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PREFACE

The projections included in this issue of the *Fiscal Monitor* are based on the same database used for the October 2013 *World Economic Outlook* and *Global Financial Stability Report* (and are referred to as "IMF staff projections"). Fiscal projections refer to the general government unless otherwise indicated. Short-term projections are based on officially announced budgets, adjusted for differences between the national authorities and the IMF staff regarding macroeconomic assumptions. The medium-term fiscal projections incorporate policy measures that are judged by the IMF staff as likely to be implemented. For countries supported by an IMF arrangement, the medium-term projections are those under the arrangement. In cases in which the IMF staff has insufficient information to assess the authorities' budget intentions and prospects for policy implementation, an unchanged cyclically adjusted primary balance is assumed, unless indicated otherwise. Country-specific assumptions are detailed in the Methodological and Statistical Appendix.

The *Fiscal Monitor* is prepared by the IMF Fiscal Affairs Department under the supervision of Carlo Cottarelli, Director of the Department; the team is led by Michael Keen and Martine Guerguil, Deputy Directors. Principal contributors include Luc Eyraud, Marialuz Moreno Badia, Priscilla Muthoora, Anna Shabunina, Philippe Wingender, and Jaejoon Woo. Ethan Alt, Mai Bui, Petra Dacheva, Raquel Gomez Sirera, Kelsey Moser, Louis Sears, and Nancy Tinoza provided outstanding research assistance under the supervision of Nathalie Carcenac. In addition, contributions were provided by Santiago Acosta Ormaechea, Elva Bova, Ruud de Mooij, Asmaa ElGanainy, Francesco Grigoli, Martin Grote, Tim Irwin, Stella Kaendera, Tidiane Kinda, Andrea Lemgruber, Constant Lonkeng Ngouana, Thornton Matheson, Samah Mazraani, Jimmy McHugh, Aiko Mineshima, Pritha Mitra, Kiyoshi Nakayama, John Norregaard, Masahiro Nozaki, Kentaro Ogata, Victoria Perry, Baoping Shang, Mauricio Soto, Sampawende Jules Tapsoba, Jose Torres, and Anke Weber. Nadia Malikyar, Liza Prado, and Ted Twinting provided excellent administrative and editorial assistance. From the IMF Communications Department, Nancy Morrison, Michael Harrup, and Cathy Gagnet edited the issue, and Michael Harrup and Cathy Gagnet managed its production.

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

The following symbols have been used throughout this publication:

. . . to indicate that data are not available;

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

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

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

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

"Basis points" refer to hundredths of 1 percentage point (for example, 25 basis points are equivalent to ¼ of 1 percentage point).

"n.a." means "not applicable."

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

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

EXECUTIVE SUMMARY

High debt ratios amid persistently low growth in advanced economies and emerging fragilities in the developing world cast clouds on the global fiscal landscape. In advanced economies, with narrowing budget deficits (except, most notably, in Japan), the average public debt ratio is expected to stabilize in 2013–14. Yet it will be at a historic peak (about 110 percent of GDP, 35 percentage points above its 2007 level). Simulations show that maintaining the overall budget at a level consistent with the IMF staff's medium-term advice would bring the average debt ratio to about 70 percent of GDP by 2030, although in a few countries it would remain above 80 percent. However, the large debt stock, the uncertain global environment, weak growth prospects, and the absence of well-specified medium-term adjustment plans in systemic economies like Japan and the United States complicate the task. At the time of writing, a shutdown of the U.S. federal government and the failure so far to raise the debt ceiling add to uncertainty. Although a short period of government shutdown would likely have limited impact, a longer period could be more damaging. A failure to promptly raise the debt ceiling could have even more serious consequences. At the same time, fiscal vulnerabilities are on the rise in emerging market economies and low-income countries—on the back, in emerging market economies, of heightened financial volatility and downward revisions to potential growth, and in low-income countries, of possible shortfalls in commodity prices and aid.

Strengthening fiscal balances and buttressing confidence thus remain at the top of the policy agenda, although the degree of urgency varies from one country to another. In high-debt advanced economies, consolidation should be anchored in credible medium-term plans, defined in cyclically adjusted terms, leaving room for automatic stabilizers to cushion unexpected shocks. Its pace and composition should be calibrated (as long as financing allows) to reduce risks to near-term economic activity while enhancing long-term growth prospects. Those emerging market economies that have seen their fiscal space shrink or even disappear should start rebuilding their fiscal buffers, taking advantage of still generally favorable cyclical conditions. The pace should remain determined by debt and deficit levels, as well as financing access, although uncertainties about potential growth and interest rate prospects call for more proactivity to shield against sudden changes in market sentiment. In low-income countries, reduced access to concessional funds and, in resource-rich countries, declining commodity prices underscore the need to mobilize domestic revenue and increase the efficiency of spending.

Against that backdrop, this issue of the *Fiscal Monitor* explores whether and how tax reform can help strengthen public finances. Taxation is always a sensitive topic and is now more than ever at the center of policy debates around the world. The key challenges are: How can taxation best help bring down debt ratios in advanced economies and respond to mounting spending needs in developing countries? And how can equity concerns be balanced—especially in hard times—with the efficiency that is needed to secure long-term growth?

In practice, consolidation so far has been more reliant on revenue measures than was initially planned. But the options most often chosen have been guided by expediency rather than by a desire to build stronger and fairer tax systems, and they may be storing up problems for the longer term. Tax rates, for instance, have been raised when it would have been preferable to broaden the tax base and introduce new taxes to address environmental concerns or correct financial sector inefficiencies. With a large share of adjustment already behind in many countries but growth prospects still dim, policy design should now focus on addressing long-standing tax distortions and buoying potential growth.

Can countries tax more, better, more fairly? Results reported here show that the scope to raise more revenue is limited in many advanced economies and, where tax ratios are already high, the bulk of adjustment will have to fall on spending. Nonetheless, many (including some with the largest consolidation needs, like the United States and Japan) could still mobilize

significant amounts while limiting distortions and adverse effects on growth. Broadening the base of the value-added tax ranks high in terms of economic efficiency (as new findings tend to confirm) and can in most cases easily be combined with adequate protection for the poor. In emerging market economies and low-income countries, where the potential for raising revenue is often substantial, improving compliance remains a central challenge. Recognition that the international tax framework is broken is long overdue. Though the amount is hard to quantify, significant revenue can also be gained from reforming it. This is particularly important for developing countries, given their greater reliance on corporate taxation, with revenue from this taxation often coming from a handful of multinationals.

Scope seems to exist in many advanced economies to raise more revenue from the top of the income distribution (and in some cases meet a nontrivial share of adjustment needs), if so desired. And there is a strong case in most countries, advanced or developing, for raising substantially more from property taxes (though this is best done when property markets are reasonably resilient). In principle, taxes on wealth also offer significant revenue potential at relatively low efficiency costs. Their past performance is far from encouraging, but this could change as increased public interest and stepped-up international cooperation build support and reduce evasion opportunities. Reforming international taxation will be harder, as it must go beyond the control of tax-minimizing tricks to address more fundamental aspects such as the allocation of tax bases across countries and finding better ways to realize mutual gains from closer cooperation in tax matters.

Political constraints can trump even the best-designed tax reform. History shows that meaningful, long-lasting tax reforms have most often been implemented in good times, when buoyant revenues can be used to compensate losers. But they can happen in lean times, too, if carefully attuned to a particular country's institutional setting and supported by extensive political consensus building and a broad communication strategy. They are certainly increasingly needed in the current, taxing times.

1. Recent Fiscal Developments and the Short-Term Outlook

In advanced economies, fiscal consolidation is proceeding, although at varying speeds

The average fiscal deficit of advanced economies is set to narrow by 1½ percent of GDP in 2013 (in both headline and cyclically adjusted terms), the fastest pace since consolidation efforts started in 2011. This average, however, reflects different trends across countries: some economies are stepping up adjustment efforts, while others are tapering them off, and still others are adopting a looser stance to support growth. Nevertheless, relative to previous projections, fiscal deficits are somewhat larger in most countries, reflecting a weaker economic environment (Figure 1, Table 1). Although 2014 budgets are in most cases still to be fleshed out, fiscal tightening is expected to moderate significantly next year as a large part of the consolidation has already taken place or is close to completion. On average, close to two-thirds of the adjustment required to reach medium-term targets has been achieved in the 10 most highly indebted countries, with the notable exception of Japan.

In many advanced economies, the pace of fiscal adjustment is expected to reach above 1 percent of GDP in 2013, but it is set to slow down significantly in 2014 in most cases.

- In the *United States,* the cyclically adjusted balance is projected to improve by 2¼ percent of potential GDP in 2013 and another ¾ percent in 2014, cumulatively some 1½ percent of GDP more than previously projected, reflecting the extension of automatic spending cuts (the sequester) into 2014, as well as unexpected revenue strength.[1] In addition to the untimely drag on short-term activity, the indiscriminate expenditure cuts could also lower medium-term growth prospects by falling too heavily on productive public outlays. Moreover, they fail to address entitlement programs, key drivers of long-term deficits. Uncertainty about the course of fiscal policy remains, as negotiations on the next fiscal year's budget continue and the debt ceiling will likely become binding in mid- to late October. The projections assume that the shutdown of the U.S. federal government is short, discretionary spending is approved and executed, and the debt ceiling is raised promptly.
- In the *United Kingdom,* the cyclically adjusted balance is projected to improve by close to 2 percent of GDP in 2013—of which 1 percent is accounted for by the transfers of profits from the Bank of England's asset purchases to the Treasury, and the rest largely by discretionary measures. Consolidation is expected to continue in 2014, with planned measures of about 1 percent of GDP.
- In *France*, fiscal withdrawal in 2013, at 1¼ percent of GDP, largely relies on revenue measures. In 2014, the pace of consolidation is set to slow to ½ percent of GDP, with the composition of consolidation expected to shift more toward expenditure.
- In *Portugal*, the cyclically adjusted balance is projected to improve by 1¼ percent of GDP given the approval of a supplementary budget in June. About one-quarter of the measures are temporary, including the reprogramming of EU structural funds and some expenditure compression. For 2014, additional consolidation of about 1 percent is projected, but meeting the deficit target will depend critically on the implementation of the recommendations of the Public Expenditure Review.
- In *Greece,* a primary balance is expected to be achieved in 2013. Further adjustment through 2016 will require additional measures, including gains in tax administration, equivalent to 3½ percent of GDP.

In a second group of countries, adjustment is set to proceed at a more moderate pace through 2013 and 2014.

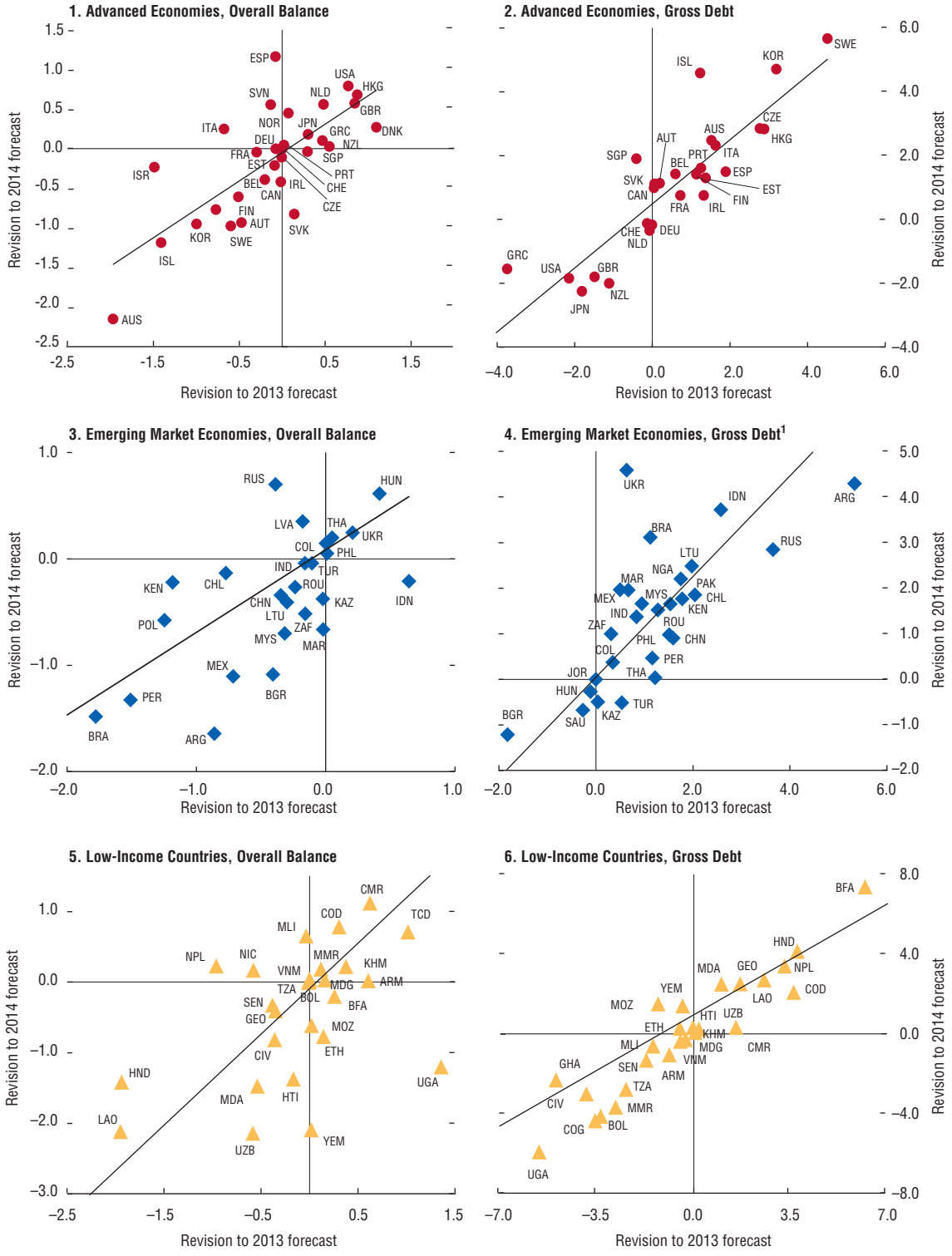
- In *Italy*, underlying consolidation of almost 1 percent of GDP in 2013 is expected to bring the structural balance[2] close to the zero target. Nonetheless, the public debt ratio will increase as a result of

[1] Some of the revenue strength likely reflects one-off factors—such as shifting of tax payments in anticipation of higher marginal rates from January 2013—that are not captured by the cyclical-adjustment procedure. If so, the decline in the measured cyclically adjusted deficit overestimates the actual degree of tightening.

[2] The structural balance excludes the clearance of capital expenditure arrears in 2013.

Figure 1. Revisions to Overall Balance and Debt-to-GDP Forecasts since the Last *Fiscal Monitor*

(Percent of GDP)



Source: IMF staff estimates and projections.

Note: "Revision to 2014 (2013) forecast" refers to the difference between the fiscal projections for 2014 (2013) in the October 2013 *Fiscal Monitor* and those for 2014 (2013) in the April 2013 *Fiscal Monitor*.

[1]For Brazil, gross debt refers to the nonfinancial public sector, excluding Eletrobras and Petrobras, and includes sovereign debt held on the balance sheet of the central bank.

Table 1. Fiscal Balances, 2008–14

						Projections		Difference from April 2013 *Fiscal Monitor*		
	2008	2009	2010	2011	2012	2013	2014	2012	2013	2014
Overall balance *(Percent of GDP)*										
World	–2.2	–7.4	–5.9	–4.5	–4.3	–3.7	–3.0	–0.1	–0.2	–0.3
Advanced economies	–3.5	–8.9	–7.7	–6.5	–5.9	–4.5	–3.6	0.0	0.2	0.3
United States[1]	–6.5	–12.9	–10.8	–9.7	–8.3	–5.8	–4.6	0.1	0.8	0.8
Euro area	–2.1	–6.4	–6.2	–4.2	–3.7	–3.1	–2.5	–0.1	–0.2	0.1
France	–3.3	–7.6	–7.1	–5.3	–4.9	–4.0	–3.5	–0.2	–0.3	0.0
Germany	–0.1	–3.1	–4.2	–0.8	0.1	–0.4	–0.1	0.0	–0.1	0.0
Greece	–9.9	–15.6	–10.8	–9.6	–6.3	–4.1	–3.3	0.1	0.5	0.1
Ireland[2]	–7.3	–13.8	–30.5	–13.1	–7.6	–7.6	–5.0	0.1	0.0	–0.4
Italy	–2.7	–5.4	–4.3	–3.7	–2.9	–3.2	–2.1	0.1	–0.7	0.2
Portugal	–3.7	–10.2	–9.9	–4.4	–6.4	–5.5	–4.0	–1.5	0.0	0.0
Spain[2]	–4.5	–11.2	–9.7	–9.6	–10.8	–6.7	–5.8	–0.5	–0.1	1.2
Japan	–4.1	–10.4	–9.3	–9.9	–10.1	–9.5	–6.8	0.0	0.3	0.2
United Kingdom	–5.0	–11.3	–10.0	–7.8	–7.9	–6.1	–5.8	0.4	0.8	0.6
Canada	–0.3	–4.5	–4.9	–3.7	–3.4	–3.4	–2.9	–0.1	–0.5	–0.6
Others	2.5	–0.9	–0.2	0.4	0.4	0.4	0.7	0.0	–0.7	–0.7
Emerging market economies	–0.1	–4.6	–3.1	–1.7	–2.1	–2.7	–2.5	–0.1	–0.5	–0.3
Asia	–2.5	–4.3	–2.9	–2.6	–3.2	–3.4	–3.1	0.0	–0.3	–0.2
China	–0.7	–3.1	–1.5	–1.3	–2.2	–2.5	–2.1	0.0	–0.3	–0.3
India[4]	–10.0	–9.8	–8.4	–8.5	–8.0	–8.5	–8.5	0.3	–0.2	0.0
Europe	0.5	–6.1	–4.1	0.0	–0.7	–1.5	–1.2	–0.1	–0.4	0.2
Russia	4.9	–6.3	–3.4	1.5	0.4	–0.7	–0.3	0.0	–0.4	0.7
Turkey	–2.7	–6.0	–3.0	–0.7	–1.6	–2.3	–2.3	–0.2	–0.1	0.0
Latin America	–0.7	–3.6	–2.8	–2.4	–2.5	–2.8	–3.0	0.0	–1.2	–1.2
Brazil	–1.4	–3.1	–2.7	–2.5	–2.7	–3.0	–3.2	0.1	–1.8	–1.5
Mexico	–1.0	–5.1	–4.3	–3.4	–3.7	–3.8	–4.1	0.0	–0.7	–1.1
Middle East and North Africa	–5.0	–5.5	–7.0	–8.7	–9.8	–11.8	–10.5	–0.1	–2.6	–3.3
South Africa	–0.4	–5.5	–5.1	–4.0	–4.8	–4.9	–4.7	0.0	–0.2	–0.5
Low-income countries	–0.4	–4.1	–2.1	–1.7	–2.6	–3.0	–3.2	0.7	0.2	0.0
Oil producers	7.3	–2.5	–0.4	3.2	2.1	1.2	0.8	–0.2	–0.3	0.0
Cyclically adjusted balance *(Percent of potential GDP)*										
Advanced economies	–3.7	–6.2	–6.2	–5.4	–4.8	–3.4	–2.7	0.0	0.1	0.2
United States[1,3]	–5.0	–7.8	–8.0	–7.3	–6.3	–3.9	–3.2	0.1	0.7	0.7
Euro area	–3.3	–4.8	–5.0	–3.7	–2.7	–1.6	–1.2	–0.3	–0.3	0.1
France	–3.9	–5.9	–5.9	–4.8	–4.0	–2.8	–2.3	–0.9	–0.8	–0.5
Germany	–1.3	–1.1	–3.4	–1.1	0.0	–0.1	0.0	–0.1	–0.1	–0.1
Greece	–14.3	–19.1	–12.3	–8.3	–2.6	0.6	1.1	0.1	0.4	0.3
Ireland[3]	–11.9	–9.9	–8.3	–7.0	–5.9	–5.1	–3.6	0.6	0.7	0.4
Italy	–3.6	–3.5	–3.4	–2.8	–1.2	–0.7	0.1	0.0	–0.5	0.3
Portugal	–4.3	–9.4	–9.7	–3.6	–4.6	–3.3	–2.2	–1.6	–0.3	–0.2
Spain[3]	–5.6	–10.0	–8.4	–7.9	–5.4	–4.6	–4.1	–0.3	–0.4	1.0
Japan	–3.6	–7.5	–7.9	–8.5	–9.2	–9.2	–6.7	0.1	0.2	0.2
United Kingdom	–6.6	–10.3	–8.4	–6.0	–5.8	–4.0	–3.9	–0.3	0.3	–0.5
Canada	–0.6	–3.1	–4.2	–3.4	–3.0	–2.8	–2.3	–0.2	–0.6	–0.6
Others	–0.1	–2.0	–1.6	–1.4	–1.3	–1.1	–0.8	0.1	–0.6	–0.6
Emerging market economies	–1.6	–3.5	–2.8	–2.0	–2.1	–2.3	–2.1	0.0	–0.3	–0.2
Asia	–2.2	–3.8	–2.6	–1.9	–2.2	–2.4	–2.2	0.1	–0.1	–0.1
China	–0.5	–2.6	–0.9	–0.2	–0.9	–1.2	–1.0	0.0	–0.3	–0.3
India[4]	–9.5	–9.5	–9.0	–9.1	–8.1	–8.2	–8.2	0.7	0.6	0.7
Europe	–0.4	–4.0	–3.2	–0.7	–1.0	–1.4	–1.2	–0.4	–0.4	0.2
Russia	3.9	–3.2	–1.9	1.9	0.3	–0.5	–0.1	–0.2	0.0	1.1
Turkey	–3.1	–3.5	–2.4	–1.5	–1.7	–2.3	–2.1	–0.2	–0.3	–0.2
Latin America	–1.5	–2.5	–2.8	–2.8	–2.4	–2.6	–2.7	0.2	–0.9	–0.8
Brazil	–2.1	–2.3	–3.3	–3.0	–2.7	–3.0	–3.2	0.0	–1.8	–1.5
Mexico	–0.8	–3.1	–2.8	–2.3	–2.7	–2.7	–3.0	0.9	0.4	0.0
South Africa	–2.4	–3.4	–3.6	–4.1	–4.3	–4.3	–4.2	0.3	0.1	–0.2
Memorandum items:										
World growth (percent)	*2.7*	*–0.4*	*5.2*	*3.9*	*3.2*	*2.9*	*3.6*	*–0.1*	*–0.7*	*–0.6*

Source: IMF staff estimates and projections.

