CHAPTER 1

A GREATER ROLE FOR FISCAL POLICY

Fiscal policy has recently gained prominence, both in public debate and in governments' policy agendas (Figure 1.1). A reassessment of fiscal policy is taking place, stressing its greater role in fostering sustainable and inclusive growth and smoothing the economic cycle. At the same time, the high uncertainty surrounding the outlook and high levels of public debt require a better understanding and managing of fiscal risks. Therefore, fiscal policy has the difficult task of achieving more and better in a more constrained environment. This issue of the *Fiscal Monitor* shows how the evolution of the debate on fiscal policy can shed new light on fiscal developments and help frame policy recommendations to countries.

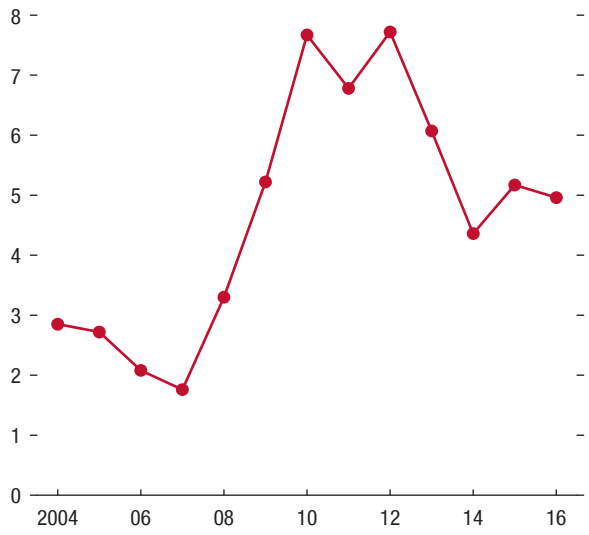
Introduction

In the last decade, a debate has taken place among policymakers and in the academic world about the role, design, and efficacy of fiscal policy (Romer 2012; Cottarelli, Gerson, and Senhadji 2014; Gaspar, Obstfeld, and Sahay 2016). Some argue that a new view on fiscal policy is emerging (Furman 2016; Roubini 2016; Ubide 2016). Although it is still too early to talk about a new consensus, it is clear that a reassessment of public policies is taking place. To examine the role of fiscal policy, this chapter uses the classification of public finances into three functions—economic stabilization, allocation, and redistribution—first proposed by Musgrave (1959).[1] The chapter also acknowledges that most governments operate with limited fiscal buffers and have to be selective in their budgetary choices. Therefore, the functions examined in the discussion that follows should be considered as a road map for policymakers. Specifically, the current debate points to a greater role for fiscal policy along three main dimensions:

Stabilization policies to smooth the economic cycle. Prior to the global financial crisis, discretionary fiscal policy was, in general, not seen as an effective tool for macroeconomic stabilization (Taylor 2000; Blanchard, Dell'Ariccia, and Mauro 2010; IMF 2013).[2] Monetary

Figure 1.1. Mentions of Fiscal Issues in the Economic Press, 2014–16
(Percentage of total articles)

The prevalence of press articles on fiscal issues has surged over the last decade.



Sources: *Financial Times*; and IMF staff calculations.
Note: For the purposes of this figure, an article is considered fiscal if it contains the word "fiscal," but not the words "fiscal year" (to exclude articles related to company performance).

[1]The *stabilization* (or *countercyclical*) *function* refers to the ability of fiscal policy to smooth short-term economic fluctuations by providing support to aggregate demand in bad times and alleviating inflation pressures and the risk of overheating in good times. The *allocation function* corresponds to the provision of public goods and services in the most efficient way; this report takes a macroeconomic perspective on allocation by focusing on how fiscal policy can contribute to medium- to long-term growth. The *redistribution function* refers to ways governments can affect the distribution of income and wealth through tax and expenditure measures.

[2]Fiscal policy can stabilize domestic demand and smooth economic fluctuations either through the operation of automatic stabilizers or through discretionary measures. *Automatic stabilization* arises from parts of the fiscal system that naturally vary with changes in economic activity. For example, as output falls, tax revenues also fall and unemployment payments rise, which "automatically" provides demand support. *Discretionary fiscal policy*, on the other hand, involves active changes in expenditure and tax policies in response to the business cycle.

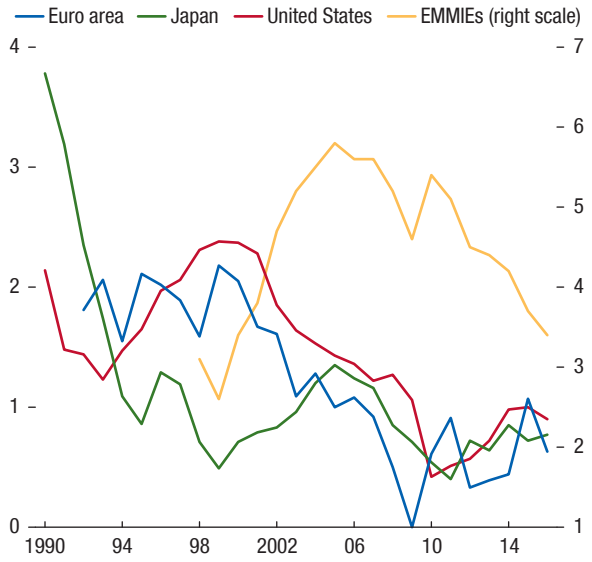
policy was the preferred instrument for mitigating fluctuations in the business cycle. The reluctance to use discretionary fiscal policy for stabilization reflected four broad considerations: the relatively long time it takes for fiscal measures to be implemented and have an impact on the economy; the difficulty of reversing a fiscal stimulus; governments' tendency to spend revenue windfalls in good times, leaving insufficient buffers to fund expansionary policies in bad times; and the belief that markets may reward fiscal discipline and that, in some cases, fiscal consolidation could be expansionary. During the global financial crisis, fiscal policy returned to the front of the stage as a countercyclical tool, partly in response to the depth and length of the recession, but also because monetary policy alone could not restore full employment. The greater role of fiscal policy for stabilization has also been supported by academic research showing that discretionary fiscal policy can have a strong effect on output (reflected in high fiscal multipliers) when monetary policy is constrained, the financial sector is weak, and there is significant and protracted slack in the economy (Christiano, Eichenbaum, and Rebelo 2011; Woodford 2011; Auerbach and Gorodnichenko 2012; Jordà and Taylor 2016). However, under normal circumstances, the preferred approach to macroeconomic stabilization continues to be a combination of monetary policy with free operation of automatic stabilizers (DeLong and Summers 2012).

Allocation policies to foster long-term growth. The idea that fiscal policy can affect an economy's trend growth, and not solely the fluctuations around it, is not new (Tanzi and Zee 1997). In particular, the economic literature has long argued that fiscal policy can have permanent effects on the level and even the growth rate of GDP per capita (for a review of endogenous growth models, see IMF 2015a). However, the tool kit of growth-friendly fiscal measures was relatively limited and lacked granularity in the 2000s. In addition, even for the least contentious candidates, such as public investment or education, empirical evidence was mixed regarding the size of their growth impact (Warner 2014). With the slowdown in productivity and potential growth (which, in many countries, started well before the global financial crisis; see Chapter 3 of the April 2015 *World Economic Outlook*), governments have explored new policy levers to boost employment, accelerate capital accumulation, and lift productivity (Figure 1.2). In parallel, progress has been made in understanding how tax and expenditure measures can be used as structural instruments to improve medium- to long-term growth, with research demonstrating that these reforms have a larger growth dividend than previously thought (OECD 2010; Barbiero and Cournède 2013; IMF 2015a). In the area of taxation, as shown in Chapter 2, the use of micro data has allowed a better estimation of the effect of taxes on firms' productivity and investment (Egger and others 2009; Gemmell and others 2016). Concerns that demand could remain persistently weak and lead to "secular stagnation" have also strengthened the case for raising public investment, which remains at a historical low in advanced economies (October 2014 *World Economic Outlook,* Chapter 3; Summers 2014, 2016). Another important finding has been that fiscal policy can also have an indirect impact on long-term growth by supporting the implementation of structural reforms, such as labor or product market reforms. Since some structural reforms tend to yield smaller benefits when the economy is weak, their effect can be amplified when they are complemented by fiscal policies that support aggregate demand (October 2014 *Fiscal Monitor*, Chapter 2; April 2016 *World Economic Outlook*, Chapter 3).

Redistribution policies to promote inclusiveness. Equity issues have become more visible after three decades of rising income inequalities in many countries (Figure 1.3). Together with the social tensions associated with fiscal consolidation programs, this has put the distributional effects of governments' tax and spending policies at the heart of public debate. The salience of these trends has also been reinforced by advances in the measurement of income and wealth concentration over the long term in a growing number of countries (Atkinson, Piketty, and Saez 2011; Mankiw 2013). While there is relatively broad consensus on the inequality trends, the contribution of various underlying causes is still being explored. Some studies have emphasized the effects of technological change and global economic integration (Helpman and others 2017; Jaumotte, Lall, and Papageorgiou 2013), while others have highlighted the role of policies, including the reduction in top personal income tax rates (Alvaredo and others 2013) and lower capital taxation (Piketty 2015). Another area in which significant progress has been made is the design and implementation of inclusive fiscal policies. The growing use of household survey and adminis-

Figure 1.2. Potential GDP Per Capita Growth, 1990–2016
(Percent)

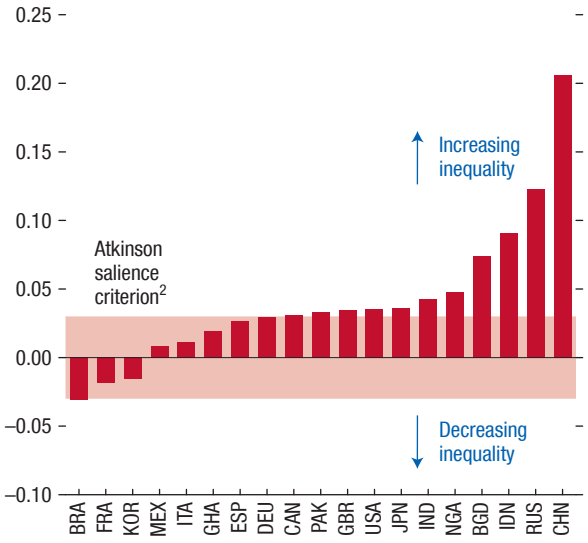
Since the early 2000s, potential growth has decelerated dramatically.



Source: IMF staff estimates.
Note: EMMIEs = emerging market and middle-income economies.

Figure 1.3. Change in Disposable Income Inequality for Selected Countries, 1985–2015[1]
(Change in Gini index)

The benefits of growth have been shared less and less evenly in the last three decades.



