2	36.3
Hong Kong SAR	17.1	17.9	19.5	22.2	18.9	19.5	16.1	17.0	17.4	17.4
Iceland	45.4	47.1	48.0	47.7	44.2	39.5	39.2	41.3	44.1	44.1
Ireland	35.4	34.6	36.4	35.8	34.1	34.0	34.5	34.8	36.6	36.7
Israel	46.0	44.1	44.4	44.6	41.9	36.9	37.7	37.5	36.9	36.8
Italy	45.3	43.8	45.4	46.4	46.2	46.6	46.0	45.6	45.1	45.0
Japan	29.6	29.4	30.7	31.0	31.5	29.4	29.8	30.4	32.2	32.1
Korea	22.5	22.1	23.1	25.0	24.4	24.0	23.6	23.2	24.8	24.8
Netherlands	46.1	44.5	46.2	45.5	46.3	44.8	44.5	44.9	45.2	45.3
New Zealand	33.6	36.5	35.2	33.7	33.1	31.3	30.0	30.2	31.1	31.2
Norway	54.7	57.0	58.8	58.7	59.1	55.3	55.4	55.4	55.2	55.1
Portugal 2/	40.2	41.6	42.3	43.2	43.2	40.0	40.3	40.9	41.9	42.1
Singapore	29.7	21.4	21.5	25.4	24.1	20.2	20.1	22.2	24.1	23.2
Slovak Republic	28.2	26.9	26.4	28.8	31.2	32.0	32.0	33.1	33.2	33.1
Slovenia	40.5	41.7	41.7	40.5	41.3	40.7	41.6	41.9	41.4	41.0
Spain 2/	38.1	39.4	40.4	41.1	37.0	34.7	35.6	36.2	37.4	37.6
Sweden	56.8	54.5	53.8	53.6	52.9	51.7	51.5	51.3	53.1	54.3
Switzerland	36.1	37.0	36.5	36.6	36.2	37.9	35.6	35.9	35.7	35.4
United Kingdom	37.9	37.3	38.0	37.8	37.7	36.4	36.1	37.1	37.6	37.7
United States	31.8	32.9	33.8	33.9	32.2	30.4	30.4	32.2	34.6	34.8
Emerging economies:										
Argentina	24.6	29.4	29.9	31.5	33.4	33.9	33.8	33.9	34.2	34.5
Brazil	38.1	35.8	36.1	35.7	36.5	36.2	36.6	36.8	36.9	36.9
Bulgaria	38.4	39.8	38.8	40.7	39.5	36.3	37.1	36.9	35.8	35.5
Chile	23.8	25.9	27.7	29.4	28.4	22.2	24.1	23.9	24.0	24.2
China	13.8	17.4	18.6	20.5	19.7	20.3	20.3	20.8	22.0	22.4
Colombia	24.9	26.1	27.3	27.1	26.6	27.0	24.7	25.5	25.9	26.0
Estonia	34.0	36.8	38.3	38.7	39.3	46.0	47.5	46.3	40.0	39.7
Hungary	45.4	42.3	42.7	44.9	45.5	45.8	44.7	43.5	43.3	43.3
India	17.5	19.7	21.0	22.8	20.9	20.5	20.2	20.6	22.2	22.7
Indonesia	14.6	19.4	20.3	18.5	20.4	15.9	15.8	15.8	16.1	16.3
Kenya	19.0	21.2	21.1	22.0	21.9	22.4	23.2	23.6	23.8	23.7
Latvia	34.2	35.3	36.1	36.2	35.2	35.7	38.8	37.5	34.8	34.4
Lithuania	32.2	33.1	33.4	34.0	34.3	35.1	35.6	35.3	34.1	34.8
Malaysia	21.3	23.8	24.8	25.5	25.4	28.1	25.6	26.4	26.5	26.2
Mexico	19.4	20.8	21.4	21.4	22.9	22.4	21.7	21.5	20.9	20.6
Nigeria	42.1	37.9	33.9	28.4	32.8	19.4	26.8	26.2	25.5	25.1
Pakistan	14.3	14.1	14.7	15.3	14.9	14.3	14.9	15.4	16.6	16.9
Peru	17.8	18.1	20.1	20.9	21.0	18.6	19.3	19.1	19.6	19.5
Philippines	15.5	15.0	16.2	15.8	15.8	14.6	14.9	15.3	16.7	17.0