Note: All fiscal data country averages are weighted by nominal GDP converted to U.S. dollars at average market exchange rates in the years indicated and based on data availability. Projections are based on IMF staff assessments of current policies.

[1] U.S. data are subject to change pending completion of the release of the Bureau of Economic Analysis's Comprehensive Revision of the National Income and Product Accounts (NIPA).

[2] Including financial sector support.

[3] Excluding financial sector support.

[4] Starting in July 2013, India's data and forecasts are presented on a fiscal year basis.

the weak economy, the clearance of public arrears, and European Stability Mechanism contributions.

- In *Spain*, the IMF staff estimates that fiscal consolidation plans in train will reduce the cyclically adjusted deficit (excluding financial sector support) by ¾ percent of GDP in 2013, and by a similar magnitude in 2014. However, measures are expected to be specified in the 2014 budget to be discussed in Parliament in November.
- In *Ireland*, the implementation of the 2013 budget is on track, although buffers with respect to the 7½ percent of GDP deficit ceiling have narrowed. Consolidation efforts will continue in 2014, with projected tightening of about 1½ percent of GDP. Details are expected about the time of the 2014 budget.

Countries facing less fiscal pressures are adopting a more accommodative stance in 2013 in the face of weaker growth prospects, but they are expected to reverse gears and start tightening in 2014.

- In *Sweden*, the fiscal stance is projected to be expansionary in 2013, with the structural deficit increasing by ½ percent of GDP, on the back of the large corporate tax cut. The IMF staff projects the policy stance in 2014 to be broadly neutral, following the recently announced measures to support growth and employment, including additional income tax credits, and measures to tackle youth unemployment. A period of fiscal consolidation is now expected to begin in 2015.
- In *Germany*, a small loosening is expected in 2013 and only a modest tightening thereafter, as the deficit goals under the national debt brake rule have been achieved ahead of schedule at the federal level.
- In *Korea*, the government has launched a comprehensive housing market policy package. A supplementary budget (about 1¼ percent of GDP) aims at averting tightening—as the debt ceiling becomes binding in the face of potential revenue shortfalls—and providing modest additional stimulus.
- In *Canada*, fiscal adjustment in both 2013 and 2014 is expected to be slower than previously anticipated, reflecting a deterioration in the estimated fiscal position of provincial and local governments.

Japan continues to postpone consolidation, with the cyclically adjusted primary deficit projected to remain about 8½ percent of GDP in 2013. In 2014 and 2015, significant tightening is expected, with a two-step increase in the consumption tax rate. The recently announced decision to go forward with the first stage of the consumption tax increase to 8 percent in April 2014 is a welcome step but plans for a new stimulus in 2014 to mitigate the impact of this measure on growth put a premium on developing a concrete and credible medium-term plan as quickly as possible. Although the government has committed to halving the primary deficit by 2015 and reaching a primary surplus by 2020, a well-specified medium-term plan has not yet been outlined to achieve these targets.

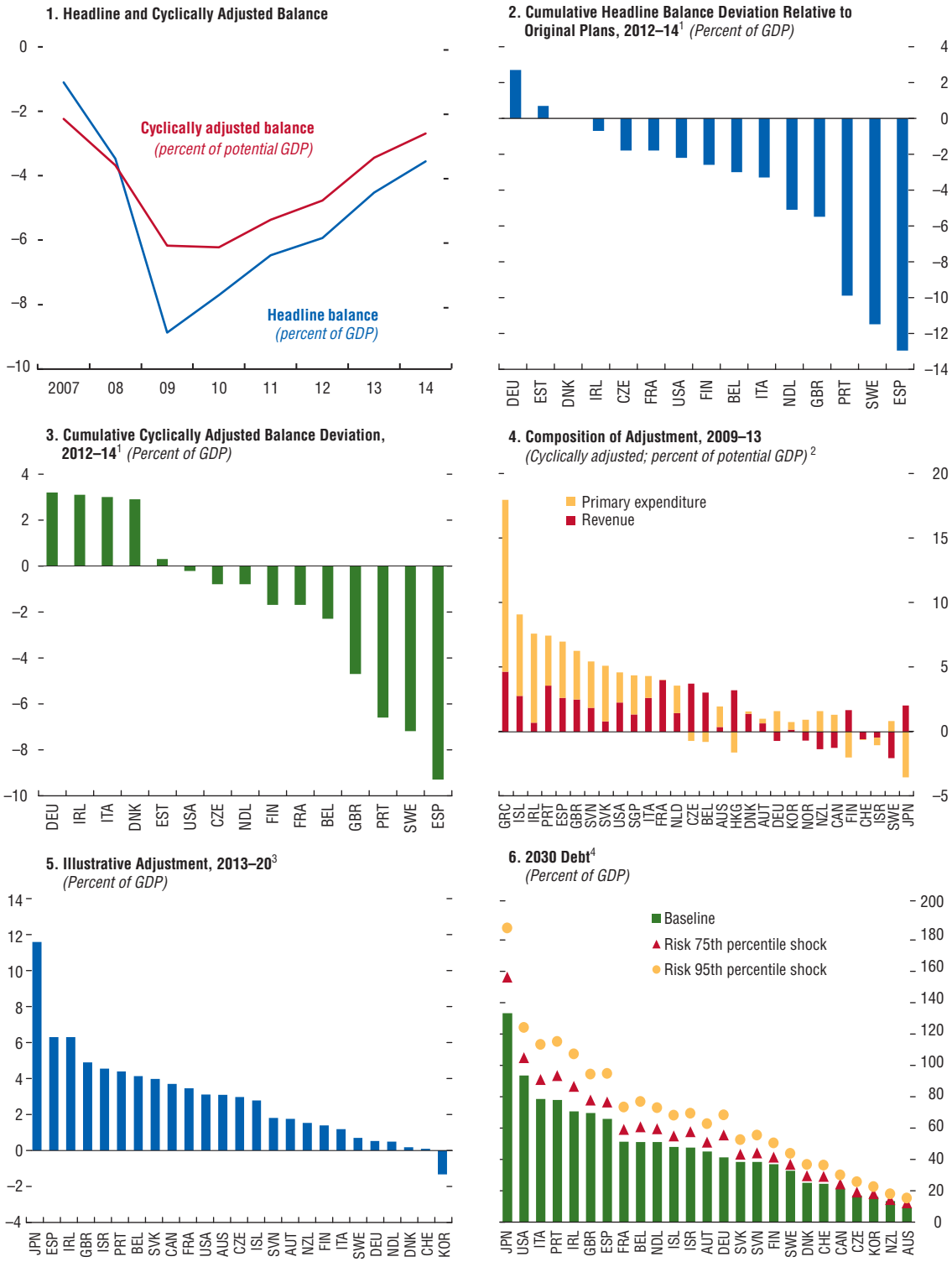
Although fiscal adjustment has picked up in 2013, headline overall balances remain in most countries weaker than projected when the fiscal correction phase started in 2011, reflecting slower-than-expected growth. In only a few countries (importantly, Germany and the United States) have fiscal developments proved generally close to plans drawn back in 2011, likely because original growth projections were close to actual outcomes (Figure 2). In most countries, however, lower growth led to a relaxation of headline deficit targets. These include euro area countries, such as those for which the European Council recently (in June 2013) sanctioned extending the deadline to attain the 3 percent deficit target. Structural balances are also lower than originally targeted in many cases, as revisions in potential output estimates and other shocks have contributed to a widening of underlying deficits. The composition of adjustment has relied on revenue more than was initially planned, with tax changes mostly guided by expediency rather than efficiency considerations (Section 2 discusses tax reform options). Meanwhile, expenditure ratios have stayed high—particularly in Europe, where they exceed 45 percent of potential GDP and remain some 1 percentage point above precrisis levels on average.[3]

In all, the average gross debt ratio in advanced economies is expected to stabilize at slightly below 110 percent of GDP—some 35 percentage points above its 2007 level (Table 2). As discussed in previous issues of the *Fiscal Monitor*, maintaining public debt at these historic peaks would leave advanced economies exposed to confidence shocks and rollover risks and hamper potential growth.[4] Thus, it remains important to lower public debt, although it will inevitably be a slow process.

[3] Future issues of the *Fiscal Monitor* will discuss spending reform options.

[4] The issue of how much high debt hampers growth—and whether there is a "threshold"—remains quite controversial. However, with few exceptions (including Panizza and Presbitero, 2012), most studies concur that the effect on potential growth is not trivial. That being said, the desirable level of debt need not be the same for all countries, as factors such as the investor base, volatility in the interest rate–growth differential, and the level of contingent liabilities also have a bearing on the appropriate debt target. See the April 2013 *Fiscal Monitor* for a review of the literature and related issues.

Figure 2. Fiscal Trends in Advanced Economies



Sources: European Commission (2013); IMF, Public Finances in Modern History database; and IMF staff estimates and projections.
Note: For country-specific details, see "Data and Conventions" in the Methodological and Statistical Appendix.
[1] For European countries, deviations refer to the differences between the 2011 and 2013 Stability and Convergence Plans. For the United States, deviations refer to differences in the 2011 and 2013 federal budgets. For Spain, the cyclically adjusted balance includes financial sector support.
[2] Cyclical adjustments to revenue and expenditure assume elasticities of 1 and 0, respectively.
[3] Required adjustment of structural primary balance to achieve structural balance targets. Structural balance targets are country specific and based on medium-term budgetary objectives.
[4] Gross general government debt, except in the cases of Australia, Canada, Japan, and New Zealand, for which net debt ratios are used. Shocks are based on the distribution of revisions to the five-year-ahead potential GDP growth between the November 2010 *World Economic Outlook* and the April 2013 *World Economic Outlook*.

Table 2. General Government Debt, 2008–14

(Percent of GDP)

						Projections		Difference from April 2013 *Fiscal Monitor*		
	2008	2009	2010	2011	2012	2013	2014	2012	2013	2014
Gross debt										
World	65.2	75.1	78.9	79.4	80.8	79.7	79.6	–0.6	–1.8	–1.0
Advanced economies	80.4	93.7	100.3	104.4	108.7	108.5	109.2	–1.4	–0.7	–0.5
United States[1]	73.3	86.3	95.2	99.4	102.7	106.0	107.3	–3.8	–2.1	–1.8
Euro area	70.3	80.1	85.7	88.2	93.0	95.7	96.1	0.1	0.7	0.8
France	68.2	79.2	82.4	85.8	90.2	93.5	94.8	–0.1	0.7	0.7
Germany	66.8	74.5	82.4	80.4	81.9	80.4	78.1	–0.1	0.0	–0.2
Greece	112.9	129.7	148.3	170.3	156.9	175.7	174.0	–1.7	–3.7	–1.6
Ireland	44.2	64.4	91.2	104.1	117.4	123.3	121.0	0.3	1.3	0.7
Italy	106.1	116.4	119.3	120.8	127.0	132.3	133.1	0.0	1.6	2.3
Portugal	71.7	83.7	94.0	108.4	123.8	123.6	125.3	0.8	1.3	1.6
Spain	40.2	54.0	61.7	70.4	85.9	93.7	99.1	1.8	1.9	1.5
Japan	191.8	210.2	216.0	230.3	238.0	243.5	242.3	0.1	–1.8	–2.3
United Kingdom	51.9	67.1	78.5	84.3	88.8	92.1	95.3	–1.5	–1.5	–1.8
Canada	71.3	81.3	83.1	83.5	85.3	87.1	85.6	–0.4	0.0	1.0
Emerging market economies	33.5	36.0	40.3	37.8	36.5	35.3	34.1	1.4	1.5	1.4
Asia	31.3	31.5	40.8	36.7	34.5	32.0	30.1	2.3	1.5	1.2
China[2]	17.0	17.7	33.5	28.7	26.1	22.9	20.9	3.3	1.6	0.9
India[3]	74.5	72.5	67.0	66.4	66.7	67.2	68.1	–0.1	0.8	1.4
Europe	23.6	29.5	29.1	27.7	26.9	28.1	27.5	0.9	2.0	0.8
Russia	7.9	11.0	11.0	11.7	12.5	14.1	14.6	1.6	3.7	2.8
Turkey	40.0	46.1	42.3	39.1	36.2	36.0	34.9	–0.2	0.5	–0.5
Latin America	50.4	53.2	51.7	51.5	52.0	51.5	51.6	0.1	1.4	2.5
Brazil[4]	63.5	66.8	65.0	64.7	68.0	68.3	69.0	–0.4	1.1	3.1
Mexico	42.9	43.9	42.4	43.6	43.5	44.0	45.8	0.0	0.5	2.0
Middle East and North Africa	62.3	64.9	66.8	70.1	75.5	81.8	83.8	0.5	3.0	6.5
South Africa	27.8	31.3	35.8	39.6	42.3	43.0	44.7	0.0	0.3	1.0
Low-income countries	39.9	42.7	41.8	40.8	41.9	41.4	42.2	–0.9	–1.0	0.3
Oil producers	22.1	24.9	24.3	22.2	22.0	23.5	24.2	–0.2	0.6	0.9
Net debt										
World	36.5	43.8	45.6	47.4	48.7	48.9	49.3	–1.0	–0.5	–0.3
Advanced economies	51.4	61.7	66.7	71.9	76.0	77.5	78.7	–1.7	–1.0	–0.9
United States[1]	52.4	64.6	72.8	79.9	84.1	87.4	88.3	–3.8	–1.7	–1.3
Euro area	54.1	62.4	65.6	68.2	72.2	74.9	75.6	0.3	1.0	1.1
France	62.3	72.0	76.1	78.6	84.0	87.2	88.5	–0.1	0.7	0.7
Germany	50.1	56.7	56.2	55.3	57.4	56.3	54.6	0.1	0.0	–0.2
Greece	112.4	129.3	147.4	168.0	154.8	172.6	172.6	–15.9	–9.3	–7.6
Ireland	21.2	38.6	70.4	85.1	92.8	105.5	107.9	–9.5	–0.6	0.3
Italy	89.3	97.9	100.0	102.6	106.1	110.5	111.2	2.9	4.7	5.2
Portugal	67.5	79.7	89.6	97.9	112.4	117.5	119.3	0.8	2.5	2.8
Spain	30.8	42.5	50.1	58.6	73.5	80.8	85.8	1.6	1.6	1.1
Japan	95.3	106.2	113.1	127.4	133.5	139.9	141.8	–0.9	–3.5	–4.9
United Kingdom	48.0	62.4	72.2	76.8	81.6	84.8	88.0	–1.2	–1.3	–1.6
Canada	22.4	27.6	29.7	32.4	34.7	36.5	38.0	0.1	0.6	1.3
Emerging market economies	23.0	27.9	28.0	26.6	24.7	24.4	23.7	0.1	0.9	1.2
Asia	…	…	…	…	…	…	…	…	…	…
Europe	21.9	27.8	28.9	27.8	25.8	26.0	23.6	0.2	1.6	–0.5
Latin America	31.1	34.7	33.8	32.3	31.0	30.6	31.2	0.1	0.6	1.9
Middle East and North Africa	52.9	55.2	57.6	61.6	67.4	74.6	77.4	0.5	2.9	6.3
Low-income countries	29.5	34.2	35.7	34.3	36.9	37.1	38.2	0.0	0.1	0.7

Source: IMF staff estimates and projections.

Note: All fiscal data country averages are weighted by nominal GDP converted to U.S. dollars at average market exchange rates in the years indicated and based on data availability. Projections are based on IMF staff assessments of current policies.

[1] U.S. data are subject to change pending completion of the release of the Bureau of Economic Analysis's Comprehensive Revision of the National Income and Product Accounts (NIPA).

[2] Up to 2009, public debt data include only central government debt as reported by the Ministry of Finance. For 2010, debt data include subnational debt identified in the 2011 *National Audit Report*. Information on new debt issuance by the local governments and some government agencies in 2011 and 2012 is not yet available, hence debt data reflect only amortization plans as specified in the 2011 *National Audit Report*. Public debt projections assume that about 60 percent of subnational debt will be amortized by 2014, 16 percent over 2015–16, and 24 percent beyond 2017, with no issuance of new debt or rollover of existing debt. For more details, see Box 4 in the April 2013 *Fiscal Monitor*.

[3] Starting in July 2013, India's data and forecasts are presented on a fiscal year basis.

[4] Gross debt refers to the nonfinancial public sector, excluding Eletrobras and Petrobras, and includes sovereign debt held on the balance sheet of the central bank.

There are two possible approaches to assessing the effort this would require. The first is to focus on the attainment of a certain debt-to-GDP ratio by a certain date, raising the primary balance to the level needed to attain the goal. Previous issues of the *Fiscal Monitor* have shown illustrative scenarios linked to specific debt targets (see Statistical Table 13a for an update of the scenarios targeting the attainment of a 60 percent debt target by 2030).[5]

Alternatively, the focus could be on attaining some given fiscal balance that would lead to a decline of the debt ratio over time. Focusing on the overall fiscal balance rather than a specific long-term debt objective has political and economic appeal. It can usefully focus the attention of policymakers. Once a certain fiscal balance has been achieved, the pace of decline in the debt ratio reflects the growth rate of nominal GDP, so this approach embodies an element of cyclicality, as the debt ratio drops faster during periods of faster growth. The stabilization dimension is enhanced if the target is defined in cyclically adjusted terms. A recent study of the relation between debt and growth concludes that once the debt ratio is on a steady downward path, the impact of high debt on growth loses statistical significance (Pescatori, Sandri, and Simon, 2013).

Simulations of advanced economies' debt paths under existing medium-term plans or, in their absence, gradual achievement of a structural budget balance consistent with the IMF staff's medium-term advice illustrate that point.[6] The average debt ratio would decline to about 70 percent of GDP by 2030 (Figure 2, Statistical Table 13b). By then, 7 countries would still have debt above 60 percent of GDP, but only in 2 would it be more than 80 percent. These results are, of course, sensitive to assumptions about nominal GDP growth. For example, if medium-term growth were lower by 1 percentage point (in line with the 75th percentile of the distribution of potential growth revisions in the aftermath of the crisis), the average debt ratio would be about 11 percentage points higher, and greater than 80 percent of GDP in 5 countries.

These simulations imply, on average, a structural primary adjustment of about 3¾ percent of GDP between 2013 and 2020, and the maintenance of a primary surplus of 2¾ percent of GDP on average over the subsequent 10-year period. Box 1 compares this effort with the historical evidence and concludes that for most countries, achieving the medium-term target would not require an adjustment effort well above the historical record. However, a few countries would have to undertake efforts close to or above the median of the top historical performers. Maintaining that target over time would be much more demanding—it would require above-median effort for 9 countries.

[5] The April 2013 *Fiscal Monitor* discusses these scenarios as well as underlying assumptions in detail.

[6] Depending on, among other factors, the starting debt level, the resulting structural balance targets vary between a 1 percent surplus and a 3 percent deficit. It is assumed that countries attain their medium-term structural targets no later than 2020 and maintain that level thereafter.

In emerging market economies and low-income countries, fiscal buffers have become thinner and vulnerabilities are on the rise

In the face of worsening cyclical conditions, many emerging market economies are postponing consolidation. The headline overall balance for this group is expected to continue deteriorating in 2013 and broadly stabilize in 2014, albeit in many cases at still relatively contained levels.

- In *Turkey*, the overall deficit is set to widen to 2¼ percent of GDP in 2013, with real expenditure growing close to 9 percent. The deficit is projected to remain unchanged in 2014, as consolidation is unlikely to take place ahead of next year's elections.
- In *Russia*, weaker oil prices are expected to push the headline balance back into deficit. Although the country's new oil-based fiscal rule is holding, spending pressures are emerging (through, for example, loan guarantees). From 2014 onward, the deficit is expected to widen further, reflecting the impact of declining oil revenues and expenditure floors.
- In *China*, the fiscal stance is expected to be mildly expansionary owing to targeted support to small and exporting companies. Headline deficits are expected to improve gradually over time. Fiscal space, however, is considerably more limited than headline data suggest once quasi-fiscal operations are taken into account (see Box 4 of the April 2013 *Fiscal Monitor*). Expanding the definition of government to include local-government financing vehicles and off-budget funds results in an estimated "augmented" fiscal deficit of 10 percent of GDP and "augmented" debt of nearly 50 percent of GDP in 2012 (IMF, 2013b). These figures remain tentative. The Chinese authorities have launched an in-depth audit of the fiscal position of local governments, a key step to better understanding fiscal conditions.
- In *Brazil*, the headline deficit would remain close to 3 percent of GDP in 2013, as the authorities have

lowered their primary surplus objective and revenue collection remains weak, reflecting a sluggish recovery and the extension of revenue measures. In 2014, the fiscal stance is expected to remain neutral. Quasi-fiscal operations in the form of policy lending are expected to moderate and remain below 1 percent of GDP through 2015.

- In *South Africa*, fiscal tightening has been postponed to buoy economic activity. The deficit will remain at 5 percent of GDP in 2013–14, with debt having increased some 15 percentage points since the crisis began.
- In *India,* consolidation has become more challenging. The deficit is expected to increase to 8½ percent of GDP in FY2013/14, largely because of the downward revision in GDP growth, the rupee depreciation, and higher global oil prices. Although greater tax compliance and ongoing fuel subsidy reforms are expected to reduce the structural primary deficit, any major reform effort will likely be postponed until after the 2014 general elections.
- Most *Arab countries in transition* (ACTs) are faced with the challenging task of consolidating their fiscal accounts in a difficult sociopolitical and external environment. Many have begun to address the problem of large untargeted energy subsidies. Nonetheless, deficits in these countries are still expected to rise or remain substantial, ranging from 5½ percent of GDP in Morocco to about 13 percent of GDP in Egypt this year. Debt is expected to increase, in some cases to more than 80 percent of GDP in 2013 (Box 2). Except in the case of Yemen, the fiscal position is expected to improve in ACTs from 2014 onward.

Altogether, the simple average of the debt ratio for emerging market economies is projected to increase in 2013–14, albeit at a moderate pace. Many countries (for example, Egypt, Morocco, Poland, and Ukraine) have seen fiscal vulnerabilities increase. This is evidenced by a shrinking or even negative fiscal space—as measured by the primary balance gap[7]—as downward revisions to potential growth and rapidly increasing primary spending have pushed structural deficits above previous estimates (Figure 3). Quasi-fiscal activities add to vulnerabilities, as much of the increase in the stock of debt since the beginning of the crisis is explained by transactions below the line.[8]

In low-income countries, fiscal deficits are also expected to continue to widen in 2013 and broadly stabilize in 2014 at more than 1½ percentage points above precrisis levels. The fiscal position is projected to improve in only a few oil importers in 2013, mostly owing to temporary factors, but to deteriorate or remain unchanged in most others, largely driven by spending pressures.