Sources: Standardized World Income Inequality Database; and IMF staff estimates.
Note: Data labels use International Organization for Standardization (ISO) country abbreviations; see "Country Abbreviations" for definitions.
[1]1985 refers to 1985 or the earliest available year until 1990. 2015 refers to 2015 or the latest available year between 2010 and 2015.
[2]According to the Atkinson salience criterion, changes in the Gini index larger than 0.03 are considered economically significant and are indicative of a salient change in redistribution policy (Atkinson 2015).

trative data has allowed a better calibration of tax, transfer, and social insurance measures and a better understanding of their incidence (Brewer, Saez, and Shephard 2010; Chetty and Finkelstein 2013; Lustig, Pessino, and Scott 2014). In this context, discussion has revolved around the efficiency cost of progressive taxation, with some arguing that the redistributive benefits of higher marginal income tax rates exceed their costs (Diamond and Saez 2011; Piketty, Saez, and Stantcheva 2014), although this is the subject of an ongoing debate (Mankiw, Weinzierl, and Yagan 2009). At the macroeconomic level, recent research also suggests that equity-enhancing fiscal measures may be consistent with sustainable economic growth (Ostry, Berg, and Tsangarides 2014). One implication is that, in certain cases, there may be scope to improve income distribution without undermining incentives to work and invest (IMF 2014a; Fabrizio and others 2017).

The rest of the chapter examines fiscal trends and recommendations through the prism of these new views on fiscal policy. The next section reviews recent fiscal developments and finds that fiscal policy already assumes a broader role in several countries. Nonetheless, there is still room for more stabilizing, growth-friendly, and inclusive policies around the world. The third section—titled "Can Fiscal Policy Do More and How?"—discusses in greater depth the three objectives of fiscal policy and shows how they translate into specific policy recommendations, taking into account country circumstances and constraints.

Recent Fiscal Developments and Outlook

This section examines recent fiscal developments in the three main country groups (advanced economies, emerging markets and middle-income economies, and low-income developing countries), provides an overview of the fiscal outlook, and highlights the main risks to the projections (Tables 1.1a, 1.1b, and 1.2).

Table 1.1a. General Government Fiscal Balance, 2010–18: Overall Balance

(Percent of GDP)

								Projections		Difference from April 2016 *Fiscal Monitor*		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2016	2017	2018
World	**–5.7**	**–4.3**	**–3.7**	**–2.8**	**–2.9**	**–3.3**	**–3.6**	**–3.4**	**–3.1**	**0.0**	**–0.2**	**–0.4**
Advanced Economies	**–7.6**	**–6.2**	**–5.4**	**–3.6**	**–3.1**	**–2.6**	**–2.9**	**–2.7**	**–2.7**	**0.0**	**–0.2**	**–0.5**
United States[1]	–10.9	–9.6	–7.9	–4.4	–4.0	–3.5	–4.4	–4.0	–4.5	–0.5	–0.4	–1.0
Euro Area	–6.2	–4.2	–3.6	–3.0	–2.6	–2.1	–1.7	–1.5	–1.2	0.3	0.0	–0.2
France	–6.8	–5.1	–4.8	–4.0	–4.0	–3.5	–3.3	–3.2	–2.8	0.1	–0.4	–0.5
Germany	–4.2	–1.0	0.0	–0.2	0.3	0.7	0.8	0.6	0.6	0.7	0.5	0.3
Italy	–4.2	–3.7	–2.9	–2.9	–3.0	–2.7	–2.4	–2.4	–1.4	0.3	–0.8	–0.9
Spain[2]	–9.4	–9.6	–10.5	–7.0	–6.0	–5.1	–4.6	–3.3	–2.7	–1.3	–0.8	–0.7
Japan[3]	–9.1	–9.1	–8.3	–7.6	–5.4	–3.5	–4.2	–4.0	–3.3	0.6	0.0	0.2
United Kingdom	–9.5	–7.5	–7.7	–5.6	–5.7	–4.4	–3.1	–2.8	–2.1	0.1	–0.6	–0.8
Canada	–4.7	–3.3	–2.5	–1.5	0.0	–1.1	–1.9	–2.4	–2.2	0.5	–0.6	–0.9
Others	–0.2	0.4	0.4	0.2	0.2	–0.1	0.0	–0.2	0.2	0.3	0.0	–0.1
Emerging Market and Middle-Income Economies	**–2.1**	**–1.0**	**–0.9**	**–1.4**	**–2.4**	**–4.4**	**–4.8**	**–4.4**	**–3.9**	**–0.1**	**–0.3**	**–0.2**
Excluding MENAP Oil Producers	–2.8	–1.8	–2.0	–2.3	–2.7	–4.1	–4.3	–4.4	–3.9	–0.2	–0.7	–0.6
Asia	–2.2	–1.6	–1.6	–1.8	–1.9	–3.2	–3.9	–3.9	–3.7	–0.4	–0.7	–0.8
China	–0.4	–0.1	–0.3	–0.8	–0.9	–2.8	–3.7	–3.7	–3.4	–0.7	–1.1	–1.1
India	–8.6	–8.3	–7.5	–7.0	–7.2	–7.1	–6.6	–6.4	–6.3	0.5	0.3	0.2
Europe	–3.5	–0.1	–0.7	–1.5	–1.5	–2.7	–2.9	–3.1	–2.2	0.5	–0.4	–0.2
Russia	–3.2	1.4	0.4	–1.2	–1.1	–3.4	–3.7	–2.6	–1.9	0.8	0.4	0.0
Latin America	–3.1	–2.8	–3.1	–3.2	–5.1	–7.2	–6.4	–6.5	–5.6	0.1	–0.6	–0.5
Brazil	–2.7	–2.5	–2.5	–3.0	–6.0	–10.3	–9.0	–9.1	–7.5	–0.3	–0.6	0.6
Mexico	–3.9	–3.4	–3.8	–3.7	–4.6	–4.0	–2.9	–2.9	–2.5	0.6	0.1	0.0
MENAP	2.4	4.3	6.0	4.3	–0.9	–8.4	–9.5	–5.2	–3.9	0.5	3.5	3.7
Saudi Arabia	3.6	11.1	12.0	5.8	–3.4	–15.8	–16.9	–9.8	–6.4	–3.4	2.0	4.6
South Africa	–4.7	–3.7	–4.0	–3.9	–3.6	–3.6	–3.5	–3.5	–3.4	0.2	0.1	0.0
Low-Income Developing Countries	**–2.8**	**–1.2**	**–2.0**	**–3.4**	**–3.2**	**–4.0**	**–4.4**	**–4.4**	**–3.9**	**0.1**	**–0.4**	**–0.1**
Nigeria	–4.2	0.2	0.1	–2.5	–2.2	–3.5	–4.4	–5.0	–4.2	0.3	–0.8	–0.2
Oil Producers	**–1.1**	**1.4**	**1.6**	**0.5**	**–1.0**	**–4.6**	**–4.9**	**–3.5**	**–2.8**	. . .	. . .	. . .
Memorandum												
World Output (percent)	**5.4**	**4.2**	**3.5**	**3.4**	**3.5**	**3.4**	**3.1**	**3.5**	**3.6**	**–0.1**	**–0.1**	**0.0**

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. In many countries, 2016 data are still preliminary. For country-specific details, see "Data and Conventions" and Tables A, B, C, and D in the Methodological and Statistical Appendix. MENAP = Middle East, North Africa, and Pakistan.

[1] For cross-country comparability, expenditure and fiscal balances of the United States are adjusted to exclude the imputed interest on unfunded pension liabilities and the imputed compensation of employees, which are counted as expenditures under the 2008 System of National Accounts (2008 SNA) adopted by the United States, but not in countries that have not yet adopted the 2008 SNA. Data for the United States in this table may thus differ from data published by the U.S. Bureau of Economic Analysis.

[2] Including financial sector support.

[3] Japan's figures reflect a comprehensive revision by the national authorities, released in December 2016. The main revisions are the switch from the 1993 System of National Accounts to the 2008 System of National Accounts.

Advanced Economies: Turning to Fiscal Relaxation in 2016

Advanced economies eased their fiscal stance by one-fifth of 1 percent of GDP in 2016, breaking a five-year trend of gradual fiscal consolidation (Figure 1.4, panels 1 and 2).[3] The main countries contributing to the change in the aggregate stance were Italy, Spain, and the United States, and, to a smaller extent, Canada and Germany. The debt-to-GDP ratio of advanced economies increased by about 2 percentage points in 2016, reaching 107.6 percent of GDP, and is expected to remain elevated and relatively flat in the medium term (in contrast to the April 2016 *Fiscal Monitor*'s projection of a moderate and steady decline). Starting from 2015, the path of debt ratios

[3]Throughout the report, changes in the fiscal stance are assessed using the change in the structural primary balance (as a share of potential GDP). A broadly neutral stance means that this ratio is broadly constant relative to the previous year.

Table 1.1b. General Government Fiscal Balance, 2010–18: Cyclically Adjusted Primary Balance
(Percent of potential GDP)

								Projections		Difference from April 2016 *Fiscal Monitor*		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2016	2017	2018
Advanced Economies	**–5.0**	**–3.8**	**–2.6**	**–1.6**	**–1.1**	**–0.9**	**–1.1**	**–1.2**	**–1.2**	**–0.1**	**–0.4**	**–0.6**
United States[1, 2, 3]	–7.6	–6.0	–4.2	–2.4	–1.8	–1.5	–1.9	–1.9	–2.3	–0.5	–0.5	–1.1
Euro Area	–2.6	–1.3	0.0	1.1	1.0	1.0	0.9	0.7	0.7	0.1	–0.2	–0.3
France	–3.5	–2.1	–1.5	–0.8	–0.6	–0.5	–0.5	–0.8	–0.6	0.1	–0.3	–0.5
Germany	–1.4	0.6	1.6	1.6	1.7	1.9	1.7	1.2	1.0	0.5	0.4	0.2
Italy	0.5	1.0	3.4	3.7	3.4	2.9	2.5	1.9	2.6	0.0	–1.1	–1.1
Spain[2, 3]	–6.9	–5.5	–0.9	0.4	0.9	0.2	–0.7	–0.2	–0.2	–1.2	–0.8	–0.9
Japan[4]	–6.9	–6.8	–6.3	–6.4	–4.6	–3.5	–3.6	–3.7	–3.1	0.8	–0.1	0.0
United Kingdom[2]	–5.0	–3.2	–3.7	–2.8	–3.1	–2.6	–1.3	–1.0	–0.3	0.1	–0.5	–0.8
Canada	–3.0	–2.3	–1.3	–0.7	0.3	–0.2	–0.8	–1.5	–1.5	0.6	–0.2	–0.5
Others	–1.5	–1.1	–0.9	–0.8	–0.6	–0.7	–0.7	–0.8	–0.4	0.2	–0.2	–0.1
Emerging Market and Middle-Income Economies	**–0.9**	**0.0**	**–0.1**	**–0.4**	**–0.7**	**–1.8**	**–2.1**	**–1.9**	**–1.5**	**–0.3**	**–0.6**	**–0.5**
Asia	–0.9	–0.3	–0.2	–0.3	–0.3	–1.8	–2.4	–2.3	–2.0	–0.3	–0.7	–0.7
China	0.0	0.4	0.4	0.0	0.1	–1.9	–2.8	–2.7	–2.3	–0.6	–1.0	–1.0
India	–4.7	–4.2	–3.1	–2.3	–2.6	–2.5	–1.7	–1.5	–1.7	0.6	0.6	0.3
Europe	–1.9	0.6	0.4	–0.4	0.2	–0.8	–1.2	–1.5	–0.9	0.5	–0.5	–0.5
Russia	–2.7	1.7	0.5	–1.0	0.5	–2.1	–2.3	–2.0	–1.3	1.2	0.1	–0.4
Latin America	0.2	0.5	0.1	–0.4	–1.7	–1.9	–1.6	–1.0	–0.3	–0.7	–0.8	–0.5
Brazil	1.5	1.9	1.1	0.8	–1.7	–1.7	–1.3	–1.1	–0.4	–0.8	–1.0	–0.4
Mexico	–1.1	–0.9	–1.4	–1.2	–1.9	–1.2	–1.0	0.5	1.3	–0.6	0.2	0.2
South Africa	–0.9	–0.7	–1.0	–0.8	–0.3	0.5	0.7	0.8	1.1	0.3	0.1	0.1
MENAP	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Saudi Arabia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Low-Income Developing Countries	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .

Source: IMF staff estimates and projections.
Note: The cyclically adjusted primary balance is defined as the cyclically adjusted balance plus net interest payable/paid (interest expense minus interest revenue) following the *World Economic Outlook* convention. 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. In many countries, 2016 data are still preliminary. For country-specific details, see "Data and Conventions" and Tables A, B, C, and D in the Methodological and Statistical Appendix. MENAP = Middle East, North Africa, and Pakistan.
[1] For cross-country comparability, expenditure and fiscal balances of the United States are adjusted to exclude the imputed interest on unfunded pension liabilities and the imputed compensation of employees, which are counted as expenditures under the 2008 System of National Accounts (2008 SNA) adopted by the United States, but not in countries that have not yet adopted the 2008 SNA. Data for the United States in this table may thus differ from data published by the U.S. Bureau of Economic Analysis.
[2] Excluding financial sector support.
[3] Data refer to structural primary balance from the *World Economic Outlook*.
[4] Japan's figures reflect a comprehensive revision by the national authorities, released in December 2016. The main revisions are the switch from the 1993 System of National Accounts to the 2008 System of National Accounts.

in Japan has been reduced by more than 10 percent of GDP owing to a comprehensive revision of national accounts, which, among other things, pushed up the level of nominal GDP.

Although the reasons behind the loosening of fiscal policy in 2016 are largely country specific, three broad factors can account for this general trend:

- The main consideration behind fiscal easing was support for the recovery in a context of heightened uncertainty over economic prospects. Countries where short-term growth and employment were key factors include Italy, Spain, and the United States. In Japan, the authorities adopted a supplementary budget in response to the weaker domestic and external economic environment at the beginning of 2016. Taking a longer perspective, it is noteworthy that fiscal policy has become gradually more countercyclical in advanced economies over the past 20 years. This is reflected in the rise in the fiscal stabilization coefficient, which measures the relationship between the nominal budget balance and movements in output (Figure 1.4, panel 3).[4]

[4]The *fiscal stabilization coefficient* (FISCO) was introduced in Chapter 2 of the April 2015 *Fiscal Monitor*, which provides further details on the calculation. It captures both the effect of discretionary policy and automatic stabilizers. A positive coefficient means that

Table 1.2. General Government Debt, 2010–18

(Percent of GDP)

								Projections		Difference from April 2016 *Fiscal Monitor*		
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2016	2017	2018
Gross Debt												
World	**77.7**	**78.7**	**80.4**	**79.1**	**79.3**	**80.6**	**83.6**	**83.1**	**82.8**	**–0.1**	**–0.3**	**0.3**
Advanced Economies	**99.3**	**103.5**	**107.7**	**106.3**	**105.6**	**105.4**	**107.6**	**107.1**	**106.7**	**0.0**	**0.0**	**0.9**
United States[1]	95.7	99.9	103.4	105.4	105.2	105.6	107.4	108.3	108.9	–0.1	0.9	2.2
Euro Area	84.0	86.8	91.4	93.7	94.4	92.6	91.3	90.1	88.6	–1.2	–1.2	–1.0
France	81.6	85.2	89.5	92.3	95.2	96.2	96.6	97.4	97.4	–1.6	–1.4	–1.1
Germany	81.0	78.7	79.9	77.5	74.9	71.2	67.6	64.7	62.0	–0.6	–1.2	–1.5
Italy	115.4	116.5	123.3	129.0	131.8	132.0	132.6	132.8	131.6	–0.4	1.1	2.1
Spain	60.1	69.5	85.7	95.4	100.4	99.8	99.3	98.5	97.9	0.2	0.1	0.3
Japan[2]	215.9	230.6	236.6	240.5	242.1	238.0	239.2	239.2	239.4	–10.2	–11.7	–12.4
United Kingdom	76.0	81.6	85.1	86.2	88.1	89.0	89.2	89.0	88.7	0.0	1.0	2.4
Canada[1]	81.1	81.5	84.8	85.8	85.4	91.6	92.3	91.2	89.8	0.1	0.6	1.6
Emerging Market and Middle-Income Economies	**38.4**	**37.5**	**37.5**	**38.7**	**40.8**	**44.5**	**47.4**	**48.6**	**49.8**	**–0.1**	**–0.4**	**–0.4**
Excluding MENAP Oil Producers	40.6	40.1	39.9	41.3	43.5	46.5	49.3	50.6	51.8	–0.2	–0.1	0.2
Asia	40.3	39.7	39.7	41.4	43.6	45.8	48.5	50.5	52.2	0.0	0.3	0.7
China	33.7	33.6	34.3	37.0	39.9	42.6	46.2	49.3	52.0	–0.5	0.0	0.8
India	67.5	69.6	69.1	68.5	68.6	69.6	69.5	67.8	66.1	3.0	2.2	1.8
Europe	28.2	26.9	25.8	26.8	28.4	30.8	32.7	32.2	32.3	–2.0	–2.3	–2.2
Russia	10.6	10.9	11.8	13.1	15.6	15.9	17.0	17.1	17.3	–1.4	–2.3	–3.3
Latin America	48.6	48.6	48.8	49.4	51.4	55.0	58.3	60.1	60.7	0.0	0.4	0.1
Brazil[3]	63.0	61.2	62.2	60.2	62.3	72.5	78.3	81.2	82.7	2.1	0.7	–0.9
Mexico	42.2	43.2	43.2	46.4	49.5	53.7	58.1	57.2	56.8	3.2	2.3	2.3
MENAP	25.2	22.0	23.5	24.0	24.5	33.8	38.9	36.3	36.3	1.1	–5.0	–7.9
Saudi Arabia	8.4	5.4	3.6	2.1	1.6	5.0	12.4	15.6	19.1	–4.8	–10.2	–14.2
South Africa	34.7	38.2	41.0	44.0	46.9	49.8	50.5	52.4	54.0	–1.0	0.2	1.4
Low-Income Developing Countries	**30.8**	**30.7**	**31.0**	**31.8**	**32.0**	**36.1**	**40.4**	**41.9**	**41.6**	**3.5**	**5.4**	**5.0**
Nigeria	9.6	12.6	12.5	12.6	10.6	12.1	18.6	23.3	24.1	5.4	9.3	9.8
Oil Producers	**33.7**	**31.8**	**32.5**	**33.3**	**34.0**	**39.5**	**42.3**	**40.9**	**40.8**	. . .	. . .	. . .
Net Debt												
World	**54.4**	**57.3**	**59.0**	**58.0**	**58.1**	**59.8**	**62.3**	**62.4**	**62.5**	**–0.9**	**–0.9**	**–0.3**
Advanced Economies	**63.1**	**67.6**	**70.5**	**69.8**	**69.6**	**70.1**	**71.4**	**71.4**	**71.4**	**–1.4**	**–1.2**	**–0.4**
United States[1]	70.4	76.8	80.2	81.5	81.0	80.5	81.5	82.4	83.1	–0.7	0.3	1.6
Euro Area	58.0	62.6	65.9	68.1	68.4	67.5	67.0	66.3	65.3	–2.3	–2.3	–2.1
France	74.0	76.9	80.6	83.5	86.4	87.4	88.3	89.1	89.1	–2.2	–2.0	–1.7
Germany	57.0	55.5	54.8	53.8	50.6	47.8	45.0	42.7	40.6	–1.7	–2.2	–2.5
Italy	98.4	100.4	105.0	109.9	111.9	112.5	113.3	113.8	113.0	1.5	3.1	4.2
Spain	42.3	51.6	66.0	74.0	78.6	80.2	80.4	80.4	80.4	14.2	13.8	13.7
Japan	106.2	117.9	120.5	117.4	119.0	118.4	119.8	119.9	120.1	–9.8	–11.3	–12.0
United Kingdom	68.7	73.2	76.4	77.8	79.7	80.4	80.7	80.4	80.2	0.0	1.1	2.4
Canada[1]	26.8	27.1	28.2	29.0	27.2	25.2	27.6	26.4	25.1	0.2	0.7	1.6
Emerging Market and Middle-Income Economies	**14.5**	**12.8**	**9.8**	**9.0**	**9.6**	**11.8**	**17.5**	**19.9**	**21.1**	**3.0**	**2.0**	**0.7**
Asia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Europe	26.8	24.6	21.7	21.3	19.9	18.8	23.3	24.9	25.1	–3.7	–2.2	–1.7
Latin America	33.1	31.2	29.5	29.6	32.2	35.5	41.7	44.8	45.9	2.4	3.1	2.9
MENAP	–32.1	–31.0	–37.3	–41.3	–40.6	–33.1	–25.8	–25.8	–23.8	4.8	–3.5	–7.9
Low-Income Developing Countries	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .

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. In many countries, 2016 data are still preliminary. Projections are based on IMF staff assessments of current policies. For country-specific details, see "Data and Conventions" and Tables A, B, C, and D in the Methodological and Statistical Appendix. MENAP = Middle East, North Africa, and Pakistan.

[1] For cross-country comparability, gross and net debt levels reported by national statistical agencies for countries that have adopted the 2008 System of National Accounts (Australia, Canada, Hong Kong SAR, United States) are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.

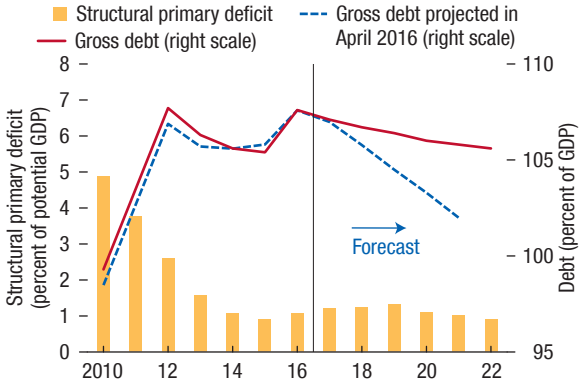
[2] Japan's figures reflect a comprehensive revision by the national authorities, released in December 2016. The main revisions are the switch from the 1993 System of National Accounts to the 2008 System of National Accounts.

[3] 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 1.4. Fiscal Trends in Advanced Economies

After years of consolidation, advanced economies relaxed their fiscal stance in 2016 ...

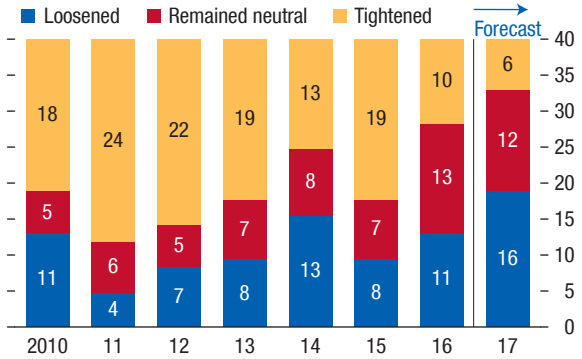
1. General Government Debt and Deficit, 2010–22



... partly in response to weak cyclical conditions.