Poland	38.1	39.4	40.2	40.3	39.6	37.4	39.3	39.6	40.5	40.5
Romania	...	31.4	32.3	32.3	32.2	31.8	32.5	31.9	31.2	30.9
Russia	36.2	40.9	39.5	40.0	38.8	34.4	35.5	36.1	34.0	33.3
Saudi Arabia	41.8	53.9	56.6	50.1	66.4	42.3	47.0	48.8	46.6	45.4
South Africa	24.3	26.8	27.7	28.4	27.9	26.8	27.1	27.8	27.2	28.0
Thailand	17.3	22.0	21.8	21.0	21.5	20.4	20.8	20.8	22.0	22.2
Turkey	...	32.4	32.8	31.7	31.4	31.8	32.8	32.9	32.7	32.7
Ukraine	33.4	41.8	43.2	41.8	44.2	41.3	41.3	42.9	42.9	42.9
Average:	30.7	31.7	32.5	32.9	32.3	31.0	31.0	31.7	32.7	32.8
Advanced	36.5	36.5	37.2	37.4	36.5	35.1	34.9	35.8	37.3	37.4
Emerging	21.9	25.0	25.8	26.4	26.5	25.2	25.5	25.8	26.3	26.4
G-7	36.1	36.1	36.9	37.0	36.1	34.7	34.5	35.6	37.3	37.4
G-20	29.7	30.9	31.7	32.1	31.6	30.3	30.3	31.0	32.2	32.3
Advanced G-20	35.5	35.5	36.3	36.4	35.5	34.2	34.0	34.9	36.6	36.7
Emerging G-20	20.9	24.3	25.1	26.0	25.9	24.8	25.0	25.4	25.9	26.0

Source: April 2010 *WEO* and IMF staff calculations.
1/ Does not reflect the latest federal government budget released May 11.
2/ Does not reflect additional deficit reduction plans announced May 10.

Statistical Table 6. General Government Gross Debt (In percent of GDP)

	2000	2005	2006	2007	2008	2009	2010	2011	2014	2015
Advanced economies:										
Australia 1/	19.3	10.7	9.8	9.4	10.7	15.5	19.8	22.2	22.1	20.9
Austria	66.5	63.9	62.3	59.5	62.6	67.3	70.7	72.9	76.7	77.3
Belgium	107.6	91.7	87.3	82.8	89.7	97.3	100.1	101.5	101.0	99.9
Canada	82.1	71.6	69.5	65.0	69.7	82.5	83.3	82.0	74.2	71.2
Czech Republic	18.5	29.7	29.4	29.0	30.0	34.0	37.6	40.1	48.1	49.9
Denmark	...	45.4	41.0	34.1	42.3	47.3	51.2	53.5	52.1	49.8
Finland	43.8	41.7	39.7	35.2	34.8	44.0	49.9	53.1	70.7	76.1
France	57.3	66.4	63.6	63.8	67.5	77.4	84.2	88.6	94.3	94.8
Germany	59.7	68.0	67.6	65.0	65.9	72.5	76.7	79.6	82.0	81.5
Greece	103.4	100.0	97.1	95.6	99.2	115.1	133.2	145.2	146.1	140.4
Hong Kong SAR	...	1.9	1.7	1.3	1.2	1.0	0.6	0.6	0.5	0.5
Iceland	41.0	25.4	30.1	29.3	71.7	105.1	119.9	110.7	86.6	86.6
Ireland	37.8	27.3	24.8	24.9	44.0	64.5	78.8	87.0	92.5	94.0
Israel	84.4	93.5	84.4	78.1	75.4	77.8	77.5	76.6	71.6	69.9
Italy	109.2	105.8	106.5	103.4	106.0	115.8	118.6	120.5	123.9	124.7
Japan	142.1	191.6	191.3	187.7	194.7	217.7	227.1	234.6	247.7	250.0