- In *Burkina Faso*, the deficit will be reduced to 2¼ percent of GDP in 2013 thanks to a rebound in agricultural production and strong gold exports. In *Uganda,* the overall balance is set to improve because of expected one-off tax revenues and delays in a large infrastructure project; excluding these one-off factors, the fiscal stance remains broadly unchanged. Other oil importers will, however, not register much of an improvement.
- Weak oil production is projected to weigh on the performance of most oil exporters (for example, *Chad* and the *Republic of Congo*), with only a few countries containing the deficits, thanks to efforts to raise non-oil revenue (*Sudan*) or control subsidies and the wage bill (*Ghana*).
- Deficits in fragile states are projected to remain large because of high infrastructure, social spending, or both (*Côte d'Ivoire*) or weak revenues (*Haiti* and *Myanmar*).

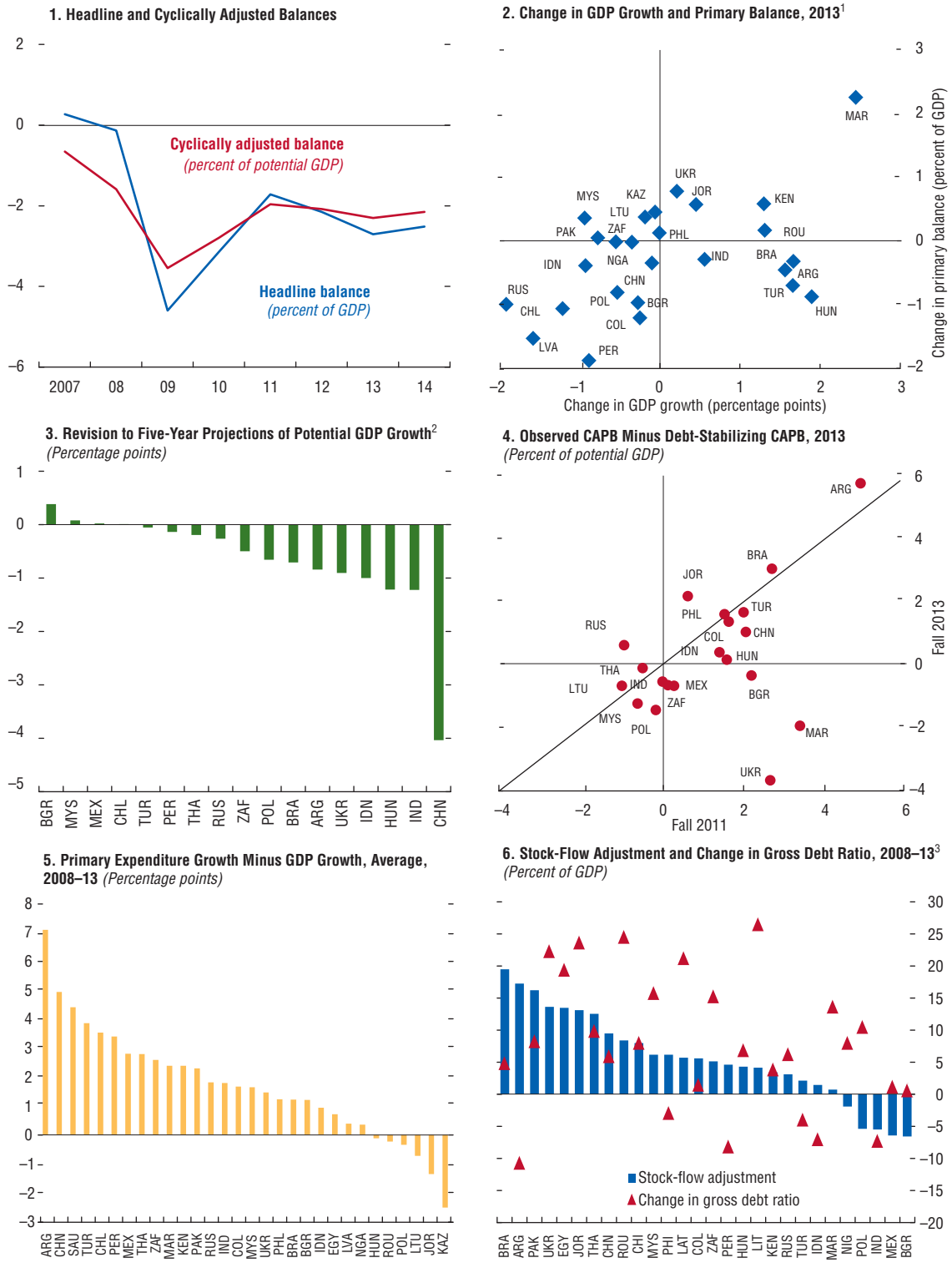
As in emerging market economies, fiscal space has declined in low-income countries. Spending has often outpaced output growth since the onset of the crisis. Even when these outlays respond to pressing developmental needs—for example, in infrastructure and health and education—there are concerns that their quality still lags behind (Figure 4).

In addition, spending growth has not always been matched by revenue mobilization efforts, an imbalance that declining commodity prices and aid shortfalls may exacerbate in coming years. With oil prices expected to decline by close to 20 percent over the next five years, oil exporters would need to adjust spending by 2 percent of GDP (assuming an elasticity of revenues to oil prices of 1), unless alternative sources of revenues are found. Also, aid data from donors indicate that disbursements may decline in many countries over 2014–15, in some cases by a large amount (Figure 5). Simple simulations suggest that a 10 percent cut in bilateral

[7] The primary balance gap is defined as the difference between the actual primary balance and the primary balance required to stabilize the debt at current levels, taking 2013 as the year of reference.

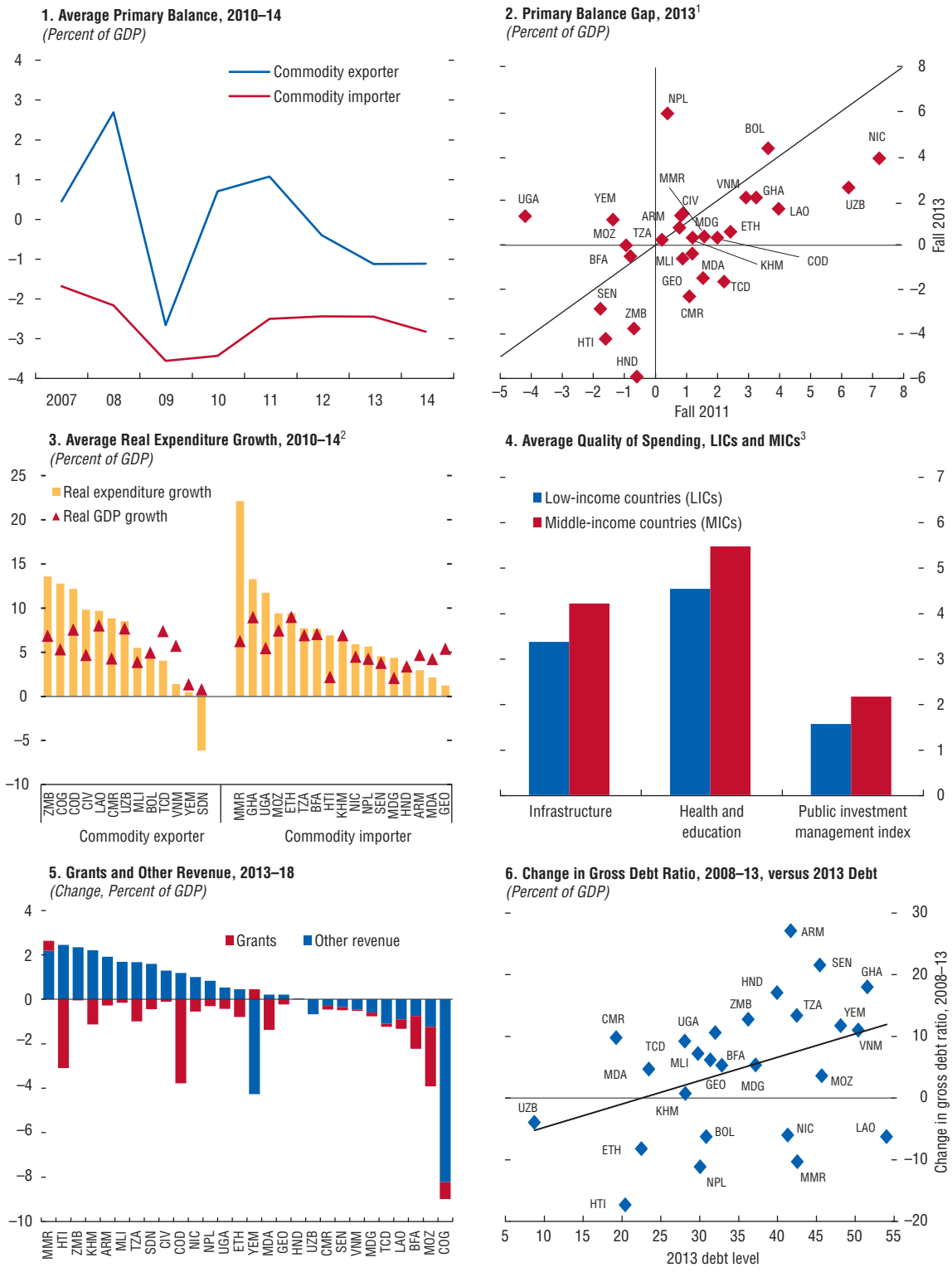
[8] For example, in Brazil policy lending to public financial institutions amounted to 8 percent of GDP from 2008 to 2012. In China, local-government financing vehicles and off-budget funds are estimated to account for about 19 percent of GDP.

Figure 3. Fiscal Trends in Emerging Market Economies



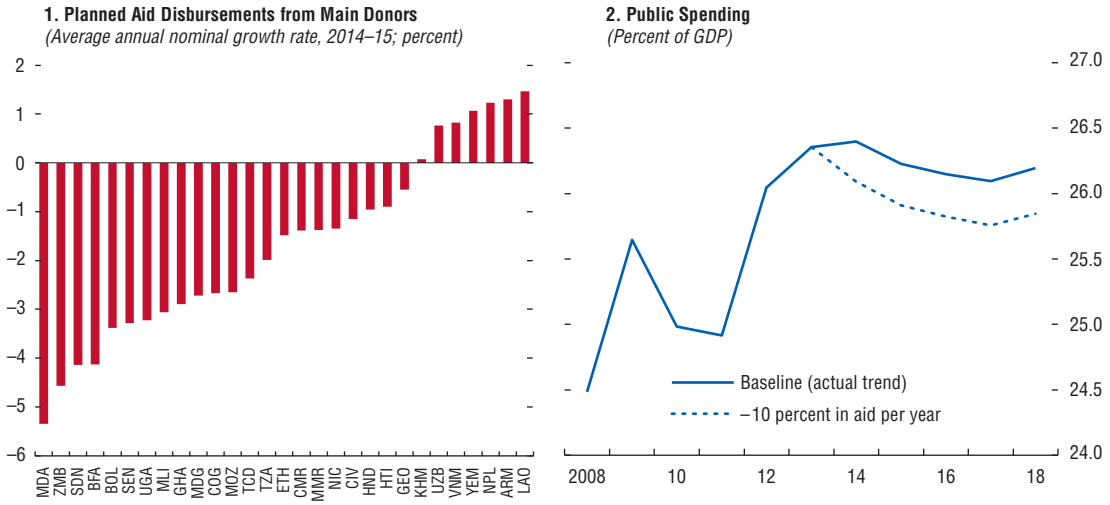
Source: IMF staff estimates and projections.
Note: CAPB = cyclically adjusted primary balance.
[1] Change relative to 2012.
[2] Differences between October 2013 and September 2011 projections.
[3] For a definition of *stock-flow adjustment,* see the Glossary. For Brazil, gross debt refers to the nonfinancial public sector, excluding Eletrobras and Petrobras, and includes sovereign debt held on the balance sheet of the central bank.

Figure 4. Fiscal Trends in Low-Income Countries



Sources: Organisation for Economic Co-operation and Development; Schwab (2012); and IMF staff estimates and projections.
[1] Primary balance gap is defined as primary balance less debt-stabilizing primary balance.
[2] Real expenditure growth is calculated using nominal expenditure deflated by the GDP deflator.
[3] Unweighted average. Higher scores indicate better quality.

Figure 5. Public Spending and Aid Contraction Scenario in Low-Income Countries, 2008–18



Sources: IMF staff calculations based on Organisation for Economic Co-operation and Development data on actual and planned country programmable aid disbursements in countries eligible for support under the Poverty Reduction and Growth Trust (2013–15).
Note: Pass-through is set to 0.8 for full contraction of spending and in line with the proportion of grants in official assistance.

aid would lead to a reduction in spending of about ½ percent of GDP on average, without a compensating increase in domestic sources of revenue.[9] Countries with high aid dependency (such as Burkina Faso, Haiti, Mali, Mozambique, and Tanzania) would have to scale down spending by more than 1 percent of GDP.

Fiscal sustainability risks remain high in advanced economies and are rising in emerging market economies

Notwithstanding progress on fiscal consolidation, underlying fiscal vulnerabilities remain elevated in many advanced economies, reflecting persistently high debt, increasing uncertainty about the growth and interest rate environment, and failure to address long-term spending pressures (Tables 3 and 4). Fiscal vulnerabilities are also increasing in emerging market economies (Figure 6)—although from a lower level—as higher spreads and weaker growth prospects push negative interest rate–growth differentials closer to zero. Resource-rich economies that used revenue windfalls to fund large spending increases in recent years face particular challenges, as commodity prices (including oil and metals) have fallen and are expected to remain depressed (see the October 2013 *World Economic Outlook*), pushing these countries closer to a deficit position.[10] Gross financing needs in advanced economies, although still large, have stabilized at about 22½ percent of GDP (Table 5). They are set to rise in emerging market economies in 2013–14 relative to previous projections, mainly driven by higher levels of maturing debt. They are particularly large (exceeding 20 percent of GDP) in Egypt, Jordan, Hungary, and Pakistan, reflecting short maturities and high deficits (Table 6).

Age-related spending remains a key source of medium-term vulnerability, with projected growth of more than 4 percent of GDP in advanced economies and 3¼ percent of GDP in emerging market economies through 2030. The growth of public health spending has slowed across the board in advanced economies over the past three years, but econometric analysis suggests this is due more to deteriorating macroeconomic and fiscal conditions than to structural improvements in the efficiency of health care systems (Appendix 1). Nonetheless, in those economies in which the economic downturn and fiscal pressures have been more pronounced, health care spending growth is likely to remain significantly below precrisis rates for some time to come.

[9] This assumes a full pass-through of the cuts for the share of aid provided as grants (about 80 percent). For a discussion of possible domestic offsets to the scaling down of aid, see Section 2.

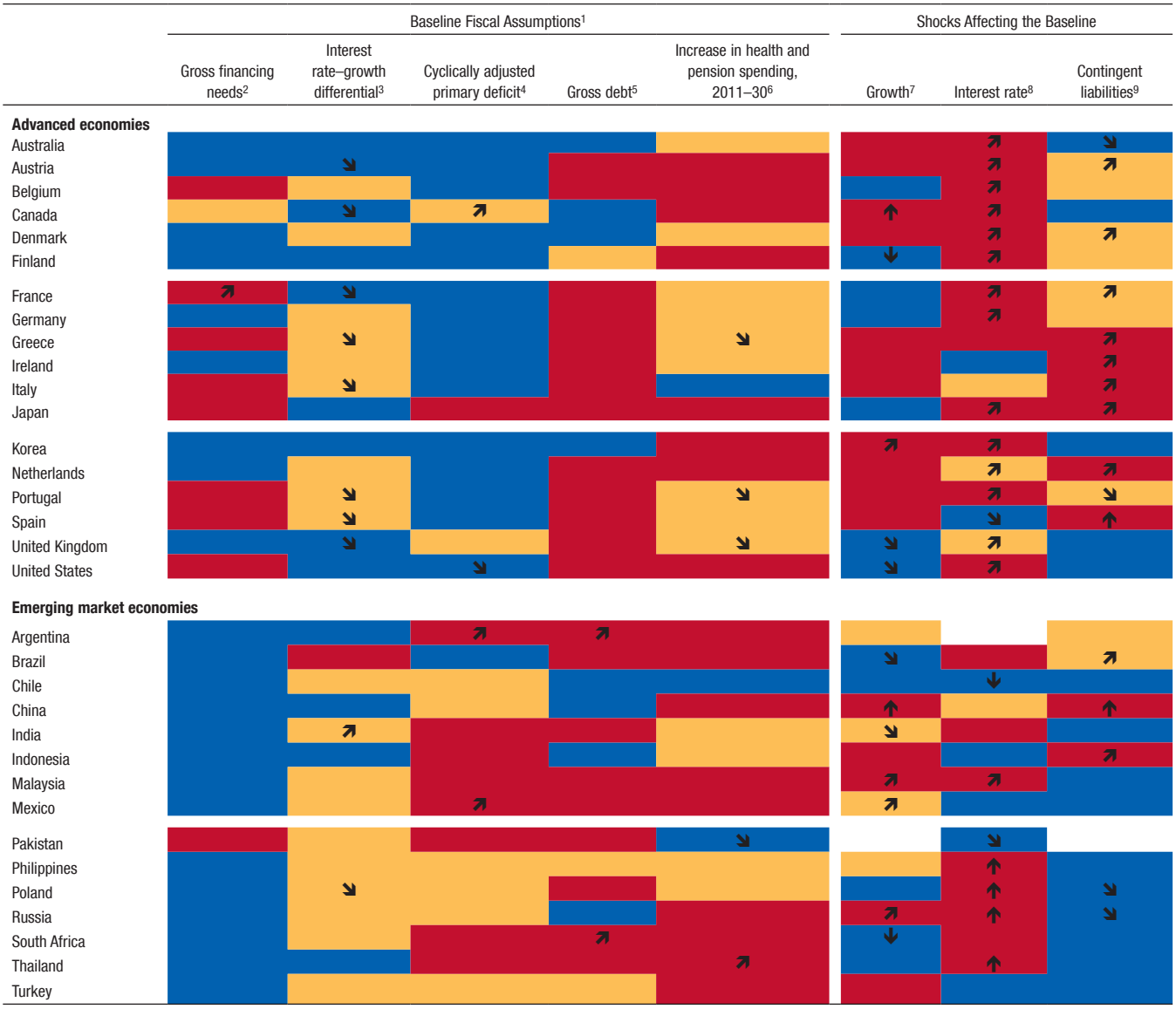
[10] Estimates based on a sample of nine emerging market economies representing a cross-section of commodity exporters suggest that a 10 percentage point across-the-board fall in commodity prices would lead to a decline of more than 1 percent of GDP in budget revenues annually (see the April 2011 *Fiscal Monitor*).

Table 3. Assessment of Underlying Fiscal Vulnerabilities over Time

Sources: Bloomberg L.P.; Consensus Economics; Thomson Reuters Datastream; Haver Analytics; and IMF staff estimates and projections.

Note: To allow for cross-country comparability, a uniform methodology is used to assess vulnerability. In-depth assessment of individual countries would require case-by-case analysis using a broader set of tools. As country-specific factors are not taken into account in the cross-country analysis, the results should be interpreted with caution. Based on fiscal vulnerability indicators presented in Table 4, red (yellow, blue) implies high (medium, moderate) levels of fiscal vulnerability. A revision of the methodology used to estimate the composite fiscal vulnerability indicator was introduced in April 2013, with a reduction in the weight assigned to shocks and a matching increase in the weight assigned to underlying fiscal vulnerabilities.

Table 4. Assessment of Underlying Fiscal Vulnerabilities, October 2013



Sources: Bloomberg L.P.; Consensus Economics; Thomson Reuters Datastream; Haver Analytics; and IMF staff estimates and projections.

Note: To allow for cross-country comparability, a uniform methodology is used for each vulnerability indicator. In-depth assessment of individual countries would require case-by-case analysis using a broader set of tools. As country-specific factors are not taken into account in the cross-country analysis, the results should be interpreted with caution. Fiscal data correspond to IMF staff forecasts for 2013 for the general government. Market data used for the *Growth, Interest rate,* and *Contingent liabilities* indicators are as of August 2013. A blank cell indicates that data are not available. Directional arrows indicate that, compared with the previous issue of the *Fiscal Monitor,* vulnerability signaled by each indicator is higher (↑), moderately higher (↗), moderately lower (↘), or lower (↓). No arrow indicates no change compared with the previous issue of the *Fiscal Monitor.*

[1] Red (yellow, blue) implies that the indicator is above (less than one standard deviation below, more than one standard deviation below) the corresponding threshold. Thresholds are from Baldacci, McHugh, and Petrova (2011) for all indicators except the increase in health and pension spending, which is benchmarked against the corresponding country group average.

[2] For advanced economies, gross financing needs above 17.3 percent of GDP are shown in red, those between 15.6 and 17.3 percent of GDP are shown in yellow, and those below 15.6 percent of GDP are shown in blue. For emerging market economies, gross financing needs above 20.6 percent of GDP are shown in red, those between 20 and 20.6 percent of GDP are shown in yellow, and those below 20 percent of GDP are shown in blue.

[3] For advanced economies, interest rate–growth differentials above 3.6 percent are shown in red, those between 0.3 and 3.6 percent are shown in yellow, and those below 0.3 percent are shown in blue. For emerging market economies, interest rate–growth differentials above 1.1 percent of GDP are shown in red, those between –4.2 and 1.1 percent of GDP are shown in yellow, and those below –4.2 percent of GDP are shown in blue.

[4] For advanced economies, cyclically adjusted deficits above 4.2 percent of GDP are shown in red, those between 1.7 and 4.2 percent of GDP are shown in yellow, and those below 1.7 percent of GDP are shown in blue. For emerging market economies, cyclically adjusted deficits above 0.5 percent of GDP are shown in red, those between –1.6 and 0.5 percent of GDP are shown in yellow, and those below –1.6 percent of GDP are shown in blue.

[5] For advanced economies, gross debt above 72.2 percent of GDP is shown in red, that between 56.1 and 72.2 percent of GDP is shown in yellow, and that below 56.1 percent of GDP is shown in blue. For emerging market economies, gross debt above 42.8 percent of GDP is shown in red, that between 29.3 and 42.8 percent of GDP is shown in yellow, and that below 29.3 percent of GDP is shown in blue.