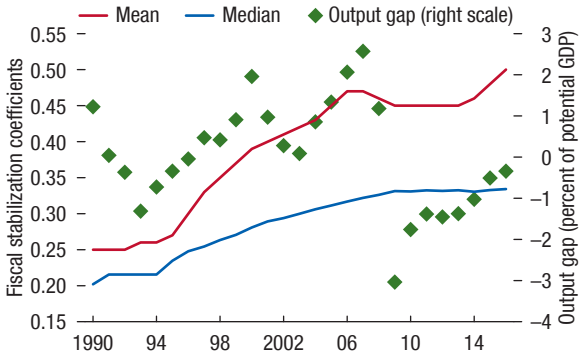
... with fewer and fewer countries conducting fiscal consolidation in the past five years ...

2. Number of Countries in Which the Fiscal Stance Was Tightened, Loosened, or Remained Neutral, 2010–17[1]

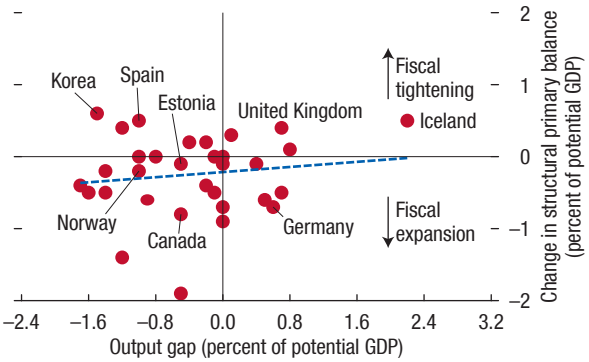


In 2017, countries with greater economic slack are expected to conduct a more supportive fiscal policy.

3. Fiscal Stabilization Coefficients for Advanced Economies, 1990–2016[2]



4. Fiscal Impulse and Output Gap, 2017



Source: IMF staff estimates.
[1]The fiscal stance is considered to have tightened if the ratio of the structural primary balance to potential GDP improves by at least 0.25 percent per year, to have loosened if that ratio deteriorates by at least 0.25 percent per year, and to have remained neutral otherwise.
[2]For details on the calculation of the fiscal stabilization coefficient, see Chapter 2 of the April 2015 *Fiscal Monitor*.

This coefficient increased steadily between the mid-1990s and the onset of the global financial crisis before flattening out. In a few countries, such as Denmark and Iceland, the increase has continued in recent years.

- Growing concerns about medium-term growth and support for public investment constituted a second factor. For instance, in Canada the stimulus package (equivalent to 1¼ percent of GDP spread over fiscal years 2016/17 and 2017/18) allocates more than 40 percent to infrastructure projects. The government has also announced its intention to establish a new infrastructure bank to leverage private sector capital for large infrastructure developments. Other countries where public

the nominal fiscal balance increases when output rises and decreases when output falls; hence, fiscal policy generates additional demand when output is weak and subtracts from demand when the economy is booming, which corresponds to a countercyclical fiscal response.

investment increased as a share of GDP include Australia and New Zealand.
- In some countries, the move toward a more supportive fiscal stance can also be explained by the pursuit of social objectives. In Germany, an increase in primary spending corresponding to half a percent of GDP was directed toward higher pension outlays and refugee-related spending. In Japan, part of the higher spending in 2016 was channeled to cash transfers to low-income pensioners.

In 2017, fiscal policy is expected to be broadly neutral, but this masks substantial differences across countries. While Canada and the euro area will continue to relax their fiscal positions, Korea and the United Kingdom plan to tighten this year. Countries with greater economic slack are expected to conduct a more supportive fiscal policy (Figure 1.4, panel 4). In 2018–19, the aggregate fiscal stance is projected to remain neutral, also with significant heterogeneity across countries. Key components from budget plans for 2017 and subsequent years include the following:
- In the United States, the new administration is considering business and personal income tax cuts, a comprehensive reform of corporate taxation (Box 1.1), an overhaul of the health care system, and more defense and homeland security spending offset by large cuts in various domestic programs and foreign aid. In light of the uncertainties about future policies at the time this *Fiscal Monitor* was prepared, the scenario presented in Tables 1.1 and 1.2 assumes a fiscal impulse of about 1 percent of GDP spread over 2018–19, based on lower personal and corporate income taxes. In spite of their expansionary effects, these policies are expected to generate rising deficits over the medium term. As a result, the U.S. debt ratio is projected to increase continuously over the five-year forecast horizon of the April 2017 *World Economic Outlook* (until 2022).
- In the euro area, the fiscal stance is expected to be expansionary in 2017, principally because of policies in France, Germany, and Italy. In France, the spending-based consolidation carried out since 2014 has slowed and the structural primary deficit is projected to increase marginally in 2017, partly reflecting security needs in the wake of recent terrorist attacks, as well as an increase in the public sector wage bill. For 2017, Germany's federal budget priorities involve personal income tax relief, higher infrastructure spending, and more funding for research and development. Italy intends to enact a corporate tax cut and a range of new spending initiatives (higher pensions, wage bill, and public investment).
- In response to a weak economy and a more uncertain global environment, the Japanese government announced another fiscal stimulus package in the summer of 2016 that will raise spending in 2017. Measures include cash transfers to low-income individuals, an increase in wages of caregivers for children and the elderly, and infrastructure investment. Some progress has been made on labor market reforms, although more fundamental reforms to remove labor market duality and eliminate disincentives to regular work due to the tax and social security system have fallen short. The authorities have also pushed back the planned value-added tax (VAT) hike from April 2017 to October 2019. While the authorities remain committed to their 2020/21 primary surplus goal, no new measures have been specified to meet this target.
- The United Kingdom announced last year that it would slow the pace of fiscal consolidation and revised its medium-term fiscal targets accordingly. The planned increase in the cyclically adjusted primary balance is now about 2⁄3 percentage point of GDP per year until fiscal year 2019/20, lower than previously envisaged. The easing of the pace of adjustment reflects a policy choice in the face of heightened uncertainty, as well as a decision to increase infrastructure investment.

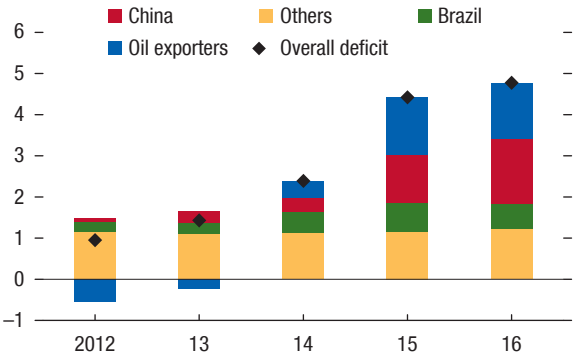
Emerging Markets and Middle-Income Economies: Adapting to New Realities

Headline fiscal deficits in emerging market and middle-income economies increased for the fourth year in a row, from an average of 0.9 percent of GDP in 2012 to 4.8 percent in 2016, reaching a two-decade high. This increase was mainly driven by slower growth and lower commodity prices, combined with political and geopolitical factors—and, in China, stimulatory fiscal measures to support the economy. Brazil, China, and oil exporters accounted for most of the overall deficit increase between 2012 and 2016 (Figure 1.5, panel 1). Over the same period, the average debt ratio rose by about 10 percentage points for the group, reaching 47.4 percent of GDP in 2016, as higher deficits and depreciating currencies more

Figure 1.5. Fiscal Trends in Emerging Market and Middle-Income Economies

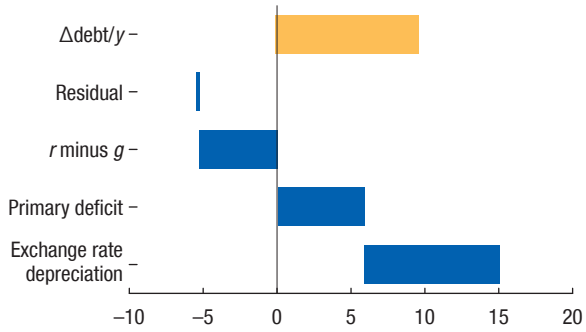
Fiscal deficits increased fivefold between 2012 and 2016 ...

1. Contributors to Overall Deficit, 2012–16
(Percent of GDP)



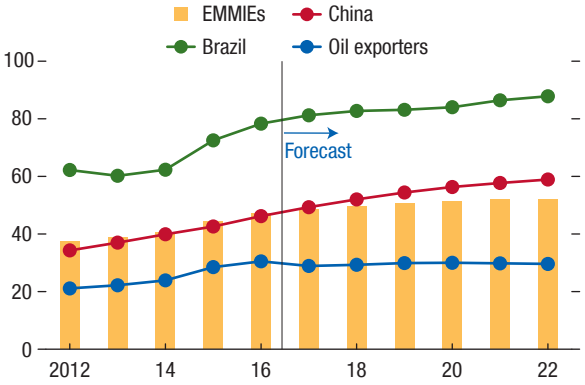
... pushing up debt ratios over the same period.

2. Decomposition of Change in Debt Ratio, 2012–16[1]
(Percent of GDP)



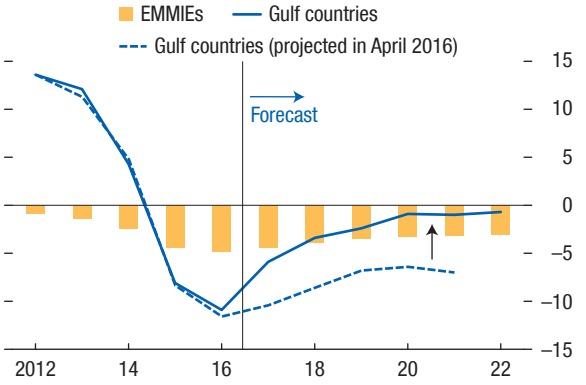
Debt ratios are forecast to keep increasing in the medium term, except in oil exporters ...

3. General Government Debt Ratio, 2012–22
(Percent of GDP)



... where the rebound in oil prices and consolidation measures should bring down high fiscal deficits.

4. General Government Overall Balance, 2012–22
(Percent of GDP)



Source: IMF staff estimates.
Note: Gulf countries are Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.
[1]This panel shows the average contribution over the sample of emerging markets and middle-income economies (EMMIEs) using the simple average method. *r* minus *g* = interest–growth rate differential; Δdebt/*y* = change in debt-to-GDP ratio.

than offset the effect of favorable interest–growth rate differentials (Figure 1.5, panel 2).

The main contributor to the 2016 increase in the overall deficit was the fiscal stimulus in China (Figure 1.5, panel 1), where the on-budget deficit[5] moved from 2.8 percent of GDP in 2015 to 3.7 percent in 2016 on the back of strong public infrastructure spending and tax cuts to support the government's GDP growth target. The "augmented" deficit (which includes off-budget activity through local government financing vehicles) is also estimated to have increased from 9.5 percent of GDP in 2015 to 10.3 percent in 2016, as off-budget debt-financed investment remained strong in spite of tighter restrictions on local government borrowing.