Korea	16.7	27.6	30.1	29.6	29.0	32.6	33.3	32.8	28.5	26.2
Netherlands	53.8	51.8	47.4	45.5	58.2	59.7	64.2	68.1	75.6	77.4
New Zealand	31.4	22.3	19.9	17.4	20.4	26.1	30.3	32.7	35.8	36.1
Norway	34.2	49.1	60.5	58.6	56.1	53.6	53.6	53.6	53.6	53.6
Portugal 2/	50.5	63.6	64.7	63.6	66.3	77.1	86.6	91.8	97.1	98.4
Singapore	84.1	99.1	93.1	83.8	84.8	90.9	88.0	85.1	78.2	76.3
Slovak Republic	30.4	33.0	29.2	28.1	26.3	33.6	37.3	39.1	41.4	41.9
Slovenia	26.8	27.0	26.7	23.3	22.5	29.7	35.2	38.7	40.7	39.6
Spain 2/	59.3	43.0	39.6	36.1	39.7	55.2	66.9	75.6	89.8	94.4
Sweden	53.6	51.0	45.9	40.5	38.0	40.9	42.9	43.1	39.3	37.6
Switzerland	51.8	52.6	47.2	43.6	41.1	38.8	39.8	38.1	36.4	36.2
United Kingdom	40.9	42.1	43.2	44.1	52.0	68.2	78.2	84.9	90.7	90.6
United States	54.8	61.6	61.1	62.1	70.6	83.2	92.6	97.4	106.4	109.7
Emerging economies:										
Argentina	45.0	86.8	76.5	67.9	59.1	59.8	51.4	47.6	46.9	50.4
Brazil	63.4	69.2	66.7	65.2	64.1	68.9	67.2	65.1	58.9	54.1
Bulgaria	77.1	31.3	24.6	19.8	16.1	16.1	16.2	16.5	12.3	9.0
Chile	13.7	7.3	5.3	4.1	5.2	5.0	4.4	4.1	3.4	3.2
China	16.4	17.8	16.8	20.5	16.8	18.9	20.0	19.8	19.7	17.5
Colombia	40.1	38.8	35.8	32.4	32.3	35.1	35.1	35.5	33.7	32.3
Estonia	5.1	4.6	4.5	3.8	4.6	7.2	9.7	9.3	21.4	25.3
Hungary	54.7	61.9	65.7	65.8	72.9	77.7	78.9	77.3	67.6	64.0
India	75.2	85.0	82.1	79.2	77.0	80.8	79.0	77.8	70.3	67.3
Indonesia	95.1	46.3	40.4	36.9	33.2	28.6	27.5	26.4	23.8	23.1
Kenya	57.7	55.8	50.5	47.0	42.7	44.7	47.3	48.8	43.6	42.8
Latvia	12.3	11.8	9.9	7.8	17.0	32.4	48.8	64.7	52.6	51.8
Lithuania	23.7	18.5	18.0	16.9	15.6	29.3	39.2	47.3	67.0	71.0
Malaysia	35.3	44.4	43.2	42.9	43.0	54.9	57.2	58.6	61.4	62.3
Mexico	45.5	39.8	38.3	38.2	43.3	44.9	44.5	44.1	42.4	42.4
Nigeria	84.2	28.6	11.8	12.8	11.6	15.1	16.0	16.4	11.5	10.1
Pakistan	83.0	62.0	56.4	54.6	58.4	55.6	56.4	55.3	51.2	48.1
Peru	...	...	33.2	30.9	25.7	27.4	26.7	25.6	21.1	19.7
Philippines	62.1	62.8	55.4	47.8	48.6	48.9	48.0	46.9	40.5	37.3
Poland	36.8	47.1	47.7	45.0	47.2	51.0	55.0	58.3	62.2	62.1
Romania	...	20.4	18.4	19.8	21.3	29.9	35.0	36.9	39.4	39.0
Russia	59.9	14.2	9.1	8.5	7.9	9.0	8.1	9.1	10.0	13.0
Saudi Arabia	87.2	38.9	27.3	18.5	13.3	16.3	12.8	10.9	7.3	6.4
South Africa	43.3	34.6	32.6	28.3	27.3	31.5	34.7	36.6	36.8	35.7
Thailand	57.0	46.2	41.2	37.3	37.6	44.2	47.9	49.8	52.2	51.3