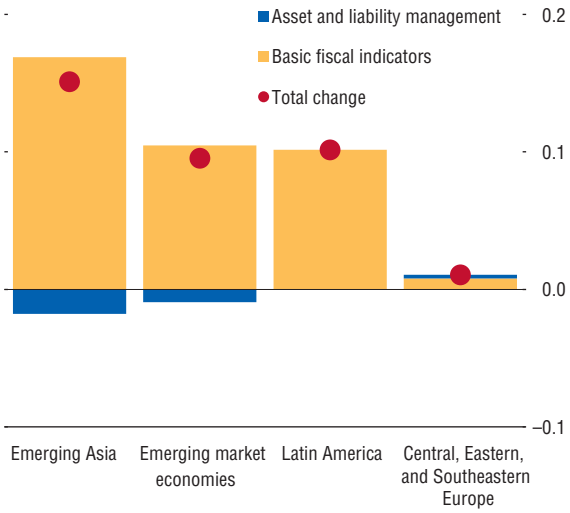
[6] For advanced economies, increases in spending above 3 percent of GDP are shown in red, those between 0.6 and 3 percent of GDP are shown in yellow, and those below 0.6 percent of GDP are shown in blue. For emerging market economies, increases in spending above 2 percent of GDP are shown in red, those between 0.3 and 2 percent of GDP are shown in yellow, and those below 0.3 percent of GDP are shown in blue.

[7] Risk to real GDP growth is measured as the ratio of the downside risk to the upside risk to growth, based on one-year-ahead real GDP growth forecasts by market analysts included in the Consensus Forecast. It is calculated as the standard deviation of market analysts' growth forecasts below the Consensus Forecast mean (downside risk, or DR), divided by the standard deviation of market analysts' growth forecasts above the Consensus Forecast mean (upside risk, or UR). This ratio is then averaged over the most recent three months. Cells are shown in red if downside risk is 25 percent or more higher than upside risk (DR/UR >= 1.25), in yellow if downside risk is less than 25 percent higher than upside risk (1 < DR/UR < 1.25), and in blue if downside risk is lower than or equal to upside risk (DR/UR <= 1).

[8] Risks to the financing cost underpinning the fiscal projection are measured as the difference between the current 10-year sovereign bond yield and the long-term bond yield (LTBY) assumption included in the *Fiscal Monitor* projections. Cells are shown in red if the current bond yield is above or equal to the LTBY, in yellow if the current bond yield is 100 basis points or less below the LTBY, and in blue if the current bond yield is more than 100 basis points below the LTBY.

[9] Fiscal contingent liabilities are proxied by banking sector uncertainty, measured as the conditional volatility of monthly bank stock returns, using an exponential generalized autoregressive conditional heteroskedastic (EGARCH) model which allows asymmetric volatility changes to positive versus negative shocks in stock returns. The rationale is as follows: bank stock returns capture market expectations of banks' future profitability and therefore—indirectly—banks' ability to maintain required capital. Higher volatility of bank returns can create uncertainty with respect to banks' ability to safeguard capital (see Sankaran, Saxena, and Erickson, 2011), increasing the probability that banks will need to be recapitalized, thereby resulting in contingent liabilities for the sovereign. Cells are shown in red if current volatility is more than two standard deviations above the historical average for January 2000–December 2007, in yellow if it is above the historical average by up to two standard deviations, and in blue if it is below or equal to the historical average.

Figure 6. Change in Fiscal Vulnerability Index, Fall 2013 Compared with Spring 2013



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

Various factors contribute to increasing fiscal risks:

- *Interest rate risks* have increased, particularly in emerging market economies, in some of which uncertainty about the tapering off of U.S. monetary stimulus has contributed to higher bond fund outflows, raising the specter of sudden capital flow reversals. A simulated stress scenario suggests that 10-year bond yields could rise significantly—a jump of more than 150 basis points in countries where nonresident holdings of local-government debt are substantial, such as Indonesia, South Africa, and Turkey, if such risks were to materialize.[11] In the event, gross financing needs could increase sharply, particularly for those countries with short maturities and where the domestic investor base would be unwilling or unable to increase their holdings of government bonds to buffer against volatility (see the October 2013 *Global Financial Stability Report*). Interest rate risk has also gone up in the euro area in the face of renewed financial volatility.
- *Downside risks to growth* remain elevated in the euro area as fragmented financial markets, the need to repair private sector balance sheets, and uncertainty about policies could lead to a protracted period of stagnation. In some emerging market economies, the slow pace of structural reform is dragging down potential output growth—notably Brazil, India, and South Africa (October 2013 *World Economic Outlook*)—and weakening fiscal positions, particularly in cases in which debt levels are already high. Indeed, a 1 percentage point decline in growth in emerging market economies would result in a 0.3 percent of GDP deterioration in their fiscal balances on average.
- *Contingent liabilities* stemming from the banking sector, sometimes related to the expansion of public banks' balance sheets (e.g., in Brazil and India), are rising in several emerging market economies that experienced buoyant credit growth in recent years.[12] In some cases, nonfinancial state-owned enterprises are also a source of vulnerability (for example, in China and South Africa). In the euro area, the cleanup of banks is ongoing (Table 7) but strains are reemerging—for example, in Belgium and the Netherlands.

Strengthening fiscal balances and restoring confidence remain key policy priorities, although the degree of urgency differs across countries

In *advanced economies,* the challenge remains to advance fiscal consolidation at a pace that does not undermine the recovery and with tools that help raise potential growth.

- Consolidation should continue based on medium-term fiscal adjustment plans defined in cyclically adjusted terms, leaving room for automatic stabilizers to cushion unexpected shocks, if financing allows. The speed of adjustment should be consistent with the economic environment—so as not to unduly thwart the recovery—but also with debt levels and financing conditions. Deviations relative to these plans should be considered only if economic conditions deteriorate significantly relative to what is anticipated. Lower-than-expected growth has indeed led most countries to reset the pace of adjustment—in headline terms and often also in cyclical terms. However, the United States is adjusting too fast

[11] The scenario assumes that foreign holdings of local-currency government debt fall by 30 percent, U.S. Treasury note yield increases by 100 basis points, and the Chicago Board Options Exchange Market Volatility Index (VIX) is up by 10 percentage points. For more details, see the October 2013 *Global Financial Stability Report.*

[12] Data on guarantees and other contingent liabilities for emerging market economies are scant. For a discussion on the contingent liabilities in India and China, see the April 2013 *Fiscal Monitor.*

Table 5. Selected Advanced Economies: Gross Financing Needs, 2013–15
(Percent of GDP)

	2013			2014			2015		
	Maturing debt	Budget deficit	Total financing need	Maturing debt[1]	Budget deficit	Total financing need	Maturing debt[1]	Budget deficit	Total financing need
Japan	48.9	9.5	58.4	51.3	6.8	58.1	48.5	5.7	54.2
Italy	25.2	3.2	28.4	26.1	2.1	28.1	26.5	1.8	28.3
United States	18.1	5.8	23.9	19.6	4.6	24.3	19.1	3.9	23.0
Portugal[2]	17.8	5.5	23.3	18.1	4.0	22.1	18.0	2.5	20.5
Greece	17.0	4.1	21.1	21.8	3.3	25.1	16.5	2.1	18.6
Spain	13.5	6.7	20.2	14.8	5.8	20.6	15.7	5.0	20.7
Belgium	15.8	2.8	18.7	16.3	2.5	18.8	16.1	1.5	17.6
France	13.4	4.0	17.4	14.2	3.5	17.7	15.6	2.8	18.4
Canada	13.2	3.4	16.6	14.5	2.9	17.3	15.7	2.3	18.1
Ireland[3]	5.6	6.7	12.4	5.3	5.6	10.9	3.9	3.4	7.2
United Kingdom	5.9	6.1	12.1	6.4	5.8	12.2	8.2	4.9	13.1
Slovenia	5.0	7.0	12.0	5.7	3.8	9.5	9.3	3.9	13.2
Netherlands	8.6	3.0	11.6	9.1	3.2	12.3	12.3	4.8	17.0
Czech Republic	8.4	2.9	11.3	9.0	2.9	11.8	9.9	2.6	12.5
Slovak Republic	8.0	3.0	11.0	6.2	3.8	10.0	6.1	3.2	9.3
Iceland	6.7	2.7	9.4	7.0	1.8	8.8	1.6	1.3	2.9
Denmark	7.4	1.7	9.1	7.7	2.0	9.7	8.8	2.9	11.7
New Zealand	7.7	1.3	9.0	8.0	0.4	8.5	7.5	–0.2	7.3
Austria	6.3	2.6	9.0	6.6	2.4	9.0	6.0	1.9	7.9
Finland	6.0	2.8	8.8	6.3	2.1	8.4	6.8	1.6	8.4
Germany	7.9	0.4	8.3	7.9	0.1	8.1	5.5	0.0	5.5
Australia	3.1	3.1	6.2	3.6	2.3	5.9	4.1	0.8	4.9
Sweden	3.5	1.4	4.9	3.7	1.5	5.2	6.7	0.5	7.2
Switzerland	3.5	–0.2	3.3	3.5	–0.5	3.0	2.9	–0.7	2.3
Korea	3.1	–1.4	1.7	3.1	–1.7	1.5	3.1	–1.9	1.2
Norway	4.3	–12.4	–8.1	4.3	–11.6	–7.3	4.0	–10.2	–6.2
Average	17.6	4.6	22.3	18.8	3.7	22.5	18.4	3.0	21.4

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

Note: For most countries, data on maturing debt refer to central government securities. For some countries, general government deficits are reported on an accrual basis (see Table SA.1).

[1] Assumes that short-term debt outstanding in 2013 and 2014 will be refinanced with new short-term debt that will mature in 2014 and 2015, respectively. Countries that are projected to have budget deficits in 2013 or 2014 are assumed to issue new debt based on the maturity structure of debt outstanding at the end of 2012.

[2] Maturing debt is expressed on a nonconsolidated basis.

[3] Ireland's cash deficit includes exchequer deficit and other government cash needs and may differ from official numbers because of a different treatment of short-term debt in the forecast.

given the incipient recovery, relying on a crude tool, the sequester, with potentially undesirable effects on the composition of spending and long-term growth. A slower pace of fiscal adjustment could also be considered in some European countries, given substantial negative output gaps.

- In higher-debt countries, notably Japan and the United States, well-specified medium-term plans are urgently needed to put debt ratios firmly on a downward trajectory (and in Japan, to buttress the government's ambitious macroeconomic strategy). In the United States, in addition to entitlement reform, a fundamental tax reform aimed at simplifying the tax code and broadening the base by reducing exemptions and deductions, as well as at higher taxation of fossil fuels, could provide new revenue. In Japan, revenue efforts (notably the increase in the consumption tax to a final uniform level higher than currently envisaged) should be complemented with growth-friendly spending constraints, especially for social security. Overall, strengthening fiscal frameworks with medium-term rules to curb expenditure, tighter budget procedures, and greater independent oversight of the budget are critical to cement hard-won gains.
- In all countries, efforts should be stepped up to ensure that the composition of adjustment is more supportive of long-term growth—a critical factor for lowering debt ratios. In addition to accelerating structural reforms of labor and product markets, this would require changing the consolidation mix gradually toward tax and spending instruments that are less inimical to growth than is currently the case, while ensuring that equity goals are respected. With

Table 6. Selected Emerging Market Economies: Gross Financing Needs, 2013–14

(Percent of GDP)

	2013			2014		
	Maturing debt	Budget deficit	Total financing need	Maturing debt	Budget deficit	Total financing need
Egypt	28.1	14.7	42.8	26.7	13.2	39.9
Pakistan	25.5	8.5	34.0	29.9	5.5	35.4
Jordan	17.3	9.1	26.4	18.3	8.0	26.3
Hungary	18.1	2.7	20.8	17.3	2.8	20.1
Brazil	15.7	3.0	18.7	15.9	3.2	19.1
Morocco	9.7	5.5	15.2	9.9	4.8	14.7
South Africa	7.5	4.9	12.4	7.5	4.7	12.2
India	3.8	8.5	12.2	3.7	8.5	12.2
Mexico	7.9	3.8	11.7	7.7	4.1	11.8
Ukraine	7.4	4.3	11.7	5.2	5.1	10.3
Romania	8.6	2.3	10.9	8.4	2.0	10.4
Malaysia	6.1	4.3	10.4	5.9	4.4	10.3
Poland	5.5	4.6	10.1	5.9	3.4	9.3
Argentina[1, 2]	7.8	2.0	9.8	8.2	2.7	10.9
Turkey	7.2	2.3	9.5	8.7	2.3	11.0
Lithuania	5.5	2.9	8.4	4.0	2.7	6.7
Thailand	5.5	2.7	8.2	5.9	3.2	9.1
China[2]	5.3	2.5	7.8	4.2	2.1	6.3
Philippines	6.8	0.8	7.6	7.0	0.8	7.9
Colombia	3.9	1.0	4.9	3.2	0.7	4.0
Bulgaria	2.2	1.8	4.0	0.2	1.7	2.0
Indonesia	1.6	2.2	3.8	1.5	2.5	4.0
Latvia	1.5	1.4	2.9	6.8	0.5	7.3
Russia	1.7	0.7	2.4	2.1	0.3	2.4
Peru	2.1	–0.3	1.8	0.1	–0.3	–0.2
Chile	0.3	0.7	1.0	1.1	0.2	1.4
Kazakhstan	1.8	–4.8	–3.0	1.9	–4.1	–2.2
Average	6.5	3.1	9.6	6.1	2.8	8.9

Source: IMF staff estimates and projections.

Note: Data in table refer to general government. For some countries, general government deficits are reported on an accrual basis (see Table SA.2).

[1] Budget deficit on a cash basis, not an accrual basis as in Statistical Table 5. Total financing need takes into account only the authorities' scheduled payments.

[2] For details, see "Data and Conventions" in the Methodological and Statistical Appendix.

Table 7. Selected Advanced Economies: Financial Sector Support

(Percent of 2012 GDP, except where otherwise indicated)

	Impact on Gross Public Debt and Other Support	Recovery to Date	Impact on Gross Public Debt and Other Support after Recovery
Belgium	7.6	2.5	5.1
Cyprus	10.0	0.0	10.0
Germany[1]	12.8	1.9	10.9
Greece	21.8	6.4	15.4
Ireland[2]	40.4	5.7	34.7
Netherlands	15.6	10.7	4.9
Spain[3]	7.6	3.1	4.5
United Kingdom	6.6	2.2	4.4
United States	4.6	4.6	0.0
Average	6.9	4.1	2.9
$US billions	1,752	1,029	722

Sources: National authorities; and IMF staff estimates.

Note: Table shows fiscal outlays of the central government, except in the cases of Germany and Belgium, for which financial sector support by subnational governments is also included. Data are cumulative since the beginning of the global financial crisis—latest available data up to August 2013. Data do not include forthcoming support.

[1] Support includes here the estimated impact on public debt of liabilities transferred to newly created government sector entities (about 11 percent of GDP), taking into account operations from the central and subnational governments. As public debt is a gross concept, this neglects the simultaneous increase in government assets. With this effect taken into account, the net debt effect up to 2012 amounted to just 1.6 percent of GDP, which was recorded as deficit.

[2] The impact of the direct support measures is mainly on net debt, as significant recapitalization expenses were met from public assets. Direct support does not include asset purchases by the National Asset Management Agency (NAMA), as these are not financed directly through the general government but with government-guaranteed bonds.

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

few exceptions, the scope to increase revenues is limited and preference should be given to broadening tax bases (by eliminating undue exemptions and preferential rates) and targeting negative externalities rather than raising rates (Section 2 discusses these issues in more detail). In European economies where spending ratios are already high, the bulk of fiscal savings should arise from cutting current spending while protecting (and in some cases front-loading) public investment, to the extent possible.

There is an increasing sense that the fiscal positions of a growing number of *emerging market economies* are more vulnerable than was earlier thought, as potential output may be less than previously estimated and contingent liabilities are building up.

- Countries with high levels of deficit and debt and large gross financing needs (including Egypt, Jordan, Morocco, and Pakistan) are exposed to shocks and swings in market sentiment and thus must take early decisive steps to safeguard against adverse debt dynamics and bolster credibility. In India, gradual fiscal consolidation is needed to reduce fiscal vulnerabilities arising from high debt levels and to free fiscal space for social spending. In Brazil, the authorities should place higher priority on fiscal consolidation so as to put the gross debt–to–GDP ratio on a firm downward path. Other countries with relatively low debt ratios and deficits could wait to rebuild policy space until the global economic environment allows it but, given uncertainty about potential output and contingent liabilities, should refrain from fiscal easing—except in case of a significant slowdown and provided funding conditions permit it.
- Commodity exporters should focus on increasing their resilience to commodity price shocks by mobilizing noncommodity sources of revenue and containing hard-to-reverse current expenditures.
- A reorientation of public spending (for example, through the reduction of subsidies and containment of wage spending, complemented with targeted measures to protect the poor) could facilitate faster consolidation while supporting growth and social conditions.
- Efforts to bring all spending into public accounts (while preserving the distinction between the general government and the broader public sector) should be stepped up, as quasi-fiscal operations undermine transparency and accountability, and often result in inefficient allocation of scarce resources.

In *low-income countries,* declining concessional financing and commodity-related revenues underscore the need to mobilize domestic revenue and improve the efficiency of government expenditure, including through reforms of energy subsidies. Commodity exporters should strengthen nonresource revenue and design fiscal frameworks that ensure a strong revenue benefit while maintaining an attractive environment for investors—a central challenge in exploiting new discoveries (IMF, 2012; Daniel, Keen, and McPherson, 2010).

Box 1. Constructing an Index of the Difficulty of Fiscal Adjustment

The difficulty of implementing fiscal consolidation can be measured along (at least) two related dimensions: first, that of reaching a given primary surplus over a given period; second, that of maintaining it for some time at about that level to achieve lasting debt reduction. The *Fiscal Monitor* illustrative adjustment scenarios have usually assumed that adjustment would take place over a 10-year period and then be maintained for another 10-year period. The Public Finances in Modern History Database[1] enables a look at the historical experience along both dimensions to gauge how demanding it would be to bring debt ratios down in advanced economies.

Specifically, the distributions of the size of primary adjustments (changes in fiscal positions) and of the maximum primary surpluses (in level) have been computed for a sample of 23 advanced economies over the period 1950–2011.[2] In terms of change in the fiscal position, the maximum 10-year primary balance adjustment ranges from 3¾ to 13 percent of GDP, with the median at 8¼ percent of GDP. However, given the consolidation that has already taken place since 2011, the distribution of adjustment over the last 7 years of the 10-year period might be more relevant for assessing current consolidation plans (because it measures the difficulty of keeping "running" for 7 more years after consolidation has been "running" for 3). In that case, the distribution ranges between –1¾ and 11¼ percent of GDP, with the median at 5 percent of GDP. The maximum 10-year average level of primary surpluses ranges across countries from 1 percent to 6¾ percent of GDP, with the median at 3¼ percent of GDP.

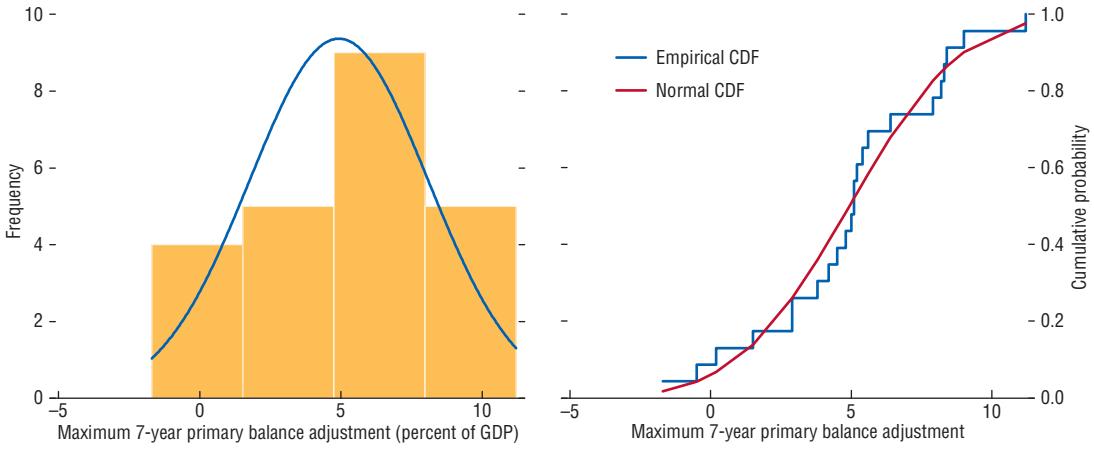
Cumulative distribution functions (CDFs) can be drawn (approximating the empirical distributions with a normal distribution)[3] for both the size of adjustment and the level of the primary surplus. These CDFs are bounded by 0 and 1 and indicate the probability that the primary surplus adjustment (or level) is at or below a given value. Indices of difficulty can then be constructed based on the CDFs (Figures 1.1 and 1.2). For instance, according to the historical evidence (depicted in Figure 1.1), achieving an adjustment of

[1] For a detailed description of the data, see Mauro and others (2013). The database is available at www.imf.org/external/np/FAD/histdb/.

[2] The historical comparison is only illustrative, as it does not take into account country-specific circumstances or the state of the global economic environment. See the April 2013 *Fiscal Monitor* for more details, including a discussion of how episodes of maximum primary balances and adjustment were identified as well as caveats in regard to using history as guide to infer the difficulty of current fiscal adjustment.

[3] Approximating the empirical distribution with a kernel density function yields a similar result.

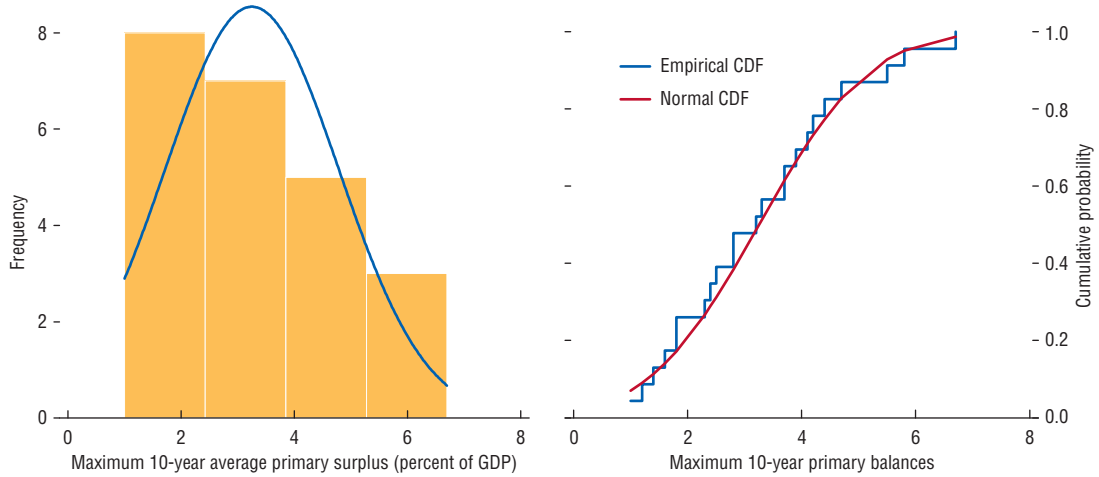
Figure 1.1. Distribution of Maximum 7-Year Improvement in Primary Balances



Sources: IMF, Public Finances in Modern History Database; and IMF staff estimates.
Note: CDF = cumulative distribution function.