In oil exporters, the rebound of oil prices and the implementation of consolidation measures helped

[5]That is, the general government deficit excluding the expenditures financed from land sales.

stabilize the average fiscal deficit at about 6 percent of GDP in 2016, putting an end to the gradual deterioration of fiscal balances that started in 2013. In Mexico, a one-off transfer of central bank profits to the budget and strong non-oil tax revenues contributed to reducing the deficit by more than 1 percent of GDP. However, the fiscal position of Gulf countries[6] continued to worsen despite a substantial improvement in the underlying non-oil balances, which resulted from energy price reforms and spending cuts, as well as non-oil revenue increases in some countries. Outside the Gulf region, Russia's headline deficit also increased by 0.3 percent of GDP, mainly because of a one-off increase in classified spending.

In oil importers other than China, fiscal positions improved slightly in 2016 on average, with some heterogeneity reflecting country circumstances. Brazil's overall deficit declined by more than 1 percentage point to 9 percent of GDP in 2016, despite the economic recession and political headwinds, but the improvement was mainly due to lower interest payments, and the primary fiscal deficit continued to increase.[7] India returned to fiscal consolidation in fiscal year 2016/17, supported by the near-elimination of fuel subsidies and enhanced targeting of social benefits, notwithstanding the deceleration in growth related to the country's recent currency exchange initiative. In contrast, the fiscal stance significantly loosened in Turkey, with the overall deficit widening to 2.3 percent of GDP in 2016 from 1.2 percent a year earlier. This reflected an increase in minimum wages, higher security spending, and temporary tax relief implemented in an effort to revive growth following the failed coup attempt in 2016.

For 2017 and beyond, a gradual tightening of fiscal positions is expected in emerging market and middle-income economies, subject to significant policy uncertainties. Baseline projections envisage a gradual decline in the overall deficit by about half a percentage point to 4.4 percent of GDP in 2017 and to 3.1 percent of GDP by 2022. Debt ratios, on the other hand, are set to continue rising gradually from an average of 48.6 percent of GDP in 2017 to 52.4 percent in 2022, as deficits should remain above debt-stabilizing levels in a majority of countries (Figure 1.5, panel 3). Projected deficit and debt trajectories remain broadly unchanged compared with those under the April 2016 *Fiscal Monitor* forecasts, with an improvement in the fiscal positions of oil exporters offsetting developments in other countries, notably China.

The near-term improvement in the group's fiscal position is mostly due to the expected consolidation in oil exporters, where the fiscal outlook is dominated by the expected oil price recovery and deficit reduction efforts (Figure 1.5, panel 4). Gulf countries, in particular, have set out ambitious medium- to long-term plans to diversify their economies away from oil and restore fiscal discipline. Country authorities have announced the objective of introducing a VAT system in the region by 2018. In Saudi Arabia, the fiscal deficit is expected to decline by 7 percent of GDP in 2017 largely because of higher oil revenues and a decline in arrears payments. The government has also announced a number of measures, including further reduction in energy subsidies, introduction of excises and fees, public wage restraint, and enhanced selection of investment projects, together with allowances to protect low-income households against rising utility costs. In Russia, the medium-term federal budget proposal for 2017–19, based on a conservative oil price assumption ($40 a barrel), envisages an annual fiscal adjustment of 1 percentage point of GDP, supported by an across-the-board freeze in nominal spending. Russia also introduced a new mechanism in February ensuring that excess oil revenues are saved into the reserve fund, rather than spent, to lessen the impact of oil price fluctuations on the economy and the budget.[8]

In oil importers, a broadly neutral fiscal stance is projected in 2017, followed by a gradual consolidation over the medium term. The consolidation will proceed as output gaps close, albeit at different paces:

- China intends to maintain a fiscal stance supportive of aggregate demand in 2017 to offset the short-term drag on activity from structural reforms that aim at reducing vulnerabilities in the corporate and household sectors. To this end, government spend-

[6]Throughout the chapter, "Gulf countries" refers to Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates.

[7]Gains on operations with foreign exchange swaps were booked in the interest bill.

[8]In Russia, oil-related budget revenues are collected in domestic currency. The new mechanism foresees that the central bank purchases/sells foreign exchange on behalf of the Ministry of Finance on a monthly basis to replenish/draw on the reserve fund, whenever the market price of oil is higher/lower than the price assumed in the budget.

ing is expected to increase modestly, accompanied by more tax breaks and reductions in administrative fees paid by businesses, keeping the on-budget deficit close to its 2016 level. The country is also taking steps to make its income tax system more equitable, address the long-standing misalignment of revenue and spending responsibilities across government levels, and improve debt management by local governments.

- In India, the headline deficit is projected to decline modestly in fiscal year 2017/18, with continued delay in reaching the medium-term deficit target. The budget envisages a growth-friendly fiscal adjustment underpinned by expenditure cuts that protect infrastructure investment, as well as more progressive income taxes for individuals combined with lower taxes on small and medium-sized enterprises. The expected rollout of the nationwide goods and services tax this year will enhance the efficiency of the internal movement of goods and services and effectively create a common national market. The country is also making progress toward strengthening its fiscal responsibility framework, including through anchoring fiscal adjustment by means of a debt-to-GDP ratio of 60 percent to be achieved by fiscal year 2022/23.
- Brazil is expected to exit a two-year recession in 2017 and to continue to advance reforms aimed at rebuilding credibility and fiscal sustainability. The constitutional amendment adopted at the end of 2016 that establishes a ceiling for federal noninterest spending in real terms for the next two decades (with a scheduled revision after nine years) is expected to be complemented by a social security reform, which the authorities have submitted to Congress and plan to adopt later this year. The headline deficit is projected to stabilize in 2017. Over the medium term, the spending freeze in real terms will help reduce the deficit at a relatively fast pace, although the public debt ratio should continue to rise for several years.

Low-Income Developing Countries: Turning the Corner?

For the third consecutive year, the average fiscal deficit increased in low-income developing countries, reaching 4.4 percent of GDP. This is above the level observed at the onset of the global financial crisis (Figure 1.6, panel 1). The deficit increase was larger for commodity exporters than for the rest of the group. The factors driving this deterioration vary across country subgroups:

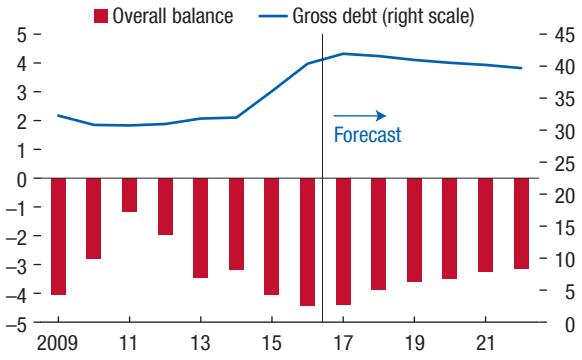
- In commodity exporters, deficits were driven mostly by declining commodity revenues, as a result of lower commodity prices, falling demand from major export markets, and oil supply disruptions in key exporters (Figure 1.6, panel 2). For instance, in Nigeria, the largest oil exporter among low-income developing countries, the decline in oil production due to the sabotage of infrastructure compounded the adverse impact of lower oil prices. The authorities' efforts to boost non-oil revenue through administrative measures were offset by a recession, bringing the deficit to 4.4 percent of GDP in 2016.
- In other countries, the sources of worsening fiscal balances were more diverse and country specific. Public investment ratios increased significantly in the Kyrgyz Republic and Zimbabwe. Larger current spending drove deficits up in Cambodia because of public sector pay hikes and in Ethiopia because of drought-related social expenses. A few countries also experienced revenue drops, such as Uzbekistan owing to tax cuts and Zimbabwe as a result of an economic recession. Finally, interest expenses rose in many countries. Uganda, for example, experienced a notable increase in its interest bill partly resulting from domestic borrowing at elevated rates.

Protracted deficits increased debt ratios in this group of countries in 2016. The average debt-to-GDP ratio for the group reached 40.4 percent, a rise of 4.3 percentage points from a year ago (Figure 1.6, panel 1). In addition to rising deficits, exchange rate depreciation contributed to debt accumulation, albeit to a lesser extent (IMF 2017). In countries where the share of public debt denominated in foreign currency was above 50 percent, the currencies depreciated by about 5 percent in 2016, on average. Debt increases were highest among commodity exporters, as many relied on borrowing to cushion the effect of collapsing revenues. For example, in Nigeria, the higher fiscal deficit from lower oil receipts was partly financed through issuance of domestic debt in 2016. Outside commodity exporters, debt increases were more moderate—for

Figure 1.6. Fiscal Trends in Low-Income Developing Countries

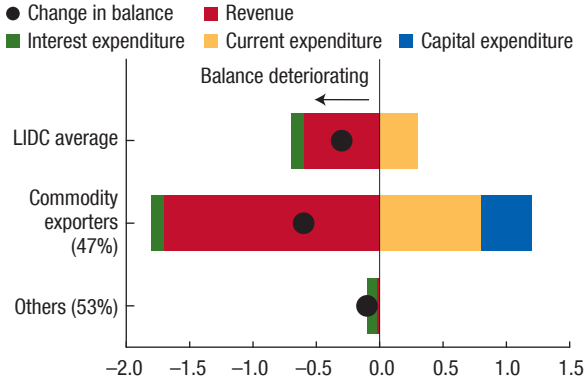
Fiscal deficits have continued to increase in 2016 …

1. Overall Fiscal Balance and Gross Debt, 2009–22 (Percent of GDP)



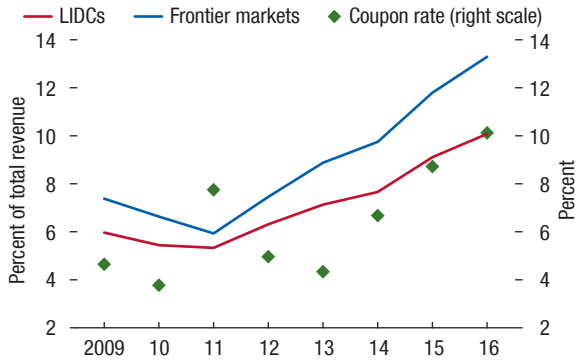
… driven by declining revenues in commodity exporters.

2. Change in Fiscal Balance Ratio: 2015–16 (Percent of GDP)



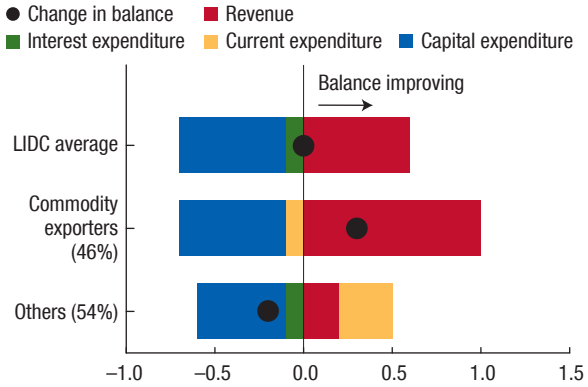
This has pushed up borrowing costs in recent years...

3. Interest Expenditure of the General Government, 2009–16[1]



... but deficits are expected to stabilize in 2017 as commodity markets improve.