Turkey	51.3	52.3	46.1	39.4	39.5	45.5	44.5	44.3	43.9	43.5
Ukraine	45.3	18.5	15.5	12.8	19.9	33.5	36.7	35.8	31.5	31.2
Average:	58.3	60.4	58.8	58.0	60.7	68.9	73.1	75.4	78.5	78.8
Advanced	66.7	74.7	73.9	72.9	78.7	90.6	97.8	102.0	108.6	110.2
Emerging	46.2	40.1	37.4	36.9	35.2	38.0	38.0	37.6	35.7	34.2
G-7	71.7	83.3	82.8	82.2	88.8	102.3	110.2	114.9	122.3	124.1
G-20	58.6	63.1	61.7	61.3	64.0	72.5	76.8	79.1	82.2	82.5
Advanced G-20	67.9	78.9	78.5	77.9	84.1	96.9	104.4	108.8	115.5	117.1
Emerging G-20	45.2	40.4	37.5	37.3	35.0	37.4	37.0	36.4	34.3	32.7

Source: April 2010 *WEO* and IMF staff calculations.
1/ Does not reflect the latest federal government budget released May 11.
2/ Does not reflect additional deficit reduction plans announced May 10.

Statistical Table 7. General Government Net Debt (In percent of GDP)

	2000	2005	2006	2007	2008	2009	2010	2011	2014	2015
Advanced economies:										
Australia 1/	7.0	-3.9	-6.1	-6.8	-4.8	0.2	5.4	8.6	10.5	9.9
Austria	48.7	52.0	51.2	49.0	52.6	56.9	60.5	63.1	67.9	68.9
Belgium	97.6	82.0	77.3	73.4	74.1	86.9	91.1	92.6	92.5	91.5
Canada	46.2	31.0	26.2	23.1	22.4	28.6	32.2	33.4	32.0	30.7
Czech Republic	...	...	...	...	...	...	...	...	...	...
Denmark	...	11.6	4.5	-1.5	-3.5	-7.3	3.1	5.9	7.0	5.8
Finland	...	...	...	...	...	...	...	...	...	...
France	47.6	56.7	53.9	54.1	57.8	67.7	74.5	78.9	84.6	85.1
Germany	52.5	63.3	61.8	58.4	59.3	64.3	68.6	71.8	74.8	74.8
Greece	...	...	...	...	...	...	...	...	...	...
Hong Kong SAR	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Iceland	24.3	9.4	7.8	11.0	42.1	72.9	77.2	78.4	61.2	61.2
Ireland	36.7	15.9	12.0	12.0	22.6	36.1	47.8	55.5	60.9	60.9
Israel	79.7	88.8	79.7	73.3	70.9	73.1	72.8	71.9	66.9	65.2
Italy	107.3	103.8	104.4	101.2	103.9	113.2	116.0	117.8	121.3	122.1
Japan	60.4	84.6	84.3	81.5	94.9	111.7	121.6	130.1	149.5	154.7
Korea	...	...	...	...	...	...	...	...	...	...
Netherlands	35.4	35.6	33.0	30.8	34.6	41.0	46.0	50.2	59.1	61.5
New Zealand	18.2	6.0	0.2	-5.7	-4.8	-0.9	3.3	7.8	15.2	15.6
Norway	-67.4	-122.4	-136.3	-142.5	-124.8	-151.9	-153.6	-158.4	-174.4	-178.9
Portugal 2/	43.8	58.6	59.4	58.8	62.0	72.7	82.2	87.3	92.8	94.1
Singapore	...	...	...	...	...	...	...	...	...	...
Slovak Republic	...	...	...	...	...	...	...	...	...	...
Slovenia	...	...	...	...	...	...	...	...	...	...