Box 1 *(concluded)*

Figure 1.2. Distribution of Maximum 10-Year Primary Balances



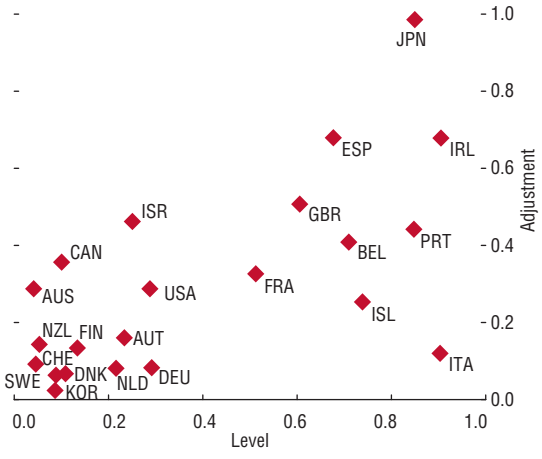
Sources: IMF, Public Finances in Modern History Database; and IMF staff estimates.
Note: CDF = cumulative distribution function.

5 percent of GDP over 7 years is associated with a cumulative probability of 0.5; the difficulty of such an adjustment can thus be considered to be median. Similarly, in Figure 1.2, maintaining a primary surplus of 6¾ percent for 10 years is associated with a cumulative probability of 1, so that any consolidation that involves maintaining the primary surplus at or above this level would be considered to be most or extremely difficult.

These indices can be used to gauge the relative difficulty entailed in the illustrative fiscal adjustment scenarios for advanced economies described in Statistical Table 13b; under these, countries consolidate gradually over a 7-year period (2014–20) to a structural budget balance consistent with the IMF staff's medium-term advice and then maintain it at this level for the next decade. Results are shown in Figure 1.3. Unsurprisingly, countries with the highest debt ratios are above the average on both dimensions of fiscal consolidation. Most points in the figure fall below a 45-degree line, suggesting that maintaining the target structural fiscal balance for an extended period of time is likely to be more challenging than adjusting to this level. Japan stands out as the country facing the most challenging consolidation, scoring a 1 on both dimensions. Ireland and Spain follow closely.

Figure 1.3. Difficulty of Long-Term Fiscal Consolidation

(Cumulative probability)



Source: IMF staff estimates and projections.
Note: Higher values indicate greater difficulty in achieving long-term fiscal consolidation.

Box 2. Fiscal Reforms to Unlock Economic Potential in the Arab Countries in Transition

Spending hikes in the aftermath of the Arab Spring raised already-high fiscal deficits and public debt (Figure 2.1). The Arab Spring caught all Arab Countries in Transition (ACTs)[1] (except Libya) with already high or rising debt levels, reflecting a combination of generalized food and fuel subsidies, high global commodities prices, low taxation, and in some cases countercyclical fiscal action.[2] During 2011–12, in response to social unrest, most ACT governments further expanded spending on subsidies and public wage bills. The increases were only partially offset by cuts in capital and other expenditures. As a result, the ACTs' public debt has grown by 12 percentage points of GDP over 2010–13.

In a difficult economic and sociopolitical environment, countries need to reorient fiscal policy to foster job creation while embarking on fiscal consolidation. Under current policies, the average public debt ratio would rise by about 20 percentage points of GDP over the next five years, to close to 90 percent of GDP (Figure 2.2). Moreover, current account deficits and financing needs are substantial in many ACTs. But consolidation, however urgent, needs to take into account the ACTs' delicate sociopolitical environment and minimize adverse impacts on growth and social outcomes. This calls for a careful choice of fiscal instruments, but also for complementary measures to address poverty and unemployment. In the fiscal area, the two main goals should be improved revenue collection and a radical reprioritization of expenditures away from universal subsidies toward growth-friendly and pro-poor spending, including targeted social assistance and infrastructure (Annex III of the October 2013 *Regional Economic Outlook: Middle East and Central Asia* elaborates on specific expenditure and revenue recommendations). Given the scope of the reforms, broad political consultation will be needed to build consensus and ensure successful implementation.

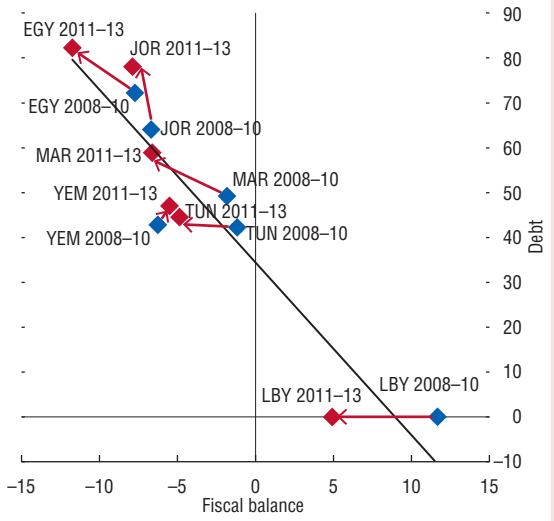
A reshuffling of public expenditure can support stronger and more robust growth while enhancing social conditions. In recent years, subsidies, especially for energy, have increased faster than any other component of public outlays (Figure 2.3). Yet they are inefficient in providing social protection, as they disproportionately benefit higher-income segments of the population, which consume more than the poor. All ACT govern-

[1] The ACTs are Egypt, Jordan, Libya, Morocco, Tunisia, and Yemen. Among these, the non-oil ACTs are Egypt, Jordan, Morocco, and Tunisia. For country-specific details, see "Data and Conventions" in the text and Tables SA.2 and SA.3.

[2] In some cases, the fiscal deficit worsened because of one-off expenditures, such as bank recapitalization costs.

Figure 2.1. Arab Countries in Transition: Average Gross Debt versus Average Overall Fiscal Balance

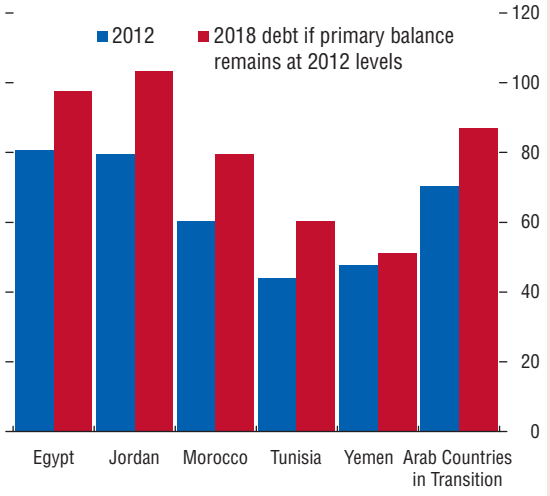
(Percent of GDP)



Sources: National authorities; and IMF staff estimates.

Figure 2.2. Arab Countries in Transition: Gross Debt

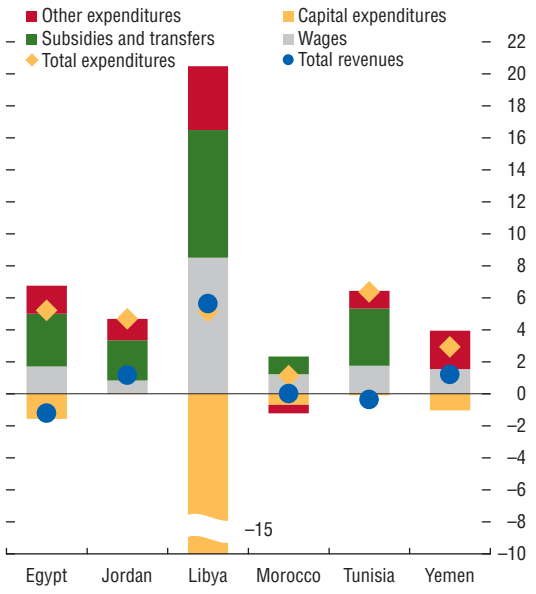
(Percent of GDP)



Sources: National authorities; and IMF staff estimates.

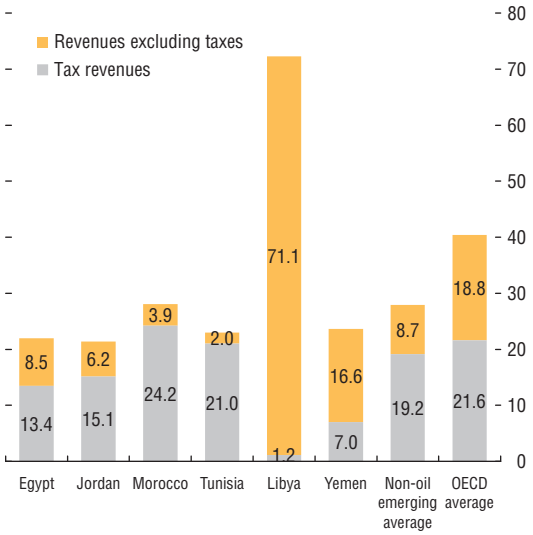
Box 2 *(continued)*

Figure 2.3. Arab Countries in Transition: Change in Revenue and Expenditure, 2010–13
(Percent of GDP)



Sources: National authorities; and IMF staff estimates.

Figure 2.4. Revenue, 2012
(Percent of GDP)



Sources: Organisation for Economic Co-operation and Development (OECD); and IMF staff estimates.

ments have embarked upon subsidy reform, although to varying degrees (October 2013 *Regional Economic Outlook: Middle East and Central Asia*).

To mitigate the social impact, part of the savings resulting from subsidy reform should be channeled toward better-targeted social safety nets or broader cash compensation schemes, and many ACTs are beginning to move in this direction. The growth of public wage bills needs to be contained, as using the public sector as employer of first and last resort is no longer an option where fiscal buffers are running low. Near-term efforts should aim at containing wage growth in real terms, complemented in the medium term by comprehensive reforms that review the size and structure of the civil service, while creating a skilled and efficient government workforce. Channeling part of the fiscal savings into growth-enhancing areas, including efficient capital spending (prioritization is important) and social outlays on education and health care, will create jobs and reduce inequities in the near term, while strengthening long-term growth prospects.

Enhancing revenue mobilization is equally important for fiscal sustainability. Tax collection is a persistent problem in non-oil ACTs, particularly in Egypt and Jordan. Tax revenue is significantly lower in oil-exporting ACTs, but nontax revenue related to oil production—which tends to be volatile—has supplemented tax receipts (Figure 2.4). Overall, the immediate challenge is to maintain macroeconomic stability, but governments should, at the same time, begin revenue reforms, seeking to strike a balance among supporting growth, enhancing equity, and strengthening revenue collection while preserving competiveness and improving the business environment. Tax policy measures to achieve such goals may include broadening the tax base through limiting exemptions and incentives, simplifying tax systems and reducing distortions, enhancing the progressivity of personal income taxes, and raising rates where appropriate. On the tax and customs administration side, enhancing compliance and strengthening administrative capacity will be critical. Furthermore, improving taxpayers' morale through enhanced transparency, improved access to information and taxpayer services, and better communication would support revenue mobilization

Box 2 *(concluded)*

efforts. For example, publishing, as does Morocco, an annual review of tax expenditures highlighting their costs can facilitate public buy-in for reforming tax incentives. More broadly, a clear communication strategy provides assurances to taxpayers on the use of public funds, as when part of the additional revenues are used to finance well-defined growth-enhancing capital spending and well-targeted social programs.

2. Taxing Our Way out of—or into?—Trouble

Taxation is rarely far from the news, but it has seldom been so central to public debate, in so many countries, as now. This section takes stock of developments on the revenue side since the onset of the global economic and financial crisis and explores whether and how tax reform can help strengthen public finances. It asks: Can countries tax more? Can they tax better? And what can they do to increase the legitimacy and sustainability of their tax systems?

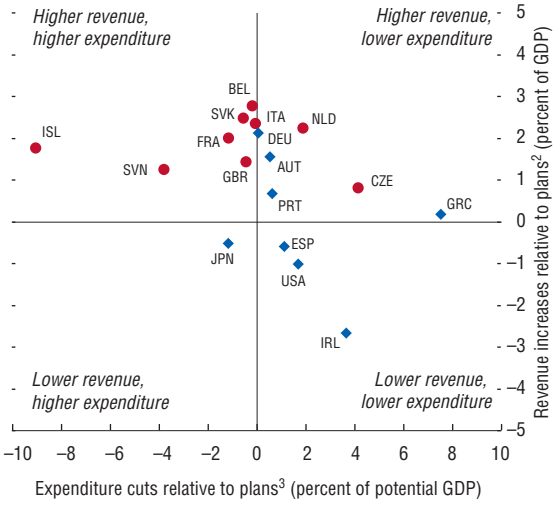
The revenue story until now: How (and what) are we doing?

Revenue developments

In *advanced economies,* revenues (relative to GDP) have rebounded to near precrisis levels—reflecting frequent recourse to tax measures to narrow fiscal deficits. Indeed, relative to initial plans in 2010, revenue increases have in many countries outpaced expenditure cuts by enough to shift the overall policy mix more toward the tax side (Figure 7). Ex ante, about 30 percent of large adjustment efforts were intended to come from the revenue side;[13] in the event, the increase in revenue was about twice as much as projected, so that ex post, this share has increased to about 40 percent.[14] In some cases (including France, Iceland, Slovenia, and the United Kingdom), tax measures made up for shortfalls or delays in expenditure measures. In only a handful of countries (for example, Japan, Spain, and the United States) have revenues underperformed relative to original plans, and there they were partly offset by a reduction in spending—except in Japan.[15]

Revenues in *emerging market economies* and *low-income countries* have also increased more than originally expected, partly because of favorable cyclical conditions and, in some cases, a commodity-related revenue bonanza. But in many cases, spending has also grown more rapidly than planned, outpacing revenue increases (Figure 8). This poses a challenge, as buoyant revenues may well largely reflect temporary factors, which cannot meet continued spending pressures. For developing economies, strengthening domestic tax systems is made more urgent by the expected declines in development assistance and commodity prices highlighted in Section 1. These revenues seem unlikely to be fully recovered from domestic sources: recent work suggests that a one-dollar cut in grants is generally associated with only a 9- to 24-cent increase in own revenues (Benedek and others, 2013), though country experiences vary widely (Moss, Pettersson, and van de Walle, 2006). Similarly, a one-dollar loss of hydrocarbon revenues might be offset by only about 20 cents more from other nonresource domestic revenues (Bornhorst, Gupta, and Thornton, 2009).

Figure 7. Advanced Economies: Change in Planned Measures, 2009–13[1]



Source: IMF staff estimates and projections.
Note: Countries depicted with red bullets are those for which the composition of adjustment has shifted more toward revenue.
[1] Estimates are calculated comparing the change in expenditure and revenue for the period 2009–13 in the October 2010 *Fiscal Monitor* with that in the October 2013 *Fiscal Monitor*.
[2] Change in revenue items assumes an elasticity of revenue to GDP of 1.
[3] Change in expenditure items assumes an elasticity of expenditure to GDP of 0. A positive value means cuts in expenditure were larger than originally planned.

Fiscal consolidation: Tax reform or tax grab?

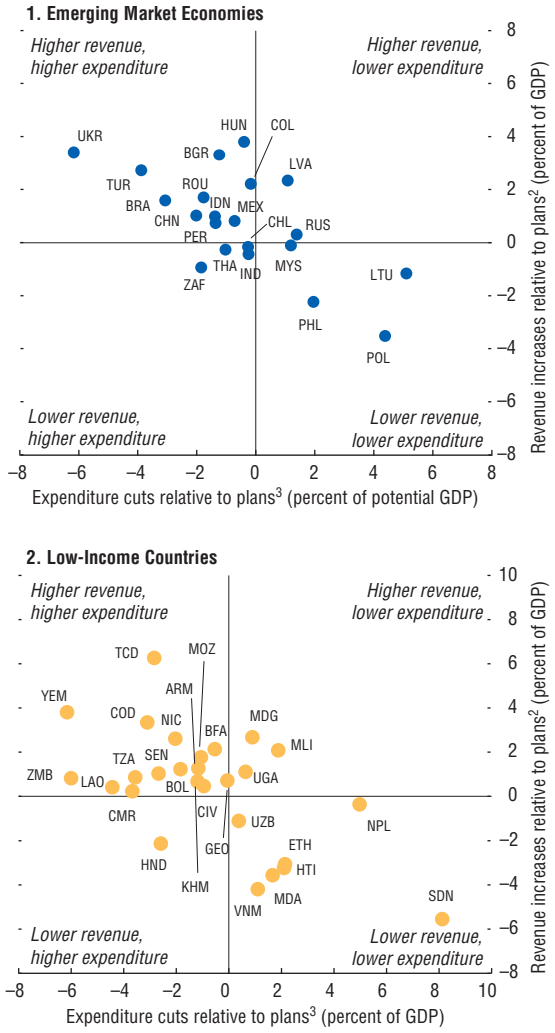
In the aftermath of the Great Recession, a broad consensus emerged on a set of measures that could strengthen revenue while making tax structures both more efficient and fairer (Table 8). With due consideration for countries' differing circumstances, preference was to be given to minimizing distortions (through, for instance, broadening the tax base by eliminating

[13] This is the unweighted average for advanced economies with debt-to-GDP ratios above 60 percent or cumulative fiscal adjustment higher than 3 percent of GDP.

[14] Greater-than-planned reliance on revenue measures partly reflects spending rigidities; it is also a feature of previous consolidations (Mauro, 2011).

[15] Earthquake-related reconstruction outlays explain the absence of spending offset in Japan.

Figure 8. Emerging Market Economies and Low-Income Countries: Change in Revenue and Expenditure, 2009–13[1]



Source: IMF staff estimates and projections.
[1] Estimates are calculated comparing the change in expenditure and revenue for the period 2009–13 in the October 2010 *Fiscal Monitor* with that in the October 2013 *Fiscal Monitor*.
[2] Change in revenue items assumes an elasticity of revenue to GDP of 1.
[3] Change in expenditure items is estimated in percentage points of potential GDP (except in the case of low-income countries, for which reliable estimates of potential output are not available), which assumes an elasticity of expenditure to GDP of 0.

inappropriate exemptions or tax expenditures[16] before increasing the rate), targeting negative externalities, and strengthening tax compliance. Has this advice been taken?

- Increases in *taxes on goods and services* have indeed been frequent in advanced and emerging market economies alike (Table 9). Excises, the first port of call for any cash-strapped government, were raised almost universally.[17] Value-added tax (VAT) increases have been both common and substantial—but with a noticeable inclination to raise rates (as in most EU countries since the crisis) rather than broaden the base.
- Many advanced economies have also looked for higher revenue from *personal income taxation*, often through increases in top marginal rates on labor income, and in some cases on capital income. In several countries, temporary surcharges or solidarity contributions have been introduced, particularly on high earners (though nothing, it has been noted, is as permanent as a temporary tax).[18] The focus on higher-income earners has stemmed or even reversed the precrisis trend of reducing the tax pressure at the top of the income distribution.[19] In emerging market economies, rate and base reduction have been quite common, in some cases along with increased progressivity (in China, for instance, the starting rate was reduced and the band over which the top rate applies widened).
- Many countries have increased *social contributions*—a surprising choice given pervasive unemployment challenges.[20] However, changes in rates of social contributions (especially those paid by employers) may not be very visible to workers, the increases have in any event generally been small, and in some cases they have been accompanied by targeted reductions intended to encourage the hiring of lower-skilled workers. Despite much discussion, no country has undertaken a substantial "fiscal devaluation" (a revenue-neutral shift from employers' social contributions toward consumption taxation), perhaps out of concerns regarding potential risks to revenue (to have a meaningful impact, the change in rates would have to be large) and the distributional implications of increasing the VAT rate.
- Rates of *corporate income taxation*, on the other hand, have been reduced more often than increased,

[16] The concept and measurement of tax expenditures, and experience in their elimination, were discussed in the April 2011 *Fiscal Monitor*.

[17] One would, of course, expect nominal increases simply to maintain the real value of excises levied as fixed monetary amounts.
[18] In Germany, for instance, the solidarity surcharge introduced in the wake of unification in 1991 is still in place.
[19] Some have expanded in-work tax credits, with effects similar to a rate cut on lower earnings.
[20] An important exception is Brazil, where the employers' contribution has been converted to a low rate and a sectorally differentiated turnover tax.

Table 8. Conventional Wisdom: Advice for the Revenue Side of Consolidation

Recommendation	Rationale
Exploit *consumption taxes* more fully, expanding the base of the value-added tax (VAT) before raising standard rates (using the transfer system to protect the most vulnerable as needed), and reviewing excise levels.	Most rate differentiation under the VAT is rationalized by distributional concerns that could be better achieved by direct transfers; excises better handle environmental and other concerns requiring differentially high tax rates.
Look for opportunities to broaden the base of the *personal income tax*—a first step being to quantify all tax expenditures—and, while recognizing that increased inequality might call for increased progressivity, avoid very high marginal effective tax rates.	Exemptions and deductions remain significant in many countries, and their cost should be transparent; raising effective rates can have strongly adverse effects on incentives, in terms of both real and avoidance activities.
Resist increasing *social contributions* and consider combining a cut in the employers' contribution with an increase in consumption taxation—*a fiscal devaluation.*	Unless increased contributions are perceived as carrying matching increased benefit entitlement, they can have strong incentive and employment effects. With a fixed exchange rate, a fiscal devaluation can boost net exports—temporarily—by reducing the foreign currency price of exports and increasing the domestic relative consumer price of imports.
For the *corporate income tax,* quantify and review tax expenditures, resisting further inappropriate base erosion and pressure to cut statutory rates; reduce the tax bias toward debt finance.	Intense international tax competition is likely to continue, and addressing it will require strong international cooperation; tax distortions can jeopardize financial stability by encouraging excess leverage.
Increase *property taxes,* especially recurrent charges on residential properties; scale back *transaction taxes.*	Property taxes appear to be relatively growth-friendly and can serve equity and accountability aims; transaction taxes impede efficient trades.
Implement effective *carbon pricing,* either by carbon taxation or by full auctioning under cap-and-trade schemes; eliminate *fossil fuel subsidies* and review environmental taxes more generally.	Pricing measures are essential to encourage efficient mitigation and so are a particularly efficient source of revenue; fuel subsidies are very poorly targeted to distributional aims.
In the *financial sector,* adopt tax measures to discourage volatile financing as well as financing improved resolution mechanisms; counteract the VAT exemption for financial services by adopting a financial activities tax (FAT).	These measures would ensure a "fair and substantial contribution" of financial institutions to the fiscal costs of their potential distress and failure; as a tax on the sum of wages and profits of financial institutions, a FAT would provide a fix, albeit an imperfect one, for a major distortion in the VAT.
Strengthen tax compliance by identifying and acting on compliance gaps, aggressive tax planning, and offshore tax abuse.	Improving tax compliance would promote fairness and reduce distortions.