4. Expected Change in Fiscal Balance Ratio, 2016–17 (Percent of GDP)



Sources: Dealogic; and IMF staff estimates.
Note: Frontier markets are Bangladesh, Bolivia, Côte d'Ivoire, Ghana, Kenya, Mongolia, Mozambique, Nigeria, Papua New Guinea, Senegal, Tanzania, Uganda, Vietnam, and Zambia. LIDC = low-income developing country.
[1]The coupon rate is based on the dollar-denominated government bonds issued by the following countries: Bolivia, Côte d'Ivoire, Ghana, Kenya, Mongolia, Mozambique, Rwanda, Senegal, Tanzania, Vietnam, and Zambia. It is calculated based on weighted averages using the face value of issued bonds.

instance, in Bangladesh—because of smaller fiscal deficits and relatively stronger GDP growth rates. Finally, as debts have risen, so too have debt-servicing costs in countries with market access. Average interest payments in frontier markets have increased markedly as a share of revenue—doubling since 2011 (Figure 1.6, panel 3). The higher interest bill is explained by both higher coupon rates on new debt and greater reliance on nonconcessional external financing.

The fiscal scenario for 2017 is very sensitive to assumptions about developments in commodity markets. Under the current projections, fiscal deficits are forecast to stabilize in percent of GDP, halting the trend of the past few years. However, prospects vary within the low-income group (Figure 1.6, panel 4). The fiscal position of commodity exporters is expected to improve, with the notable exception of Nigeria, where deficits should continue widening because of planned increases in capital projects. The

improvement in commodity exporters is nonetheless fragile. It is based on the assumption that commodity prices and production will pick up and that export markets, particularly for large emerging markets, will improve gradually. In the remaining low-income developing countries, fiscal positions are projected to deteriorate slightly. For instance, in Bangladesh, the increase in the deficit reflects the delay in the VAT rollout and higher wage bill and transfers.

Slower increases in debt ratios are expected for 2017, with the average debt ratio projected to rise by about 1.6 percentage points, about one-third of this year's increase (Figure 1.6, panel 1). The projected smaller debt accumulation is principally the result of more favorable interest–growth rate differentials, mostly driven by higher GDP growth in commodity exporters. Lower deficits also play a mitigating role in debt dynamics in about two-thirds of the countries in this group. However, the largest economy, Nigeria, bucks this trend. There, an increasing fiscal deficit and clearance of arrears are expected to push up the debt-to-GDP ratio by 4.7 percentage points in 2017.

Risks to the Fiscal Outlook

Fiscal risks remain elevated and on the downside, although some upside risks have also increased recently. The fiscal outlook may differ from the baseline projections described in the previous sections for two main reasons. First, uncertainties about fiscal policies (in terms of both scope and design) have risen in the past year. Second, governments' balance sheets continue to be vulnerable to a wide range of risks. The global debt of the nonfinancial sector is at an all-time high, two-thirds of which consist of private sector liabilities (October 2016 *Fiscal Monitor*). The sheer size of the debt poses a risk of disruptive private sector deleveraging, which could thwart the global economic recovery and threaten public debt sustainability. In particular, private sector liabilities could migrate to government balance sheets. Other risks to the debt outlook include a growth slowdown, tighter financial conditions, weaker currencies, lower commodity prices, and the materialization of contingent liabilities.

Fiscal policy uncertainty. Uncertainty about future macroeconomic policies, in particular in the fiscal area, creates sizable risks to the fiscal outlook. Policy uncertainty, as measured by Baker, Bloom, and Davis (2016), has reached a decade high (Figure 1.7).[9] Currently, the main source of such uncertainty is the lack of specificity about future U.S. policies, including the size and composition of the expected fiscal stimulus (Scenario Box 1.1 of the April 2017 *World Economic Outlook* assesses the macroeconomic impact of alternative fiscal expansions). In the euro area, a number of upcoming elections could also reshape fiscal policy—in France and Germany, and possibly in Italy following the results of the December 2016 constitutional referendum. Detailed arrangements between the United Kingdom and the European Union for implementing Brexit[10] are not yet final, and the transition is likely to take several years. In China, the upcoming fall party congress will determine the makeup of the next leadership and policy position of the Communist Party. Political instability or gridlock in several large emerging market and developing economies could delay budget implementation. Geopolitical tensions, such as the intensification of conflicts in parts of the Middle East and Africa, a further increase in migration and refugee flows to neighboring countries and Europe, and rising acts of terrorism worldwide, could also lead to substantial shifts in fiscal policy, including to accommodate possible fiscal costs.

Weak economic growth and retreat from cross-border integration. On balance, risks to the global growth outlook are assessed to be on the downside, although there are some upside risks as well (see Chapter 1 of the April 2017 *World Economic Outlook*).[11] Support for inward-looking policies has risen in the past year, in particular in advanced economies, increasing the risk of major policy shifts that could limit international trade, financial flows, and migration, with

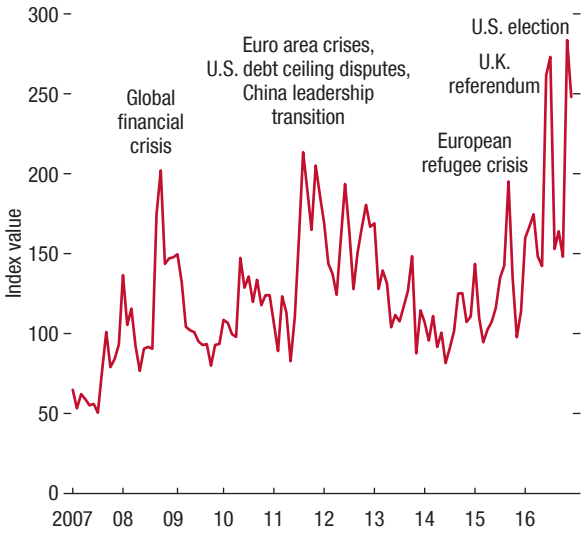
[9]The Global Policy Uncertainty Index is a GDP-weighted average of the shares of newspaper articles discussing economic policy uncertainty every month in each country (see www.PolicyUncertainty.com). One limitation of the indicator is that some country indices rely on only a few newspapers, possibly adding noise to the global index. Other indicators of market expectations of near-term volatility, such as the Chicago Board Options Exchange Volatility Index (VIX) and stock market valuations, currently point to a more sanguine view by financial markets.

[10]The 2016 U.K. referendum result in favor of leaving the European Union.

[11]On the upside, larger-than-expected fiscal stimulus in the United States and China, while worsening the countries' public debt outlook, could boost activity and improve public debt dynamics in trading partners. In advanced economies, a stronger momentum in consumption and investment, if supported by productivity-enhancing structural reforms, could also shift growth above baseline.

Figure 1.7. Global Economic Policy Uncertainty Index, 2007–16

Uncertainty about future economic policies has reached a decade high.



Sources: Baker, Bloom, and Davis 2016; www.PolicyUncertainty.com.
Note: The global index is calculated as the GDP-weighted average of monthly index values for a sample of 18 advanced, emerging market, and middle-income economies. Each monthly national index value is proportional to the share of own-country newspaper articles that discussed economic policy uncertainty in that month.

potentially large negative effects on global growth. Subdued growth would, in turn, adversely affect public debt dynamics, especially in countries where inflation is low and below target. Other risks to growth include adverse feedback loops between weak demand, low inflation, and low potential output in a number of advanced economies; insufficient progress to address crisis legacies and undertake productivity-enhancing reforms in Europe; disruptive private sector deleveraging in emerging market and middle-income economies; a sharper slowdown in China resulting from difficulties in addressing the rapid expansion of credit; and delays in policy adjustment and diversification in commodity exporters.

Tighter financial conditions and a stronger U.S. dollar. A more rapid increase in interest rates and appreciation of the U.S. dollar—reflecting, for instance, a faster tightening of monetary policy in the United States in response to inflationary pressures—could raise borrowing costs and depreciate currencies of emerging market and developing economies, exacerbating already high public debt vulnerabilities (see Chapter 1 of the April 2017 *Global Financial Stability Report*). In these economies, almost half of public debt is issued in foreign currency, on average; thus, a strong currency depreciation could have a negative impact on debt dynamics.

Lower energy prices. The agreement among the Organization of the Petroleum Exporting Countries (OPEC) and other producers to cut oil production in 2017 may not materialize as planned or could encourage more production from other producers such as the United States, keeping oil prices lower than expected because of excess supply. Fiscal positions could continue to worsen in oil exporters, where one-third of fiscal revenues, on average, rely directly on oil production. Conversely, oil importers would continue to benefit from lower energy costs.

Contingent liabilities. Any of the risks discussed in the foregoing paragraphs could trigger the materialization of contingent liabilities, with possibly severe costs to public finances. In Europe, a weaker growth outlook in the context of already-weak bank profitability and slow progress in repairing bank balance sheets raises the risk of further banking distress, increasing the need for recapitalization by exposed sovereigns.[12] In emerging market and developing economies, firms have borrowed heavily in the past decade, especially in foreign currency, at relatively low cost. As a result, tighter financial conditions and a stronger U.S. dollar raise the risk of corporate defaults in these economies, with nonfinancial corporate debt at a historical high. Use of explicit and implicit sovereign guarantees on corporate borrowing could take a heavy toll on public finances. In addition, persistently lower energy prices could further squeeze the profitability of state-owned energy companies in commodity exporters and necessitate government support. In low-income developing countries, the fast growth in public-private partnerships in the past 15 years to fund infrastructure has resulted in an accumulation of contingent liabilities related to government guarantees (IMF 2017). Project failures due to weak growth or tighter financial conditions could lead these guarantees to be called on, increasing the public debt burden.

Overall, risks to public balance sheets are high today, which stresses the importance of countries'

[12]The new bail-in requirements of the Bank Recovery and Resolution Directive should nonetheless limit such implicit contingent liabilities.

Figure 1.8. Fiscal Risk Management Strategy

developing a better understanding of their fiscal exposures and putting in place risk management strategies (IMF 2016a). Specifically, a four-step strategy can help governments enhance their capacities to analyze and manage fiscal risks, as discussed in the April 2016 *Fiscal Monitor* (Figure 1.8). First, countries need to identify the main sources of risks they face and develop tools for fiscal risk analysis, including simulations that assess the impact of plausible shocks on public finances. Second, countries should select mitigating measures tailored to the specific risks involved—for instance, limits on fiscal exposure, regulations to reduce risky behavior, mechanisms to transfer risks to third parties, or active debt maturity management.[13] Third, sufficient buffer funds should be created in countries' budgets to help absorb risks that are not mitigated. Fourth, some risks may be too large to provision for, too costly to mitigate, or simply not known with a sufficient degree of precision; in these cases, governments should take account of the risks in setting long-term fiscal targets and, in particular, ensure that they have a sufficient safety margin relative to their debt ceilings.

Can Fiscal Policy Do More and How?

Views on the role and effectiveness of fiscal policy have evolved in the past decade. Fiscal policy is generally seen as a powerful tool to stabilize the economy and promote inclusive growth, particularly when combined with monetary policy and structural reforms (a framework dubbed the "three-pronged approach" by IMF Managing Director Christine Lagarde in 2016). At the same time, high debt, long-term demographic challenges, and elevated fiscal risks limit governments' leeway to undertake new policies and place a premium on sound public financial management.

In this context, countries have to be selective and make difficult budgetary choices. To guide their decisions, sound fiscal policy objectives need to be clearly defined. This section continues to separate these objectives into three categories—economic stabilization, allocation, and redistribution—to characterize the new role of fiscal policy shown in Figure 1.9. This separation provides a useful organizational framework, but its simplicity should not conceal the fact that the three functions are intertwined in practice. For instance, a fiscal stimulus can rely on redistributive measures such as transfers to cash-constrained households. Thus, the recommendations that follow do not refer to separate and disjoint sets of policies.