Spain 2/	50.3	34.7	30.5	26.5	30.3	45.8	57.5	66.2	80.5	85.0
Sweden	5.7	-2.8	-15.0	-19.9	-21.8	-20.0	-16.1	-13.3	-8.9	-8.6
Switzerland	49.3	52.0	46.5	43.0	40.5	38.3	39.2	37.5	35.9	35.7
United Kingdom	33.6	37.3	38.0	38.3	45.5	61.5	71.6	78.3	84.1	83.9
United States	35.5	42.6	41.9	42.3	47.2	58.3	66.2	72.0	81.8	85.5
Emerging economies:										
Argentina	...	...	...	...	...	...	...	...	...	...
Brazil	47.0	48.0	46.6	44.8	39.0	43.6	41.2	39.9	35.6	32.6
Bulgaria	23.2	-8.1	-11.0	-10.9	-11.1	-10.4	-8.5	-6.8	-4.2	-4.3
Chile	8.2	11.8	-0.3	-8.1	-12.1	-8.7	-7.5	-6.9	-7.1	-7.1
China	...	...	...	...	...	...	...	...	...	...
Colombia	33.3	28.3	25.3	22.4	22.4	25.7	27.2	27.8	28.1	27.1
Estonia	3.3	-3.7	-4.9	-5.6	-3.3	-1.3	1.1	3.9	16.7	20.9
Hungary	...	59.1	62.6	62.4	63.9	69.1	71.4	70.2	61.7	58.4
India	...	...	...	...	...	...	...	...	...	...
Indonesia	...	...	...	...	...	...	...	...	...	...
Kenya	16.9	18.6	18.8	18.2	17.5	19.2	21.0	21.5	18.2	17.5
Latvia	10.1	9.6	7.4	4.7	11.2	21.2	36.2	45.0	46.1	45.6
Lithuania	19.8	13.9	11.0	11.2	12.8	23.3	32.5	39.2	55.5	58.9
Malaysia	...	...	...	...	...	...	...	...	...	...
Mexico	39.0	35.2	32.4	31.4	35.7	39.1	38.8	38.8	37.9	38.0
Nigeria	76.3	20.3	-6.2	5.0	0.1	8.9	15.5	15.6	7.2	6.4
Pakistan	...	...	...	...	...	...	...	...	...	...
Peru	...	...	...	...	...	...	...	...	...	...
Philippines	...	...	...	...	...	...	...	...	...	...
Poland	15.5	23.5	22.4	17.0	20.3	22.6	26.6	29.9	33.8	33.7
Romania	...	...	...	...	...	...	...	...	...	...
Russia	...	...	...	...	...	...	...	...	...	...
Saudi Arabia	79.4	18.2	1.7	-17.1	-45.8	-51.1	-45.1	-47.4	-49.4	-48.1
South Africa	42.6	33.0	29.7	24.8	23.4	27.3	31.0	33.6	34.5	33.2
Thailand	...	...	...	...	...	...	...	...	...	...
Turkey	57.5	45.6	38.5	32.2	32.8	37.9	36.9	36.4	35.5	35.0
Ukraine	44.0	13.9	11.7	10.1	18.3	32.4	35.8	35.0	30.9	30.7
Average:	44.7	47.1	44.9	43.3	46.9	56.1	62.1	66.4	72.9	74.7
Advanced	44.8	50.0	48.5	47.3	52.2	62.7	69.9	75.1	83.5	85.9
Emerging	44.3	34.2	29.3	25.7	23.2	27.0	28.0	28.0	26.3	25.4
G-7	46.5	54.7	53.8	53.0	58.4	69.7	77.1	82.5	91.6	94.2
G-20	46.1	50.9	49.4	48.1	51.9	61.8	68.0	72.4	79.6	81.6
Advanced G-20	45.4	53.0	52.1	51.3	56.6	67.8	75.1	80.5	89.3	91.9
Emerging G-20	49.7	39.5	35.0	30.5	26.4	29.6	29.4	28.9	26.7	25.6

Source: April 2010 *WEO* and IMF staff calculations.
1/ Does not reflect the latest federal government budget released May 11.
2/ Does not reflect additional deficit reduction plans announced May 10.

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