Sources: de Mooij and Keen (2013); and IMF (2010a, 2010b).

continuing their downward trend. Reductions in the base have also been frequent, often targeted to new investment or research and development. Surcharges or levies on larger companies have sometimes been introduced.

- Few countries have yet significantly raised *property taxes* as part of consolidation efforts, though improving their structure, their yields, or both remains a focus of reform in Greece, Ireland, and Portugal.
- *Carbon pricing* and more generally environmentally related taxes have made little progress, except in Australia (and even there the future of carbon pricing is now in some doubt). Energy subsidies may even have become more pervasive (Clements, Coady, Fabrizio, and others, 2013). While there is a natural reluctance to raise energy prices when activity is depressed, the impact of moving toward a carbon charge of about US$35 per ton of CO_2[21] (equivalent to about 8 cents on a liter of gasoline) would be reasonably modest and cushioned by prospectively softened oil prices.[22]
- The taxation of the *financial sector* has attracted considerable attention. Significant progress has been made in developing *bank taxes* to reduce the tax bias toward debt finance that arises as a result of the deductibility of interest payments (but not the return to equity) against the corporate income tax.[23] But there is scope to do more (Box 3). *Financial transaction taxes* have been the focus of much discussion, particularly in the European Union, with variants adopted in France and Italy.[24] But few see the more general financial transaction taxes as greatly enhancing financial stability (market participants warn of significant disruption), and their incidence—who will really bear the burden?—is unclear (Matheson, 2012). The *financial activities tax* (similar to a value-added tax, but limited to financial activities) has been well received technically (Shaviro, 2012) but, beyond adoption of a variant in Iceland, has made little headway.
- Measures to *strengthen revenue administration* have been introduced in several countries, though in some cases revenue administrations themselves have suffered large cuts. Compliance took a hit in the

[21] The central estimate of U.S. IAWG (2013) for the social cost of carbon.

[22] On climate policies in hard macroeconomic times more generally, see Jones and Keen (2011).

[23] This bias affects all types of company but is especially troubling in regard to financial institutions, given the great damage that their excess leverage can cause.

[24] Including novel taxes on high-frequency trades. These taxes have appeal if such trades are seen as socially costly, although it remains unclear whether regulatory measures would be superior.

Table 9. Tax Measures in Selected Countries, 2010–13

Country	Personal Income Taxation		Corporate Income Taxation		Value-Added Tax		Social Security Contributions		Excises		Property	
	Rate	Base	Rate	Base	Rate	Base	Rate	Base	Rate	Base	Rate	Base
Advanced economies												
Australia		↑		↓				↓				
Austria		↑		↑		↑		↑	↑			
Belgium	↑	↑		↑		↑	↑		↑		↑	↑
Canada	↑	↑	↓						↑			
Czech Republic	↑	↑		↑	↑		↓	↓	↑			
Denmark	↑	↑		↑		↑			↓	↑		
Finland	↑	↑	↓		↑				↑			
France	↑	↑	↑		↑	↑	↑		↑			
Germany		↓					↓		↑			
Greece	↑	↑	↑		↑	↑	↑		↑		↑	
Hong Kong SAR												
Iceland		↑	↑			↑	↑		↑			
Ireland	↑	↓			↑	↓	↓	↑	↑		↑	
Israel	↑	↑		↓	↑		↑		↑			
Italy	↑			↓	↑				↑			↑
Japan			↓									
Korea	↑	↑	↑									
Netherlands	↑	↓	↓		↑				↑		↓	
New Zealand	↓		↓		↑				↑			
Norway												↑
Portugal	↑	↑	↑		↑	↑	↑		↑		↑	
Singapore			↓								↑	
Slovak Republic	↑	↑	↑		↑		↑	↑	↑			
Slovenia	↑		↓						↑			
Spain	↑	↑		↑	↑	↑			↑		↑	
Sweden		↓	↓						↑			
Switzerland		↓			↑							
United Kingdom	↓	↑	↓	↓	↑		↑		↑		↑	
United States	↑	↑					↑					
Emerging market economies												
Brazil						↑	↓	↓	↓			
Bulgaria					↑	↑	↑		↑			
Chile	↓		↑	↑								
China	↓	↓			↓	↑		↑			↑	↑
Estonia									↑	↑	↑	
Hungary	↓	↓	↓		↑		↑		↑			
Latvia	↓	↓		↓	↑	↑	↑		↑	↑	↑	↑
Lithuania	↓		↓	↓		↓		↑	↑		↑	↑
Mexico	↓		↓									
Philippines						↓			↑			
Poland					↑	↑	↑		↑	↑		
Romania					↑				↑			
South Africa				↑					↑	↑		
Turkey									↑		↑	

Sources: European Commission; Organisation for Economic Co-operation and Development; and IMF staff.

Note: An upward (downward) arrow indicates a revenue-increasing (-decreasing) change.

crisis, as it usually does (Brondolo, 2009), but there are indications that it is rebounding.

Relative to the recommendations, the picture is thus mixed—though as discussed later in this section, if anything the weight of evidence in favor of these recommendations has increased since the beginning of the crisis.[25] Some of the options chosen may be storing up problems for the longer term, by magnifying distortions or condoning inefficiencies. Now that a large part of the adjustment lies behind for many countries, there is less need to come up with quick revenue fixes, but looking for ways to restore growth remains urgent. So the focus needs to be placed on the quality of measures, with a view to addressing long-standing distortions in ways that may bring some extra revenue but, no less important, could help buoy potential growth.

Assessments of the effect of revenue measures on inequality are scarce. Past evidence suggests that the tilt toward revenue-based consolidation should imply a smaller adverse impact (Ball and others, 2013; October 2012 *Fiscal Monitor*). Close analysis of measures in

[25] See especially Boxes 3 and 4.

nine consolidating EU countries (Paulus and others, 2012) finds that restructurings of tax transfer systems have increased progressivity (or left it unchanged).[26] In Spain and the United Kingdom, this is mostly due to changes in personal income taxation and employees' social contributions, though increased standard VAT rates act in the opposite direction. In many countries, and in contrast to previous experience, some measures of overall inequality may have actually declined (as, for instance, in Greece) (ISER, 2013). But aggregate inequality measures can obscure important aspects of distributional change,[27] and they take no account of levels of income: inequality may be lower even though many experience considerable hardship.

Finding, and minding, the gap

Making an effort: Can more be done?

Asking if more *can* be done is not the same as asking whether more *should* be done. The appropriate overall level of taxation in any country depends on its characteristics—economic (such as its level of development, revenue from other sources), political (including constitutional), and even geographical (revenue can be harder to raise when borders are long and porous). Unsurprisingly, we cannot rely on theory to identify an "optimal" size of government. It is useful, nonetheless, to have some broad sense of whether a country has some realistic possibility of doing more on the tax side. For this, two complementary approaches can be put to work (Appendix 2 elaborates on the technicalities and results).

The more common approach is to compare a country's tax receipts with the average of its peers, controlling for a range of characteristics likely to affect revenue raising (such as per capita income).[28] By construction, some countries will have revenue above this average, and others will have revenue below: the average revenue gap (what would be expected on the basis of the characteristics being controlled for, minus actual revenues) will be zero.

Figure 9 reports on one such exercise, extending previous work by identifying not only an overall gap, but its breakdown across instrument types.[29] In most advanced economies in Europe, actual tax receipts are larger than would be predicted (the gaps are negative), suggesting that their scope to raise revenues is limited—not surprisingly, as the tax ratio is already high in many of them (IMF, 2010a). But some advanced economies do show a positive revenue gap (Greece, Ireland, Japan, Korea, Switzerland, and the United States). Among low-income countries, the greatest scope for raising tax revenues seems to be in states in fragile situations—such as Haiti, Madagascar, and Yemen—and in the poorer African countries. Among emerging market economies, commodity producers (including Kazakhstan, Mexico, and Saudi Arabia) often have lower tax revenues than their peers, largely because commodity-related revenues tend to displace other revenue sources (Bornhorst, Gupta, and Thornton, 2009).

For most advanced economies the greatest potential lies in indirect taxes: among countries with revenue below that of their peers, these account for more than half of the overall gap (as, for example, in Ireland, Japan, Spain, Switzerland, and the United Kingdom). In contrast, in low-income countries, limited receipts from payroll and income taxes explain 70 percent of the revenue gaps. Emerging market economies lie somewhere in the middle.

A second way of benchmarking revenue performance—"stochastic frontier analysis"—compares a country's tax ratio not with the average, but with the maximum that others with similar characteristics have achieved. A country's revenue as a percentage of this maximum (lying between 0 and 100 percent) gives an indication of its "tax effort." Although there is no natural metric with which to measure "how hard" it is to increase effort,[30] simple comparisons are indicative.

[26] Meaning here that the proportionate fall in disposable income is higher at higher income levels.

[27] In Greece, for instance, although the loss of disposable income as a result of consolidation measures increased with income over the top nine deciles, the lowest income decile experienced a particularly large reduction.

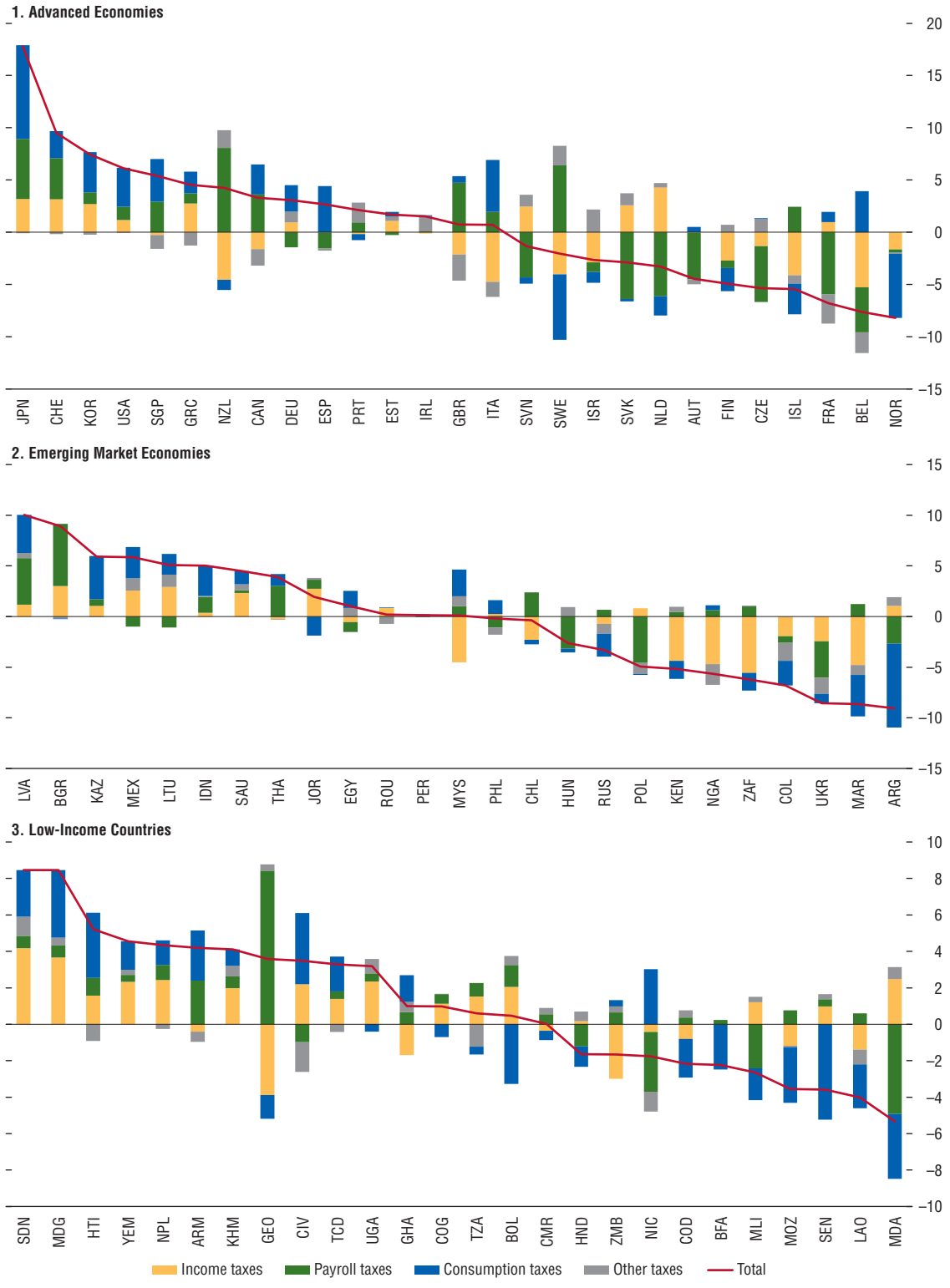
[28] Early examples include Tait and Heller (1982) and Tanzi (1992). See also Rodrik (1998) and Le, Moreno-Dodson, and Bayraktar (2012).

[29] The sample is a cross-section of 164 countries in 2012 (panel estimation would be preferable, but data limitations preclude it). Revenues exclude the proceeds from capital income, grants, natural resources, and taxes on international trade. Explanatory variables include per capita GDP, the old-age dependency ratio, population growth, net exports of oil and gas, and the political participation rate. For further details see Torres (2013).

[30] For instance, one cannot say that increasing effort from 30 percent to 40 percent is "easier" than increasing it from 80 percent to 90 percent, or that it would be equally easy for two countries with effort of 70 percent to raise it to 80 percent.

Figure 9. Peer Comparison of Revenues[1]

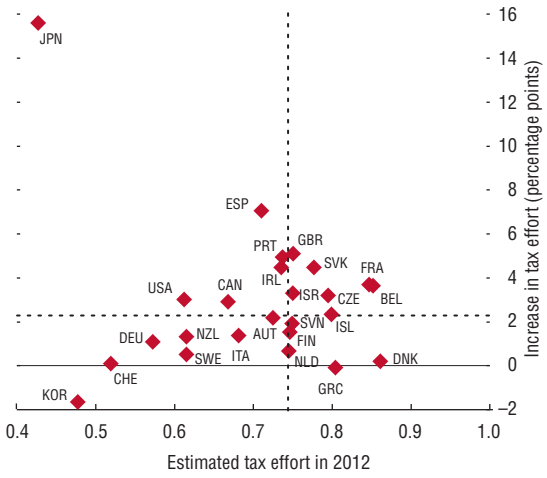
(Percent of GDP)



Source: Torres (2013).

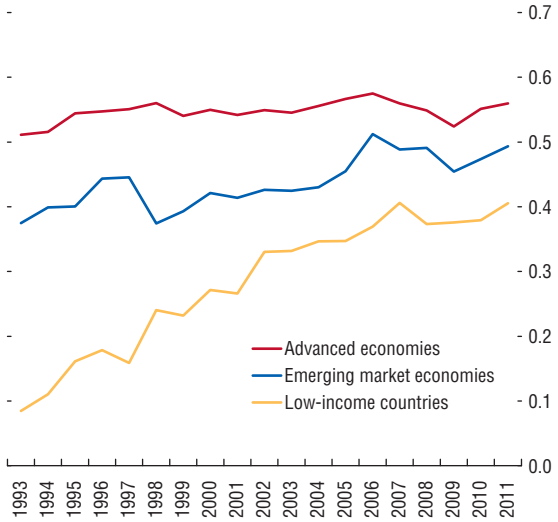
[1] Numbers reported are the difference between the conditional average estimated by Torres (2013) and actual revenues. A positive value means a country's revenue collection is below that of its peers.

Figure 10. Increase in Tax Effort and Fiscal Adjustment Needs



Source: IMF staff estimates.
Note: The figure shows the increase in "tax effort" required for a country to meet half of its fiscal adjustment needs if it adjusts by 2020 to a prespecified structural medium-term budgetary objective. Tax effort is defined as the ratio of collected taxes to the notional maximum. Dashed lines represent median values.

Figure 11. Trends in C-Efficiency, 1993–2011
(Unweighted averages)



Sources: IMF, Revenue Mobilization database; and IMF staff estimates.
Note: The C-efficiency ratio is defined as value-added tax (VAT) revenue divided by the product of the standard VAT rate and the VAT base (proxied by final consumption).

- Figure 10 plots *advanced economies* according to both their current effort and the additional effort they would need to make to meet half the adjustment needs estimated in Section 1 (Statistical Table 13b).[31] Interestingly, those countries that would need the largest increase in effort are currently below the median, and those that score fairly high in terms of current effort generally need less of an increase. Nonetheless, the figure clearly suggests that pretty much every advanced economy would experience considerable difficulty if it looked for the bulk of the required adjustment to come on the revenue side.
- *Emerging market economies* and *low-income countries* seem to have more scope for revenue mobilization. For those low-income countries with effort below the median for their group, raising it to that level would generate about 3½ percent of GDP, a considerable amount relative to their needs.[32] And if low-income and emerging market economies were to raise their tax effort by 10 percentage points, their revenues would increase by 3 percent of GDP.

[31] The underlying assumptions about economic growth and interest rates follow *World Economic Outlook* projections until 2018 and are model determined thereafter. See Statistical Table 13b for more details.
[32] IMF (2011) discusses this potential in more detail.

Closing the gaps

How—if this is the course chosen—can revenue gaps be closed and effort increased? Most research in this area has focused on the VAT. This is partly because its potential base is relatively easy to quantify, but also because of its actual and potential importance: it accounts for about one-third of revenue on average in advanced economies (17 percent in emerging market economies). It was also just seen to be the main area of revenue shortfall in several advanced economies.

Revenue from the VAT depends on two factors that policymakers can hope to control: the standard rate (that applied to most items) and "C-efficiency" (the revenue from the VAT divided by the product of the standard rate and aggregate private consumption):[33] for a VAT with no exemptions, a single rate, and full compliance, C-efficiency would be 100 percent. In advanced economies, average C-efficiency has been flat over the last 20 years, at only about 60 percent (Figure 11). It has been increasing in emerging markets and low-income countries, in some cases quite substantially—in many respects an encouraging sign—but is still generally below 50 percent.

Table 10 offers some clues on how to increase C-efficiency. It reports, for a number of advanced and

[33] Issues in the measurement and interpretation of C-efficiency are discussed in Ebrill and others (2001), Keen (2013), and OECD (2008) (which refers to it as the "VAT revenue ratio").

Table 10. Measuring VAT Gaps

Country	VAT Revenue, 2006 (percent of GDP)	C-Efficiency	Compliance Gap	Policy Gap	Revenue Gain (percent of GDP) from Closing Half of	
					Compliance gap	Policy gap
Advanced economies						
Austria	7.6	59	14	31	0.6	1.7
Belgium	7.2	52	11	42	0.4	2.6
Denmark	10.3	64	4	33	0.2	2.5
Finland	8.7	61	5	36	0.2	2.4
France	7.3	51	7	45	0.3	3.0
Germany	6.4	57	10	37	0.4	1.9
Greece	7.1	47	30	33	1.5	1.7
Ireland	7.6	66	2	33	0.1	1.9
Italy	6.2	43	22	45	0.9	2.5
Luxembourg	5.8	87	1	12	0.0	0.4
Netherlands	7.4	60	3	38	0.1	2.3
Portugal	8.6	53	4	45	0.2	3.5
Spain	6.5	57	2	29	0.1	1.6
Sweden	9.0	56	3	42	0.1	3.3
United Kingdom	6.6	48	17	42	0.7	2.4
Emerging market economies						
Argentina	. . .	60	35	8	. . .	. . .
Colombia	4.5	45	46	16	1.9	0.4
Chile	7.0	68	28	6	1.4	0.2
Ecuador	0.0	74	9	19	0.0	0.0
Guatemala	5.4	47	23	37	0.8	1.6
Hungary	7.6	49	23	37	1.1	2.2
Latvia	8.4	49	22	38	1.2	2.5
Mexico	3.7	33	18	60	0.4	2.8
Peru	5.7	55	36	14	1.6	0.5
Dominican Republic	4.5	30	61	23	3.5	0.7
Uruguay	9.9	56	33	17	2.4	1.0

Sources: EU data as in Keen (2013), with policy gaps calculated as a residual from compliance gaps in Reckon LLP (2009) and C-efficiency from OECD (2008). Data for Latin American countries calculated using policy gaps and C-efficiency in Barreix and others (2013), with compliance as the residual; data for other emerging market economies from IMF (2010a). Data on VAT revenue are from the IMF's Revenue Mobilization database.

Note: C-efficiency (E^c) is related to the policy gaps (P) and compliance gaps (Γ) as $1 - E^c = (1 - P)(1 - \Gamma)$; see IMF (2010a) and Keen (2013). VAT = value-added tax.

emerging market economies, their C-inefficiency (the inverse of C-efficiency) and then decomposes it into a "policy gap" (0 if the VAT is applied at a single rate to all [and only] consumption) and a "compliance gap" (0 if implementation of the VAT is perfect).

- In European *advanced economies*, policy imperfections are generally much more marked than compliance problems, reflecting extensive exemptions and frequent use of multiple rates.[34] Halving the policy gap, all else equal, would on average raise a very substantial 2.3 percent of GDP. Adjusting social transfers to protect the poorest from the subsequent price increases would reduce the revenue gain, but by no means eliminate it. For the United Kingdom, for instance, Crawford, Keen, and Smith (2010) show that the revenue gain from applying the standard VAT rate to food and other sensitive items would be about halved if transfers were put in place to compensate the poorest 40 percent.[35] The compliance gap is not trivial in advanced economies; halving it would raise an average of 0.4 percent of GDP for the advanced economies in Table 10. But realizing such compliance gains would likely require decisive and sustained policy action, and in that sense could be even harder than closing policy gaps.
- The picture in *emerging market economies* is different, with compliance gaps generally larger both absolutely and relative to policy gaps. Significant VAT design issues remain, however: in both India and Brazil, for instance, the challenges of implementing subnational VATs have led to significant inefficiencies as a consequence of "cascading"—the levying of tax on business inputs, which distorts production decisions—and complexity.[36]

The decompositions in Table 10 require cautious interpretation, but analyses of this kind have much potential.[37] They tend to confirm the sense from the previous section: there is scope in advanced economies

[34] As Cnossen (2003) argues, the EU VAT, nearly 50 years old, is showing its age.