In addition, this framework should be viewed as a guide. The ability of governments to pursue the three objectives simultaneously is constrained by limited budgetary room and possible trade-offs, which must be taken into account. Regarding such trade-offs, it appears that certain fiscal structural reforms may boost growth in the medium term but entail a temporary drag on activity (April 2016 *World Economic Outlook*, Chapter 3) or that some growth-enhancing policies can have negative implications for income distribution in the short term (for example, capital tax cuts).

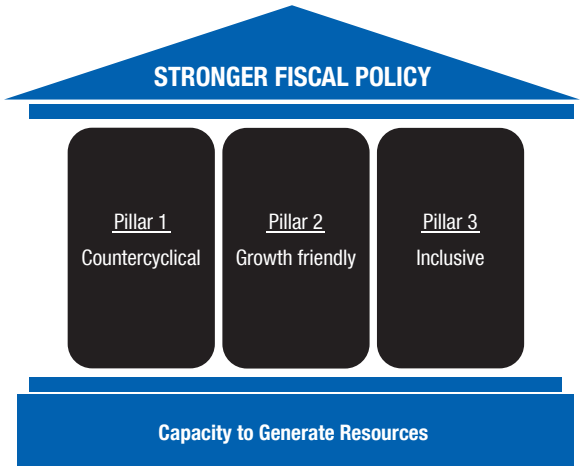
Fiscal Policy Should Be Countercyclical

One of the main contentions of the emerging new view on fiscal policy described in the chapter's introduction is that fiscal policy should react more actively to cyclical conditions in times of deep and prolonged recessions and when monetary policy is constrained.[14] This view should not be interpreted as a blanket support for fiscal stimulus everywhere and under all

[13]Kim and Ostry (forthcoming) show that longer debt maturity reduces a country's recurring financing needs. This would pull down rollover risk, lowering default probability and borrowing costs. As a result, governments could borrow more debt safely and enjoy greater fiscal space.

[14]As in the rest of the chapter, "stabilizing policies" and "countercyclical policies" are used interchangeably. They cover both discretionary measures and automatic stabilizers.

Figure 1.9. Toward a New Role for Fiscal Policy



economic circumstances, for two reasons. First, in normal times, fiscal policy should rely on automatic stabilizers to smooth economic fluctuations, provided that fiscal space is available (Annex 1.1 defines the concept of fiscal space used throughout the report). Discretionary fiscal actions should be used only in special circumstances. Second, fiscal policy should respond symmetrically to the business cycle (expand in bad times and tighten in good times), as described in the following paragraphs.

Case 1: Countercyclical fiscal policy in downturns. The first case applies to countries where demand is lacking and fiscal space is available. In these circumstances, fiscal policy should play a more active role in supporting economic activity, particularly where monetary policy is constrained. This is, for instance, the case when nominal interest rates are close to the effective lower bound and inflation expectations are low, as real interest rates cannot fall enough to restore aggregate demand. In such an environment, countries become very vulnerable to self-reinforcing downward spirals of economic stagnation: downward revisions in real growth and inflation are associated with upward revisions in public and private debt as a share of GDP; this may lead firms, households, and governments to cut spending (or governments to raise taxes) in order to lower debt, depressing further economic activity and inflation.

To address these risks, a passive fiscal policy response, based solely on automatic stabilizers, may not be sufficient. Recent research shows that a (discretionary) fiscal expansion, combined with structural reforms and monetary accommodation, can break countries away from debt-deflation traps by raising nominal GDP. For instance, in Canada and Japan, continued weakness in private domestic demand underlines the need for supportive fiscal policies to continue in the near term. In Korea, given the weak conjuncture and downside risks, the authorities should remain open to a new fiscal stimulus this year, should the output gap widen further. In the euro area, the aggregate cyclical position also argues for a slightly more expansionary fiscal stance in 2017. However, this is difficult to achieve at the individual-country level because member states in need of fiscal support (those where economic slack is still large) are also those where fiscal space is the most limited. In addition, fiscal support could conflict with the Stability and Growth Pact rules in most euro area countries. A more accommodative overall stance would be better achieved at the centralized level by creating a central fiscal capacity that would help cushion economic shocks. This central capacity could be a new institution or extend existing centralized schemes (IMF 2016b, 2016c). In Germany, where there is no economic slack, using the room available under the fiscal rules to finance initiatives that lift potential growth could generate positive demand spillovers to the rest of the euro area.

Three factors can greatly amplify the effect of countercyclical fiscal support in bad times (Gaspar, Obstfeld, and Sahay 2016). The first one is monetary accommodation. Fiscal stimulus is more effective when monetary policy keeps interest rates low, even when the fiscal stimulus results in a modest and temporary overshooting of the central bank's inflation target. For instance, in Japan, the revised monetary framework committed to inflation overshooting will help provide maximum traction for continued fiscal support in the near term. Second, fiscal expansions must be anchored in a sound and credible medium-term fiscal framework: that is, one consistent with a sustainable path for public debt. Left unanchored, a fiscal stimulus could lose its impact on output because consumers and investors might reduce their current spending in expectation of future tax increases, and higher risk premiums in financial markets might raise funding costs. In Japan, fiscal expansion would benefit from a credible medium-term fiscal consolidation plan that includes a preannounced path of gradual hikes in consumption

taxes. In the euro area, the credibility of the fiscal framework needs to be bolstered through simpler rules and better enforcement. Third, fiscal expansions are more effective when they are coordinated across countries. The "fiscal spillovers" of coordinated actions—that is, their impact on the economic activity of other countries—are found to be particularly large among countries with strong trade and financial links, especially in bad economic times (Auerbach and Gorodnichenko 2013). Model simulations also show that, under conditions of very low interest rates and wide output gaps, the gains from international fiscal policy coordination following a global contractionary shock could be quite large and amplify the effectiveness of national policy actions.

Case 2: Countercyclical fiscal policy in upturns. The second case covers economies with limited or no economic slack, and where there are signs of inflationary pressures. For those countries that previously relaxed their fiscal stances, fiscal support should, in general, be withdrawn to rebuild fiscal space and prevent the emergence of macroeconomic and fiscal imbalances. In the United States, where the economy is close to full employment, output is near potential, and inflation is expected to rise moderately above the target in the near term, the fiscal stance should remain neutral this year, and fiscal consolidation could start afterward, to put debt firmly on a downward path. Some reorientation of the current fiscal envelope toward more infrastructure spending would help boost growth over the medium term. In China, given robust employment levels, growth above sustainable levels, and the expected pickup in inflation, the augmented deficit should decline in order to stabilize the augmented debt and support economic rebalancing. In Russia and Vietnam, initiating a medium-term fiscal consolidation is the best course of action now that output is approaching or at potential.

Case 3: Procyclical fiscal policy in downturns. The third case comprises countries that have no choice but to conduct procyclical fiscal policies, at least in the short term, because they have run out of options. Some of these countries built insufficient fiscal buffers in good times and lack room to support demand when economic growth slows and revenues shrink. High debt or other forms of fiscal vulnerabilities may also prompt governments to consolidate regardless of the cyclical conditions; fiscal sustainability considerations often prevail over the need to smooth the economic cycle. In commodity exporters, which have experienced an average decline in commodity prices of almost 50 percent from the 2011 peak, the main priority is consolidation to put debt on a sustainable path. For instance, in Nigeria, an up-front fiscal adjustment centered on the mobilization of non-oil revenues is deemed critical. Finally, some countries must resort to procyclical consolidation when they face market-financing pressures and credibility challenges. This is, for instance, the case in Mexico, where, despite the envisaged near-term economic slack, commitment to the ongoing fiscal consolidation needs to remain firm to maintain investor confidence in a volatile financial market environment.

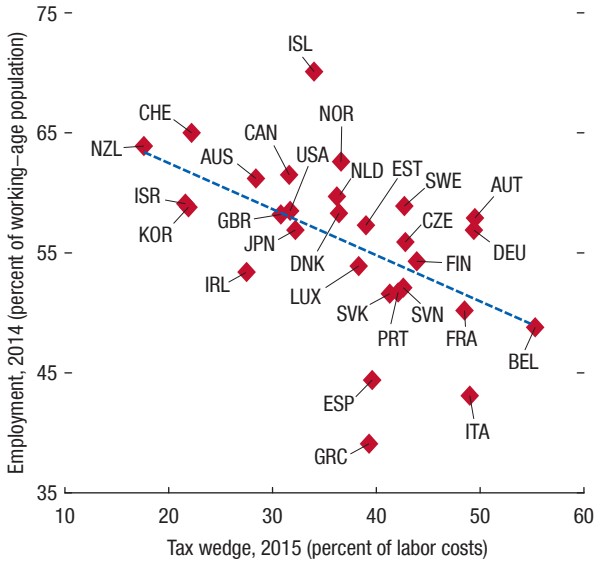
But even when procyclical fiscal adjustment is needed and cannot be postponed, its pace and composition should be calibrated to reduce the short-term drag on economic activity. In other words, procyclicality should, as much as possible, be mitigated. In many countries, this means that the speed of adjustment should be adjusted, so as not to undermine economic recovery. In the United Kingdom, the slower pace of fiscal consolidation announced in the Autumn Statement 2016 is appropriate in the context of a subdued growth outlook and heightened uncertainty. In Italy, an evenly phased adjustment, alongside an improved progrowth composition of the policy mix over the near term, will continue to support the recovery while increasing the credibility of adjustment. Commodity exporters with large financial buffers should also phase in deficit reduction measures gradually, containing their negative impact on growth (Husain and others 2015). With regard to composition, countries should move away from indiscriminate tax increases or spending cuts and take into account their near-term growth impact. For instance, in Spain, further adjustment in the form of a preannounced gradual increase in preferential VAT rates toward the standard rate could support growth in the near term by bringing households' consumption forward.

Fiscal Policy Should Be Growth Friendly

The capacity of fiscal policy to lift growth has recently gained prominence in the policy debate for two main reasons. The search for growth-enhancing measures has become more pressing in light of the deceleration of potential output in a majority of coun-

Figure 1.10. Relationship between Tax Wedge and Employment Rate in Advanced Economies

Labor tax cuts can boost employment in advanced economies.



Sources: Organisation for Economic Co-operation and Development; World Bank; and IMF staff estimates.
Note: Data labels in the figure use International Organization for Standardization (ISO) country abbreviations; see "Country Abbreviations" for definitions.

tries (April 2015 *World Economic Outlook,* Chapter 3). Debt sustainability has also been an important motivation: historically, public debt reduction efforts have been far more successful in high-growth environments (Abbas and others 2013).

"Growth-friendly fiscal policies" are commonly defined as fiscal measures that have an impact on medium- to long-term growth. In contrast to countercyclical fiscal policy, whose main purpose is to smooth output fluctuations around trend, growth-friendly fiscal policies are meant to affect the trend itself. The distinction is not clear-cut, though, given that stabilization policies can also foster potential growth by reducing output volatility (April 2015 *Fiscal Monitor*, Chapter 2). Growth-friendly fiscal policies can affect long-term growth both directly and indirectly. They can take the form of structural tax or expenditure policies that *directly* boost employment, the accumulation of physical and human capital, and productivity. They can also operate *indirectly* by enhancing the effectiveness and implementation of structural reforms in labor and product markets. The rest of this section examines these two channels in more detail.