[35] A cost of means-tested compensation of this kind is that its withdrawal, as income increases, leads to higher marginal effective tax rates over some income range—as Apps and Rees (2013) stress in the Australian context—so that equity gains need to be traded against efficiency losses.

[36] On India, see Cnossen (2013); on Brazil, see Afonso, Soares, and de Castro (2013); more generally, see Perry (2010).

[37] It is possible, for instance, to decompose the policy gap further into components related to rate differentiation and exemptions, as Keen (2013) does for the EU countries above.

to close gaps in relation to traditional tax instruments, but this is unlikely to be easy or meet more than a fairly limited part of consolidation needs.

Growth effects: Short and long term

The effects of the tax mix on long-term growth have been widely studied. The literature suggests that corporate income taxes have the most negative effect, followed by labor income taxes, then consumption taxes, and finally property taxes.[38] In line with this "growth hierarchy," recent IMF work finds, for a wide set of countries, that a revenue-neutral rebalancing that reduces income taxes while increasing consumption and property taxes is associated with faster long-term growth (Acosta-Ormaechea and Yoo, 2012). It differs, however, in not finding the corporate income tax to be more harmful for growth than the personal income tax. But this literature remains contentious: the ranking of instruments is not robust to different specifications (Xing, 2012), and it implicitly assumes that tax design does not matter, which it manifestly does. For example, a corporate tax that falls only on rents—returns to investors in excess of the minimum they require—(such as the allowance for corporate equity described in Box 3 aims to do) would have no effect on marginal incentives to invest and so would have quite a different growth effect than one falling on total (intramarginal) returns. Box 4 reports new evidence that for the VAT, too, structure matters for growth.

In terms of short-term growth effects, whereas there has been extensive and heated debate on the level of overall tax multipliers, little attention has been given to how these might vary across tax instruments. Unsurprisingly, macroeconomic models typically imply the same hierarchy as for the long term (European Commission, 2010; Anderson and others, 2013). Empirically, it is hard to identify robust differences, but the few available studies point to a ranking of instruments quite different from the standard hierarchy: they suggest that the personal income tax is associated with larger multipliers than the corporate income tax (Table 11) and that increases in the VAT are associated with sizable short-term output losses. Such differences imply a new set of trade-offs in designing consolidation: balancing, for instance, the short-term pain of a VAT-based consolidation against the long-term gain. But the short-term hierarchy of taxes is even less firmly established than that for the long term. Much more is still to be learned before policy—in any event currently driven by the relatively long-term concerns that motivate consolidation itself—can reliably be shaped by the results of these studies.

[38] The research has focused on advanced economies. See, in particular, Arnold and others (2011). OECD (2013b) uses this and a similar hierarchy on the spending side as a starting point to assess alternative compositions along consolidation paths.

Fixing international taxation

One set of gaps that has received particular attention in the aftermath of the crisis—reinforced, as was the case with financial sector taxation earlier in the crisis, by a strong public sense of injustice[39]—are those in the international tax framework. There are broadly two sets of issues. One—discussed in the next subsection—is (illegal) evasion by individuals. The other is avoidance by multinationals—legal (or, cynics might say, not obviously illegal).

Google, Starbucks, and other household names have famously managed to pay very little corporate tax. But of course, they are far from alone in this. Importantly, the issue is not just one for advanced economies: indeed, it is likely an even greater concern for developing countries, typically more reliant on corporate tax receipts. Nor is the issue new: U.S. President John F. Kennedy argued for fundamental reform 50 years ago.[40] What is new is the attention.

Some of the strategies that multinationals use to reduce their tax liabilities—by base erosion and profit shifting, in the current jargon—are set out in Box 5, along with an example of how mind-bogglingly complex they can become. All this is symptomatic of an international tax order under stress—unsurprisingly, since it was built piecemeal on the basis of principles that have become increasingly outdated (as a result, among other things, of the increased importance of intrafirm trade, of services that can be delivered remotely, of the easing of capital movements, and of massively increased financial sophistication).

[39] The precise nature of the injustice in low tax rates on business income is rarely articulated. The implications for the distribution of income at the personal level are not as obvious as is often supposed: shareholders, including through pension funds, are not necessarily especially well off, the overall burden also depends on personal-level taxes on dividends and capital gains, and in some circumstances the benefits of low corporate tax rates may be passed on in part to workers—though this is less likely the more widely the low rates apply and the more they apply to profits in excess of normal, for reasons set out, for instance, in IMF (2010a). The implications of the devices now discussed for the distribution of tax revenue across countries are no less a concern, pointing to the deeper question of how rights to tax international activities should be allocated.

[40] In his "Special Message to the Congress on Taxation" on April 20, 1961; the text of the message is available at http://millercenter.org/president/speeches/detail/5669.

Table 11. Empirical Evidence on the Growth Effects of Different Taxes

	Tax Instrument					
	PIT	SSC	CIT	CT	PT	Details
Studies on long-term impact						
Arnold and others (2011)	–1.1		–2.0	0.7	1.5	21 OECD countries, 1974–2004; error correction model, pooled mean group (PMG) estimator. The coefficients measure the effect on long-run GDP per capita of a 1 percent increase in income taxes (consumption and property taxes) which is offset by a decrease in consumption and property taxes (income taxes).
Xing (2012)	–2.7		–2.9	–1.6		17 OECD countries, 1970–2004; methodologies include PMG, mean group, pooled ordinary least squares, and fixed effects. Top row of data relates to specification with five-year dummies, second row to that with alternative five-year dummies (covering different years), and third row to that with linear trends (all using PMG estimates). The coefficients measure the long-run effect on income per capita of a 1 percent shift in tax revenue away from property taxes and toward income or consumption taxes. The fourth row measures the effect on long-run GDP per capita of a 1 percent shift away from income and consumption taxes toward property taxes.
	–1.1		–0.9	–1.4		
	–1.6		–1.7	–1.4		
					1.6	
Acosta-Ormaechea and Yoo (2012)						69 countries, 1970–2009; PMG. The coefficients measure the effect on the growth rate of long-run GDP per capita of a 1 percent increase in income taxes (consumption and property taxes) which is offset by a decrease in consumption and property taxes (income taxes).
Full sample	–0.1	–0.2	0[1]	0[1]	0.2	
High-income countries	–0.2	–0.2	0	0.1	0.3	
Middle-income countries	–0.2	–0.2	–0.1	0[1]	0.4	
Low-income countries	0.1[1]	0.2[1]	0	0[1]	0.1[1]	
Gemmell, Kneller, and Sanz (2011)	"Distortionary"	"Nondistortionary"				17 OECD countries, early 1970s–2004; PMG. The coefficients measure the effect on long-run GDP per capita of a 1 percent decrease in the budget deficit financed by increases in distortionary or nondistortionary taxation.
	–0.1	0.2				
Studies on short-term impact						
Mertens and Ravn (2013)						Narrative data set on tax shocks, 1950–2006, structural vector autoregression (SVAR) estimation, quarterly data, United States. Impact of a 1 percent cut in the average tax rate on real GDP per capita.
Impact	1.4	0.4				
3–4 quarters	1.8	0.6				
Arin, Helles, and Reich (2010)						SVAR estimation, quarterly data, 1972–2008, United States. Impact of a 1 percent decrease in tax revenues on real GDP.
First year	0.2	0.05	0.2			
t + 40	0	0.04	–0.3			
Riera-Crichton, Veigh, and Vultein (2012)						14 advanced economies, 1980–2009; quarterly database on value-added tax rate changes. Effect of a one-unit shock decrease in value-added tax revenue collection on output.
Impact			1.0			
Max effect (3 quarters)			2.7			

Note: CIT = corporate income taxes; CT = consumption taxes; PIT = personal income taxes; PT = property taxes; SSC = social security contributions; Distortionary = income taxes, social security contributions, and property taxes; nondistortionary = consumption taxes.

[1] Not significant at 5 percent level.

Assessing how much revenue is at stake is hard. For the United States (where the issue has been most closely studied), an upper estimate of the loss from tax planning by multinationals is about US$60 billion each year—about one-quarter of all revenue from the corporate income tax (Gravelle, 2013). In some cases, the revenue at stake is very substantial: IMF technical assistance has come across cases in developing countries in which revenue lost through such devices is about 20 percent of all tax revenue.

With strong support from the Group of Eight (G8) and Group of Twenty (G20), the Organisation for Economic Co-operation and Development (OECD) has developed a two-year action plan (set out in OECD, 2013c) to address key aspects of base erosion and profit shifting. This is an important exercise—and a difficult one, both technically and politically.

The fundamental difficulty in this area is the lack of cooperation in setting tax policies—tax competition, in a broad sense. Many of the devices facilitating base erosion and profit shifting are not unintended loopholes; they are there to secure national advantage. (Examples would be invidious, since so many countries have something on offer.) The spillovers that arise from noncooperative tax setting mean that the gains to one country come at the expense of others—and the sum of the losses likely exceeds the gains.

Tax competition and spillover issues go far beyond the devices that are the focus of base erosion and profit shifting (IMF, 2013a). A number of advanced economies, for instance, have moved or have been urged to move away from a "residence-based" system for taxing active business income, under which they tax such income arising abroad but give a credit for foreign taxes paid, to a "territorial" one, under which they simply exempt such income from tax in the home country. Such a shift can have significant implications for host countries, since any tax they charge will now remain as a final burden for the investor rather than be offset by reduced taxation in the investor's home country. As a result, these countries, anxious to attract investment, may face greater pressure to offer tax incentives, lower tax rates, and take other measures that erode their revenue bases (Perry, Matheson, and Veung, 2013; Mullins, 2006). Likewise, even if countries have doubts about the effectiveness of tax incentives in attracting foreign direct investment—the evidence is that other factors are much more important[41]—they will hesitate to eliminate them unless their neighbors do the same. In the event, closing off just some loopholes may make competition through other means more intense.

Tax competition can simply result in tax rates' ending up too low. In the limit, all countries could be left with perfectly aligned tax rates and territorial base and no compliance problems. There would then be no revenue loss from base erosion or profit shifting and no distortion of real decisions—but there would still be a social loss suffered, since effective tax rates would be below the levels to which a collective decision would have led.

Achieving meaningful cooperation in identifying ways in which to beneficially constrain tax competition will not be easy, to put it mildly. National self-interest, of course, always looms very large. But deep technical issues need to be faced head on. For instance, a system in which countries can differentiate in their tax treatment between highly mobile and immobile activities—perhaps not far from the current situation—can lead to less-damaging outcomes than one in which they must treat all investments equally.[42] And formula apportionment of a multinational's taxable profits across jurisdictions can lead to more aggressive tax competition than the current arm's-length principle.[43] But the gains from closer cooperation may be considerable—strengthened corporate taxation, especially as it bears on rents, could be a much-needed efficient source of additional revenue. The chance to review international tax architecture seems to come about once a century; the fundamental issues should not be ducked.

[41] Klemm and van Parys (2009) find that tax measures have attracted foreign direct investment in lower-income countries, and van Parys and James (2010) find some effect in the Caribbean too. Kinda (2013), on the other hand, finds little impact on the foreign share of the capital stock, with other factors much more important.

[42] This is true even in terms of national self-interest: investment can be increased in high-tax countries if more-tax-sensitive firms can use low-tax jurisdictions to reduce their effective tax rate (Desai, Foley, and Hines, 2006).

[43] Instead of allocating a multinational's taxable profits across jurisdictions by the use of arm's-length (market-mimicking) prices, "formula apportionment" would allocate a multinational's global profit by reference to indicators of its activity in each jurisdiction (such as sales, payroll, or workforce). This alternative approach, used at the subnational level in both Canada and the United States, has attracted considerable interest from civil society organizations, and the European Commission has proposed a system of this kind—a Common Consolidated Corporate Tax Base—for the European Union. These and other efficiency aspects of coordination are reviewed in Keen and Konrad (2013).

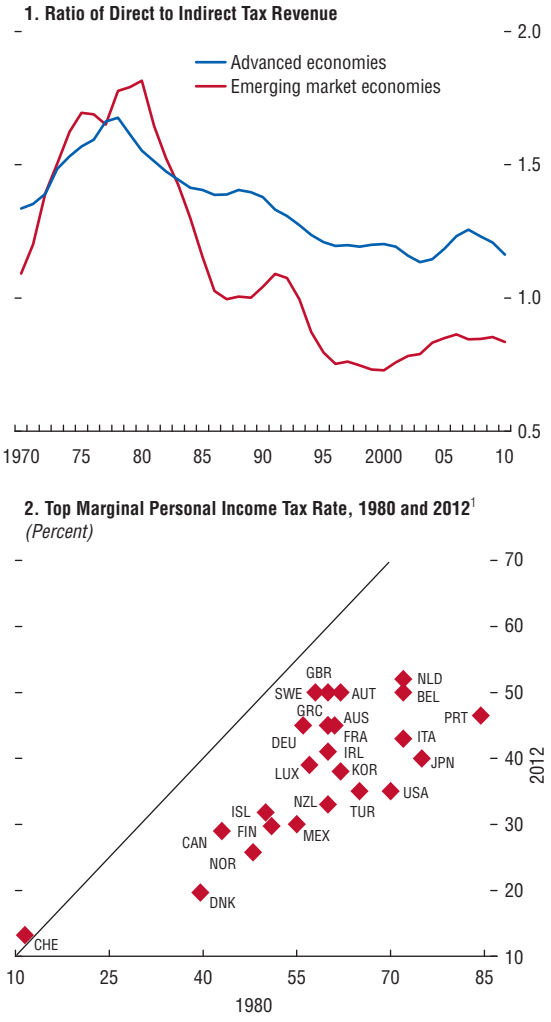
Room at the top?

Tax systems around the world have become steadily less progressive since the early 1980s. They now rely more on indirect taxes, which are generally less progressive than direct taxes, and within the latter, the progressivity of the personal income tax has declined, reflecting most notably steep cuts in top marginal tax rates (Figure 12).[44]

Taxation at the top has emerged with renewed force as a major concern in the last few years. The overall fairness of the fiscal system should be assessed in terms of taxes and spending combined, and most redistribution takes place through the latter (Figure 13). However, transfers (as well as in-work credits and the like) matter much less at the top end of the distribution, where it is taxation—the focus of this issue of the *Fiscal Monitor*—that drives fiscal fairness.

The backdrop to the debate is a marked increase in income inequality in many countries over the last few decades and a spectacular increase in the income share of the top 1 percent in particular, especially in the Anglo-Saxon world (Piketty and Saez, 2006; Atkinson, Piketty, and Saez, 2011). Whether the changes in tax rates have helped drive increases in underlying inequality remains unclear—though it is notable that those countries with the largest reductions in the top marginal income rate have experienced the greatest increase in inequality (Figure 14).[45] What has happened to the distribution of wealth is even less clear, but for the advanced economies that have been studied, there is more wealth around: ratios of private wealth to national income have more than doubled since about 1970 (Piketty and Zucman, 2013). Without entering into the question of whether the rich should pay more taxes—views on which will reflect ethical positions on which reasonable people can differ[46]—the aim here is to identify the trade-offs and practical issues that arise in taxing the rich. Is there room for those with the highest incomes and wealth to pay more without undue damage to efficiency?

Figure 12. Emblems of Lesser Progressivity



Sources: OECD central government statutory top personal income tax rates; and IMF staff estimates.
Note: Panel 1 depicts unweighted averages.
[1]Does not include taxation from state and local authorities. In countries with highly decentralized tax systems such as Switzerland, the combined top income tax rate can be significantly higher than shown in the figure.

Taxing high incomes

Figure 15 shows, for a range of advanced economies, that the richest 10 percent account for a strikingly large proportion, 30–50 percent, of all revenue from the personal income tax and social contributions, with the top 1 percent alone accounting, on average, for about 8 percent.[47] And

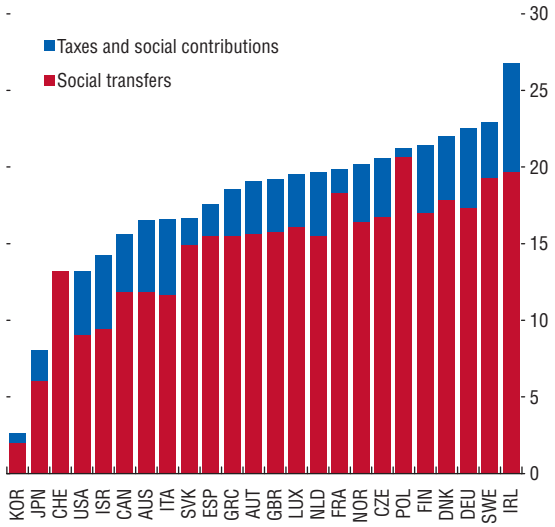
[44] Peter, Buttrick, and Duncan (2010) show that the trend toward lower top marginal personal income tax rates over the last 30 years has been worldwide and that the wider progressivity of the system—measured in terms of the distribution of tax liabilities over the full income range—has trended down in all but the lowest-income countries.

[45] Piketty, Saez, and Stantcheva (2011) note that the cuts in top marginal rates generally preceded increased income shares of the top 1 percent.

[46] The same is true of essentially all tax issues, of course, but is especially evident when, as here, the focus is explicitly on raising more from a particular group.

[47] The data underlying the figure are in the Statistical Appendix (Statistical Tables 15a and 15b).

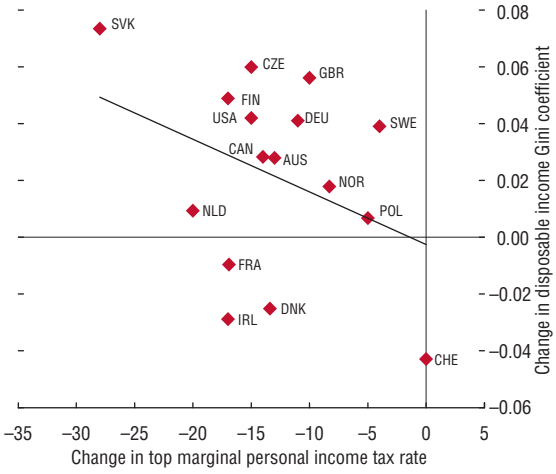
Figure 13. Redistribution through Direct Taxes and Social Transfers



Sources: IMF staff estimates using (equivalized) household-level data from the Luxembourg Income Study database.

Note: The figure breaks down, into effects due to direct taxes and social contributions paid and those due to social transfers received, the amount by which the Gini coefficient (a measure of inequality between 0 and 100, with higher values indicating more inequality) of market incomes exceeds that of final incomes. Non-means-tested transfers account for the bulk of redistribution on the spending side. (In-kind benefits, such as health care and education, are not included.)

Figure 14. Changes in Top Marginal Personal Income Tax Rate and Disposable Income Inequality between the Mid-1980s and the Late 2000s



Sources: Luxembourg Income Study database; OECD central government statutory top personal income tax rates; and IMF staff estimates.

Note: The figure does not include taxation from state and local authorities. In countries with highly decentralized tax systems, such as Switzerland, the combined top income tax rate can be significantly higher than is shown in the figure.

these are likely to be underestimates.[48] How these groups are taxed thus matters not just for perceived equity, but for sheer amounts of revenue. And increasingly so: in virtually all cases the proportions of all income taxes paid by these groups have increased over the last 20 years or so. The increase is noticeably greater where top marginal rates have been cut most (Figure 16).

In terms of their distributional impact, these tax systems have remained progressive in the minimal sense that the top 10 percent account for a larger proportion of taxes paid than they do of income received. The picture varies across countries, however, as to whether the increase in their tax share has exceeded that in their income share—which would mean an increase in progressivity of the personal income tax and social contributions at the very top of the income distribution—or not.

Whether those with the highest incomes could or should pay more has become a contentious political issue in many countries. Several, given large consolidation needs, have bucked the decades-long trend by increasing top personal income tax rates quite substantially: since 2008, Greece, Iceland, Ireland, Portugal, Spain, and the United Kingdom have all done so, on average by more than 8 percentage points.[49]

Assessing whether there is untapped revenue potential at the top of the income distribution requires comparing today's top marginal income tax rate with the marginal tax rate that would maximize the amount of tax paid by top income earners. The latter depends on two things: first, how responsive their taxable income is to that marginal rate—which in turn depends on both "real" decisions (on labor supply efforts and the like) and "paper" avoidance activities; and second, the distribution of income within that upper group. Ranges of revenue-maximizing top income tax rates can be calculated by combining existing estimates of the elasticity of taxable income with the data on income distribution used above. The average is about 60 percent. In most cases, current top marginal rates are toward the lower end of the range (Figure 17), implying that in many countries it might indeed be possible to raise more from those with the highest incomes.[50]

[48] Because the household surveys from which these figures are calculated underrepresent those with very high incomes.

[49] In April 2013 the United Kingdom reduced its top rate from 50 percent to 45 percent.

[50] The adoption of the "flat tax" in Russia in 2001 is a famous example of a reform that cut the top marginal rate (from 30 percent to 13 percent) and was followed by a large *increase* in personal income tax revenue. Close analysis has concluded, however, that this primarily reflected nontax developments (Ivanova, Keen, and Klemm, 2005; Gorodnichenko, Martinez-Vasquez, and Peter, 2009).

Figure 15. Selected Advanced Economies: Shares of Pretax and Transfer Income and Taxes Paid
(Percent of total)

Source: IMF staff estimates using household-level data (equivalized) from the Luxembourg Income Study database.

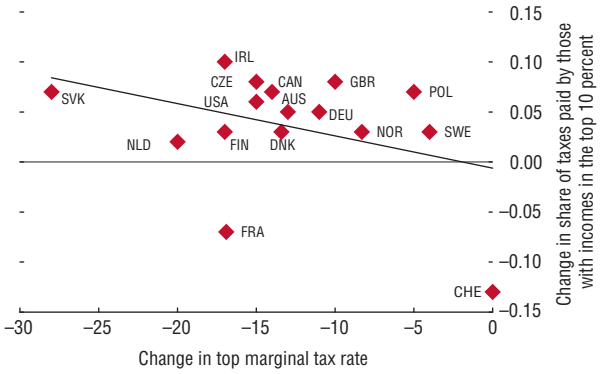
How much more? The implied revenue gain if top rates on only the top 1 percent were returned to their levels in the 1980s averages about 0.25 percent of GDP (Figure 18), but the gain could in some cases, such as that of the United States, be more significant. This would not make much of a dent in aggregate inequality,[51] for which, if that is the objective, more dramatic change would be needed.

There are limits to the scope for raising top marginal rates that are not fully captured in these calculations. The calculations ignore, for instance, the potential

These analyses also concluded that the reform did improve compliance, suggesting that the revenue-maximizing top personal income tax rate is likely to be lower where compliance is weak.

[51] This change alone would reduce Gini coefficients by less than 0.01 on average.

Figure 16. Changes in Top Marginal Personal Income Tax Rates and Shares of Taxes Paid by Top 10 Percent



Sources: Luxembourg Income Study database ; OECD central government statutory top personal income tax rates; and IMF staff estimates.

Note: The figure does not include taxation from state and local authorities. In countries with highly decentralized tax systems, such as Switzerland, the combined top income tax rate can be significantly higher than is shown in the figure.

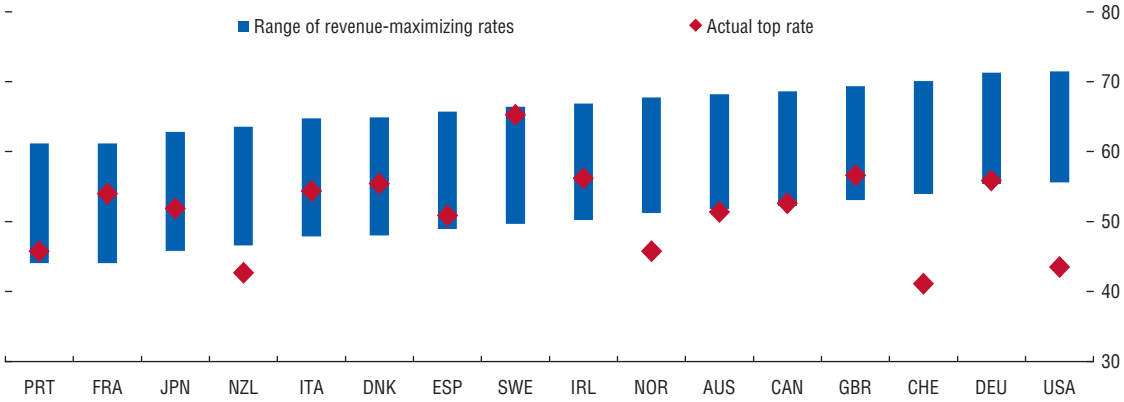
mobility of taxpayers across countries (although work on European soccer players—a mobile, highly paid group if ever there was one—suggests this may not be as great as one might suppose; Kleven, Landais, and Saez, 2010). Moreover, a revenue-maximizing approach to taxing the rich effectively puts a weight of zero on their well-being—contentious, to say the least.

What then if some weight is indeed attached to the well-being of the richest? Figure 19 provides a way to think about the trade-off between equity and efficiency considerations in setting the top marginal rate in that case. It shows (given the same behavioral assumptions as above) the relative social weight on the welfare of those with the highest income that is consistent with the current top rate.[52] Unsurprisingly, lower marginal rates are associated with a higher welfare weight on those with top incomes.[53] The figure provides a simple way of deciding whether one believes the top marginal rate should be higher or lower. If one attaches less weight to those with the highest incomes (relative to those with lower ones) than shown there, the vote would be to increase the top marginal rate; if more weight, the vote would be to cut the rate.

[52] More precisely, it shows what the weight attached to the welfare of those in the highest incomes (relative to that on those with lower incomes) must be if (given the assumption on behavioral responses in the figure) the current top marginal rate exactly balances the welfare loss to the richest (from a slight increase in the marginal rate they face) against the social value of the additional revenue they pay.

[53] By the same token, the trend toward lower top rates over the last three decades is consistent with an increase in the valuation of the welfare of those with the highest incomes relative to those with lower ones. It remains an open question whether social preferences are now reverting to their earlier pattern.

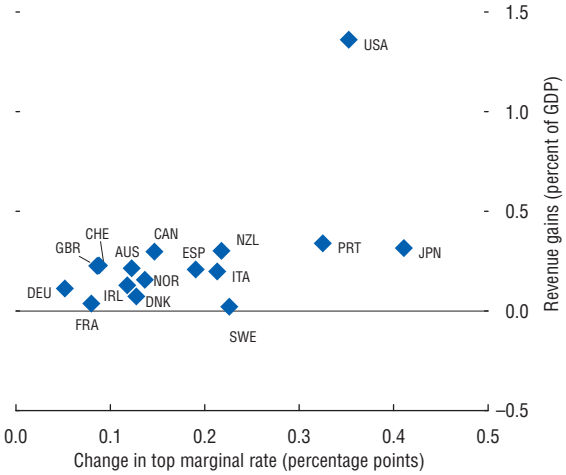
Figure 17. Top Marginal Rates and Revenue-Maximizing Rates, Late 2000s
(Percent)



Sources: OECD (2011); World Top Income Database (Alvaredo and others, 2013); and IMF staff estimates.

Note: Saez (2001) shows the optimal top marginal rate to be $T = (1 - \omega)/(1 - \omega + ae)$, where ω is the weight attached to the welfare of those in the top income group, a is the parameter of the Pareto distribution assumed to characterize the distribution of income in this group, and e is the average elasticity of taxable income (with respect to unity minus the marginal tax rate). The calculations here set ω equal to 0 (meaning that the changes in welfare of those with the top incomes are not valued by policymakers), set e to between 0.25 and 0.50 (based on the review of the evidence, which is mainly for the United States, in Saez, 2012; Mertens, 2013, using a narrative-based time series approach, finds higher values), and take a from the World Top Incomes Database. The actual marginal tax rate reflects the top combined federal and subnational statutory personal income tax rate, social contributions (taking account of any cap on the latter), and the value-added tax.

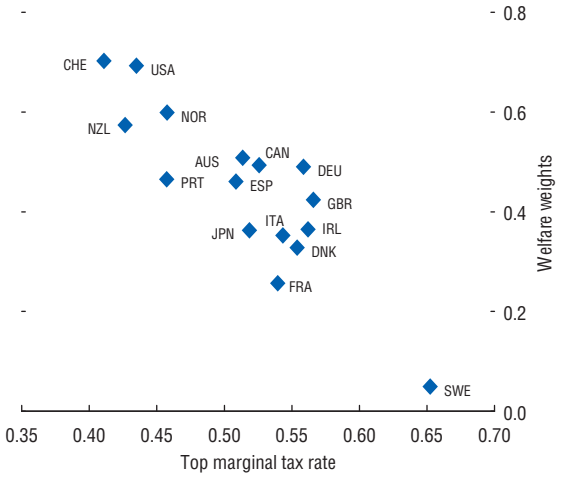
Figure 18. Revenue Gains from Returning Marginal Tax Rate on Top 1 Percent to 1980s Level



Sources: OECD (2011); World Top Incomes Database (Alvaredo and others, 2013); and IMF staff estimates.

Note: The revenue gains from a small tax reform are computed as $z \cdot d\tau \cdot [1/a - e \cdot \tau/(1-\tau)]$, where z is the average income of individuals in the top 1 percent, τ is the top marginal rate, $d\tau$ is the change in the top marginal rate, a is the Pareto parameter of the income distribution, and e is the elasticity of taxable income. The Pareto parameters are taken from the World Top Incomes Database, and an elasticity of taxable income of 0.25 is assumed. Note that revenue gains will be lower if the elasticity is higher at higher tax rates. The change in the top marginal tax rate reflects changes in the top combined federal and subnational statutory personal income tax rate, changes in social contributions (taking account of any cap on the latter), and the value-added tax.

Figure 19. Implied Welfare Weights for Top Incomes and Top Marginal Rates, Late 2000s, Low Elasticity of Taxable Income



Sources: OECD (2011); World Top Incomes Database (Alvaredo and others, 2013); and IMF staff estimates.

Note: The welfare weight measures the dollar value to society of increasing by one dollar the consumption of the average person in the top income bracket. An alternative interpretation is the answer to the question "How much government revenue would you be willing to forgo for a one-dollar increase in the income of the average person in the top income bracket?" It is calculated by replacing T in the formula in Figure 17 with the actual top marginal rate and solving for ω. Top marginal tax rates are calculated using the same parameters as in Figure 17.

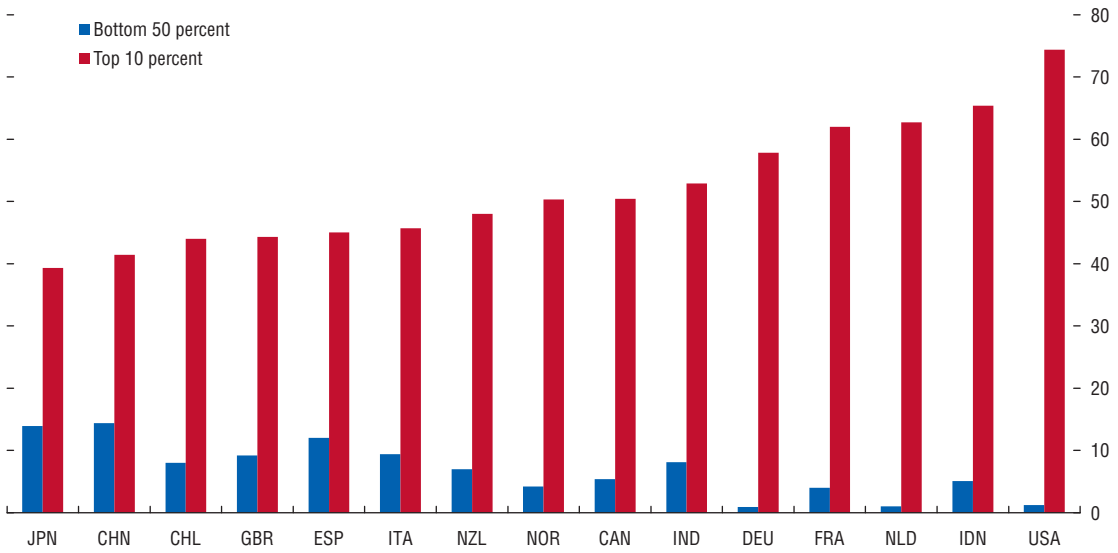
Taxing property and transfers

Household wealth is very unequally distributed (Figure 20)—even more so than income: in advanced economies, the top 10 percent own, on average, more than half of the wealth (up to 75 percent in the United States). It is, arguably, a better indicator of ability to pay than annual income—and indeed taxes on wealth and transfers have historically been a major source of revenue. Now, however, they yield very little (Figure 21)—slightly under 2 percent of GDP on average in the OECD. Is this a revenue source that could be tapped more?

There are, in fact, several quite different types of taxes on property and transfers:

- *Recurrent taxes on residential property*, which account for about one-half the revenue totals above, are widely seen as an attractive and underexploited revenue source: the base is fairly immobile and hard to hide, the tax comes at the top of the hierarchy of long-run growth-friendliness mentioned earlier, and it can be made progressive through a basic allowance or by varying the rate with the value of the property. It has particular appeal as a source of local-government finance, since property values will reflect the benefits of local public spending. Especially outside Anglo-Saxon countries, there is evident scope to raise more, though effective implementation of a property tax requires a sizable up-front investment in administrative infrastructure, particularly in emerging market economies (Appendix 3 provides a more detailed account of property tax issues).
- *Transaction taxes*—primarily on the sale of real estate, and financial instruments—typically account for one-quarter of the revenue above. They are administratively appealing, since transactions can often be fairly easily observed (stamp duty on the sale of shares in the United Kingdom, for instance, is one of the cheapest, per pound collected, of all taxes), and there are strong incentives for compliance when legal title is contingent on payment. But transaction taxes are inherently inefficient, in that they impede otherwise mutually beneficial trades; those on real estate transactions, for example, have been shown to adversely impact labor mobility (van Ommeren and

Figure 20. Shares of Net Wealth Held by Bottom 50 Percent and Top 10 Percent



Sources: Credit Suisse; Statistics Norway; Luxembourg Wealth Study database; and IMF staff estimates.

van Leuvensteijn, 2005). Though some argue that transaction taxes can help reduce asset price volatility, the effect is uncertain in both principle and practice (because the tax leads to a thinner market). In recent years they have in some cases been used deliberately to affect asset prices. But this risks further entrenching inefficiencies while pursuing purposes better served by macroprudential tools (IMF, 2013c).

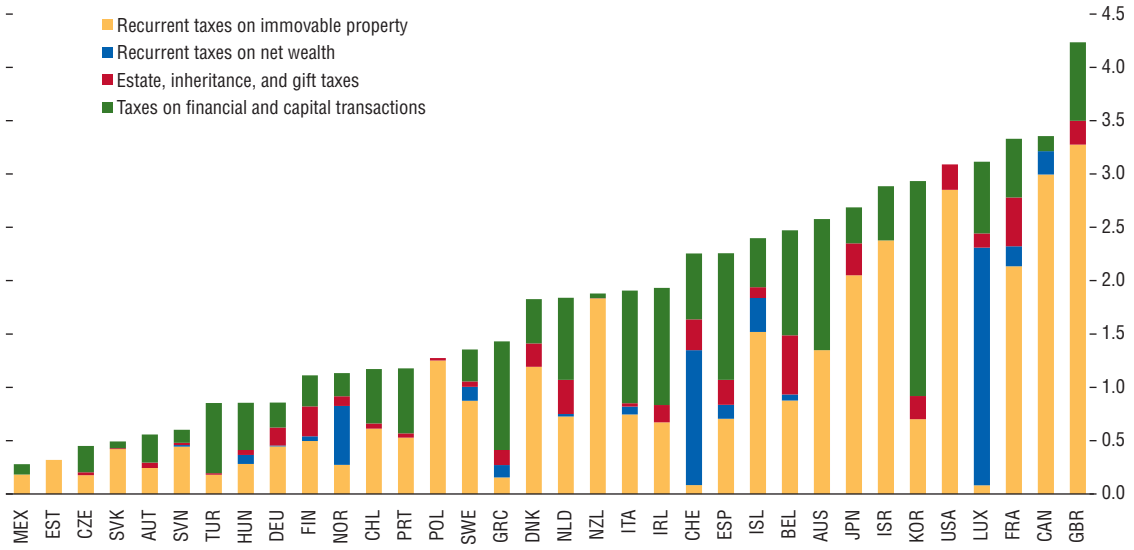
- *Taxes on wealth transfers—on estates, inheritances, and gifts*[54]—raise very little: rates are low, and exemptions and special arrangements create multiple avoidance opportunities (Figure 22). Their distortionary cost is hard to assess,[55] as it depends partly on the donor's motive. There will be no impact, for instance, on the behavior of donors who accumulate wealth simply for their own enjoyment and, failing to annuitize it, die before they have spent it all, or on the accumulation of wealth in excess of a normal rate of return. The primary appeal of inheritance taxes is in limiting the intergenerational transmission of inequality and perhaps also in reducing the consequent distortion of recipients' work effort. In revenue terms, the yield in the countries with highest returns, about ½ percent of GDP, suggests some potential.
- *Recurrent taxes on net wealth* (assets less liabilities) have been declining in Europe over the last 15 years (repealers include Austria, Denmark, Finland, Germany, the Netherlands, and Sweden). But this may be changing: Iceland and Spain reintroduced the tax during the crisis, and it is now actively discussed elsewhere. (There has been interest, too, in the possibility of a one-off wealth tax to restore debt sustainability, taken up in Box 6.) The revenue potential is subject to considerable uncertainty (related, for instance, to the valuation of real estate) but is in principle sizable. Based on Luxembourg Wealth Study data, a 1 percent tax on the net wealth of the top 10 percent of households could, in principle, raise about 1 percent of GDP per year (Table 12); calculations for 15 euro area countries using more recent data[56] point to broadly similar numbers. Little hard evidence is available on the likely behavioral impact, a primary risk being that of discouraging capital accumulation: if wealth earns

[54] An estate tax is one levied on the value of assets at death; an inheritance tax is levied on the recipients.

[55] Kopczuk (2013) reviews the evidence, which is more informative about shorter-term responses to incentives—one macabre distortion being to the timing of death (Kopzcuk and Slemrod, 2003)—than it is about longer-term effects on capital accumulation. Theoretical results on optimal bequest taxation differ widely. Fahri and Werning (2010) find that it is optimal to subsidize bequests (because donors do not take full account of the social benefit to the recipients). In a different setting, Piketty and Saez (2012) find the optimal rate to be positive, and in some cases substantial. For general discussion, with an eye to practicalities of implementation, see Boadway, Chamberlain, and Emmerson (2010).

[56] From the Eurosystem's Household Finance and Consumption Survey (Household Finance and Consumption Network, 2013).

Figure 21. Average Property Taxes in OECD Economies, 2000–11
(Percent of GDP)



Source: Organisation for Economic Co-operation and Development (OECD) Revenue Statistics.

a real return of, say, 3 percent, then a 1 percent tax on wealth is equivalent to a 33 percent tax on that return. This will be less of a concern to the extent that wealth accumulation derives from returns in excess of normal (and a tax on high levels of wealth could usefully supplement taxes on capital income now often imposed at low effective rates or evaded).

The modern history of recurrent wealth taxes, however, is not encouraging. Relief and exemptions—for land, for instance, and family-owned businesses—creep in, creating avoidance opportunities, as do ferociously complex aspects of the legalities (in dealing with trusts, for instance). Financial wealth is mobile, and so, ultimately, are people—generating tax competition that largely explains the erosion of these taxes. There may be a case for taxing different forms of wealth differently according to their mobility—meaning a higher rate on nonfinancial wealth (largely real estate) than financial. In fact, it appears that both forms of wealth are quite large (Figure 23) and, perhaps surprisingly, that nonfinancial assets are very important for the very wealthy (Table 13).

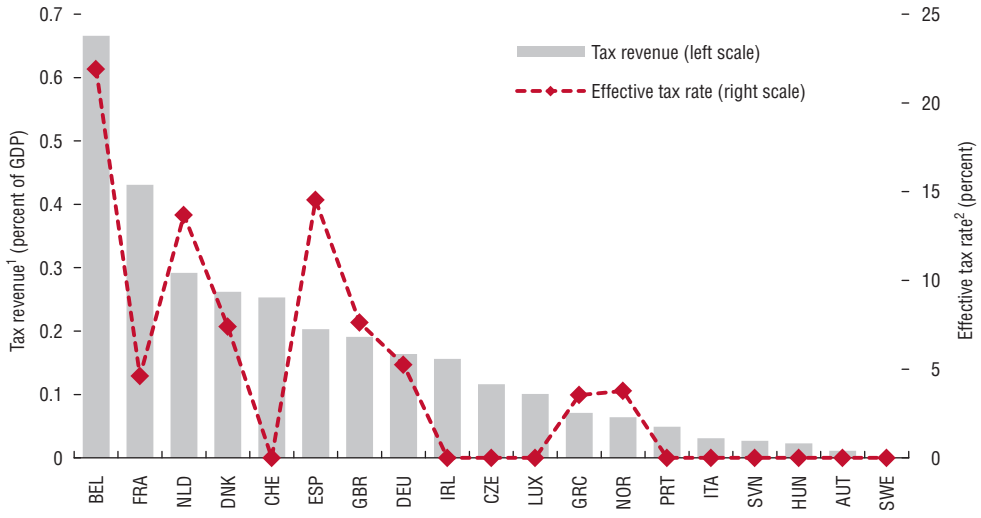
Substantial progress likely requires enhanced international cooperation to make it harder for the very well-off to evade taxation by placing funds elsewhere and simply failing to report as their own tax authorities in principle require. One careful estimate is that there is about US$4.5 trillion in unrecorded household assets located in tax havens (Zucman, 2013). Curbing the practice of relocating assets to avoid taxation requires that countries be able and willing to exchange information about the incomes and assets of one another's residents. There has been significant progress since the G20 reinvigorated efforts in this area, led by the OECD's Global Forum on Transparency and Information Exchange, to the point that 1,000 or so information exchange agreements are now in place, and with automatic exchange of information, rather than simply on request, now becoming the new global standard. Unilateral measures (offering reciprocal exchange of information) are also proceeding, notably the U.S. Foreign Account Tax Compliance Act (FATCA), with a similar EU measure expected: these, unlike work to date in the Global Forum, envisage penalties for noncompliance. Although these initiatives face difficulties that should not be underestimated,[57] over the longer term they have the potential to make much fairer tax systems.

Making tax reform happen

There is, then, quite a bit of scope to tax better: to increase the legitimacy of the consolidation effort while doing more to promote growth and bring some additional revenues along the way. A significant body

[57] There is evidence, for instance, that when some jurisdictions commit to exchange of information, deposits partly move to those that do not (Johannesen and Zucman, 2013).

Figure 22. Effective Inheritance Tax Rates in Europe, 2011



Sources: Accessing Global Knowledge International (2011); Organisation for Economic Co-operation and Development; and IMF staff estimates.
[1] For Greece, the Netherlands, and Portugal, tax revenues refer to 2010 data.
[2] Effective tax rates are based on taxes paid by the estate of a married individual who died on January 1, 2011, leaving a spouse and two children. Total estate value is assumed to be €2.6 million.

of literature has explored how the scope, timing, and objectives of tax reforms are influenced by their economic, political, and institutional setting (Table 14). On timing, the conventional wisdom is that tax reforms are easiest to undertake in good times, when buoyant revenues can be used to compensate losers.[58] So the problem is how to make reform happen now, when there are no resources to spare.

A related issue of current importance is whether political constraints are amplified during crises relative to "normal" times, or whether crisis times offer an opportunity for reform as the urgency facilitates political agreement among different actors (IDB, 2013).

[58] For example, in the Slovak Republic poorer households were compensated for the effect of income tax reform in 2004; in Chile, tax reform in the early 1990s, including reform of the VAT, was accompanied by an increase in social spending (Brys, 2011).

The empirical evidence increasingly supports the view that during crises, market or other pressures may push authorities into measures that risk damaging long-term efficiency and equity.[59] Part of the reason, no doubt, is speed and ease. But there is more to it: some countries have managed to introduce wholly new taxes in the aftermath of the crisis, and it is not clear, for instance, that it is technically any easier or even quicker to increase VAT revenue by raising the standard rate than by widening the base.

Long-lasting structural reforms are more frequently observed in "good" times. For example, the growth-friendly tax reform agenda that sought to boost com-

[59] In Latin American and Caribbean countries, for instance, the focus of reforms has shifted from simplification and the reduction of distortions in the early 1990s to revenue mobilization in later years, largely in response to crises (IDB, 2013).

Table 12. Potential Revenues from Recurrent Net Wealth Taxes
(Percent of GDP)

	Survey Year	1 Percent Tax on Wealthiest 10 Percent of Households[1]	Progressive Tax Rate Schedule: 1 Percent on Top 10 Percent and Additional 1 Percent on Top 5 Percent[1]
Canada	1999	0.6	1.1
Germany	2006	1.1	2.0
Italy	2004	1.0	1.7
Japan	2003	1.2	2.0
United Kingdom	2000	0.8	1.3
United States	2006	1.7	3.1
Unweighted average		1.1	1.9

Sources: Luxembourg Wealth Study database; Organisation for Economic Co-operation and Development; Eurostat; and IMF staff estimates.
[1] Tax applies only to the portion of wealth above the 90th percentile.