Focusing first on the *direct* channel, there is scope in almost all countries to achieve a more growth-friendly tax system. This means principally cutting distortionary taxes and inefficient tax expenditures, better targeting tax incentives, and lowering burdensome tax administration practices. As shown in Chapter 2, tax measures can be used effectively to reduce the misallocation of resources across firms, which weigh on productivity and long-term growth. Empirical evidence shows that the growth dividend of more efficient tax systems can be quite large. For instance, the IMF (2015a) finds that reducing tax rates on either labor or capital income by 5 percentage points in a revenue-neutral manner could add about ¼ percentage point to long-term economic growth in advanced economies. That said, there is no "one-size fits all" recommendation for growth-friendly fiscal policies, and reforms should be tailored to the country-specific growth bottlenecks. For instance, in the United States, a reform of corporate taxation is needed to revitalize business dynamism and investment, although some reform options could entail negative international spillovers (see Box 1.1 on the benefits and risks associated with the introduction of a destination-based cash flow tax). In France and Italy, there is scope for further reducing labor tax wedges to improve incentives to work (Figure 1.10). Eliminating tax-induced work disincentives for secondary earners in Germany and spousal income tax deductions in Japan could help boost female labor force participation.

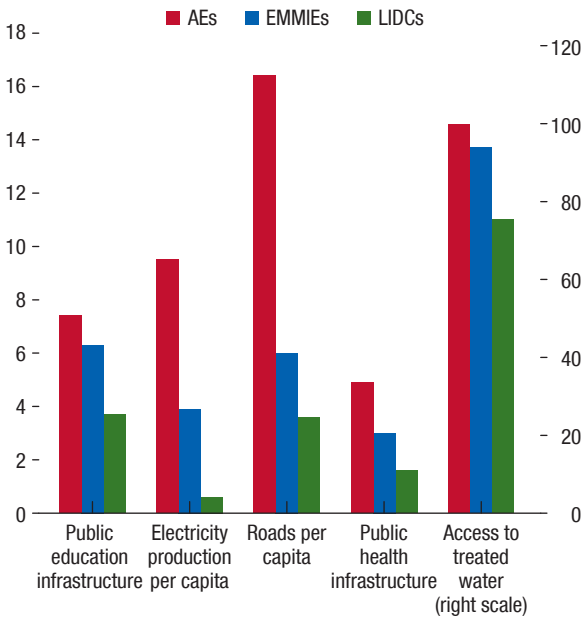
Turning to the expenditure side, resources should be oriented toward more productive spending. Growth-friendly expenditure measures support long-term economic growth by stimulating its three main engines: the stock of physical and human capital, the labor force, and productivity. Starting with the first engine (capital), the case for increasing public investment is very strong almost everywhere in the world in light of the low long-term borrowing costs and substantial infrastructure deficiencies (October 2014 *World Economic Outlook,* Chapter 3; Figure 1.11). Advanced economies, including Germany, the United Kingdom, and the United States, should bring forward planned investments in the current environment of low potential growth and funding costs. Addressing infrastructure bottlenecks is also

critical in emerging market and developing economies, but countries with limited fiscal space, such as Brazil, should put in place incentives for private sector participation and financing as well as more efficient public investment management of projects (IMF 2015b). To address the second engine of economic growth—labor—countries should pursue efforts to create a better environment for job creation. In advanced economies facing rising dependency ratios and shrinking populations, such as Germany, Italy, and Japan, more intense use of active labor market policies and targeted spending measures for specific groups such as women and migrant workers (for example, greater provision of child care) could elicit a larger labor supply response. In emerging market and developing economies, improving access to health and education through well-designed social transfers and better-targeted spending will create a larger and more productive labor force. In India, this will require continued progress in reducing gender inequality in education and health and additional spending on gender-targeted skills training. Turning to the third engine of growth—productivity—some expenditure measures can foster innovation, such as direct subsidies for research and development (October 2016 *Fiscal Monitor*, Chapter 2). Australia is currently reviewing its existing policies with regard to subsidizing research and development to ensure that they are cost effective and simple so as to minimize compliance costs and facilitate firms' growth. Finally, well-targeted transfers and subsidies can also play an important role in supporting the repair of bank balance sheets and creating incentives for private debt restructuring—essential ingredients for eliminating excessive private debt levels that constrain growth in the long term (October 2016 *Fiscal Monitor*).

Fiscal policy can also support long-term growth *indirectly* by enhancing the effectiveness and implementation of structural reforms. Recent research shows that, under weak economic conditions, a temporary fiscal stimulus can enhance the growth effect of certain reforms by mitigating their short-term macroeconomic and distributional costs (April 2016 *World Economic Outlook*, Chapter 3; Banerji and others 2017). The case for fiscal relaxation to accompany structural reforms is ultimately specific to the reform and the country and also depends on the fiscal position of the economy and the likely reaction of financial markets. For instance, fiscal support is not warranted in countries where the commitment to fiscal prudence and reforms lacks credibility. However, in countries with fiscal space and a good track record in implementing reforms, temporary fiscal support to some labor market reforms (in particular, reforms of employment protection or unemployment benefits) in times of economic slack can front-load their macroeconomic benefits (Box 1.2). In the case of Japan, fiscal support could ensure that structural reforms boosting labor supply do not create deflationary pressures. In Germany, despite the absence of economic slack, a looser fiscal position could be justified by the need to finance policies that lift potential growth, including tax and expenditure reforms that increase incentives for female labor force participation, support

Figure 1.11. Measures of Infrastructure Access, 2015 (or Latest Year Available)

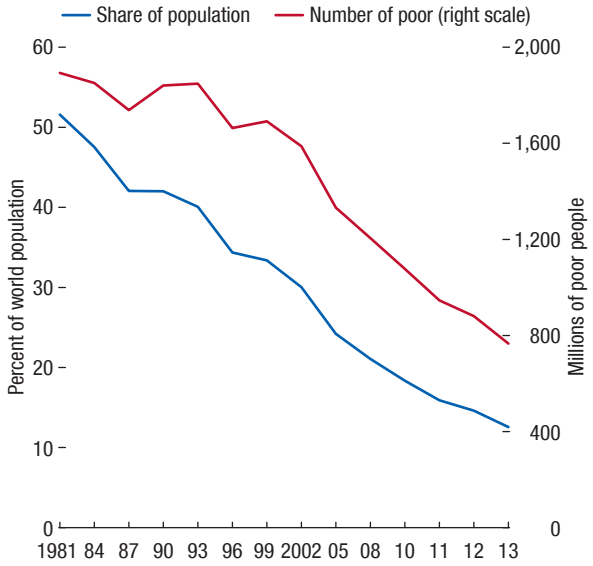
Better infrastructure access, particularly among emerging market and developing economies, is critical to support long-term growth.



Source: World Bank, *World Development Indicators*.
Note: Units vary to fit scale: Public education infrastructure is measured as secondary teachers per 1,000 persons, electricity production per capita as thousands of kilowatt-hours per person, roads per capita as kilometers per 1,000 persons, public health infrastructure as hospital beds per 1,000 persons, and access to treated water as percentage of the population. AEs = advanced economies; EMMIEs = emerging markets and middle-income economies; LIDCs = low-income developing countries.

Figure 1.12. Global Poverty Trends

About 1 billion people worldwide have escaped poverty since the 1980s.



Source: PovcalNet.
Note: In this figure, the poverty limit is defined as $1.90 per day in 2011 dollars at purchasing-power parity.

the integration of low-skilled migrants, and boost the labor supply of low-income earners in general.

Overall, a wide range of fiscal measures can boost potential growth. It is important to note that not all growth-friendly fiscal policies are associated with short-term budgetary costs, and certainly not with medium-term costs. This means that growth-friendly policies could and should be pursued everywhere. In countries with limited or no fiscal space, other measures would have to compensate for growth-friendly revenue and spending measures in a budget-neutral way or along the country's envisaged fiscal consolidation path. For instance, in India, growth-friendly fiscal consolidation should continue by reorienting public expenditure away from untargeted subsidies, especially on food and fertilizers, and toward capital and social spending. In Spain, a growth-friendly fiscal adjustment could be achieved by broadening the VAT base and increasing excise duties and environmental levies. Additional revenues could, in part, fund more effective active labor market policy programs that bolster labor supply, as well as public research and development programs that increase productivity growth.

Fiscal Policy Should Promote Inclusion

Global economic integration and technological change have contributed to economic growth and prosperity, lifting millions out of poverty. Many emerging market and developing economies, especially in Asia, have benefited from integration into the world economy and have seen their income levels converge toward those in advanced economies over the last 30 years. The worldwide dispersion of individual incomes—as measured by a global Gini index—has declined since the late 1980s (Lakner and Milanovic 2016; Bourguignon 2015). Changes in poverty rates have been even more dramatic. The number of people living in poverty has diminished by more than 1 billion and their share in the world population has decreased from 50 percent to about 10 percent since the early 1980s (Figure 1.12).

While global inequality has decreased, income inequalities have increased *within* most advanced economies and the largest emerging market economies (in particular, China and India). For instance, in advanced economies, incomes of the top 1 percent have grown at annual rates almost three times higher than those of the rest of the population over the past three decades (Figure 1.13). After some narrowing at the onset of the global financial crisis, income distributions have widened again over the past five years (OECD 2016a).

Not only have incomes become more unequal, but economic uncertainty has increased for many groups of workers amid a downward trend in labor income shares (April 2017 *World Economic Outlook*, Chapter 3). Evidence from the International Labour Organization (2014) points to longer average durations of unemployment in the past decade in advanced economies. The prevalence of nonstandard work arrangements, such as self-employment and workers engaged under temporary contracts or with no contracts at all, is high in many countries. In addition, a large and growing share of the labor force has limited coverage from social protection programs against unemployment because of restrictive qualifying conditions. The share of the labor force with limited coverage is even higher in emerging market and developing economies with large informal sectors (ILO 2015).

Excessively high and increasing levels of inequality and uncertainty seem to be detrimental to welfare and growth, as shown by a growing body of research (Berg and Ostry 2011; Ostry, Berg, and Tsangarides

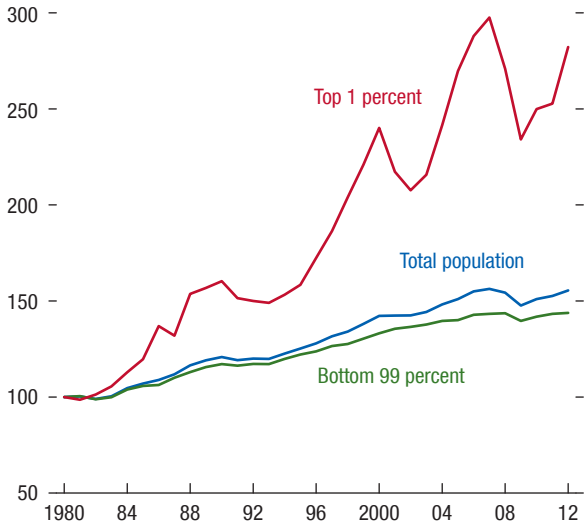
2014; Dabla-Norris and others 2015; OECD 2015). Several channels have been identified, including lower human capital investment through education and training, poorer health outcomes for cash-constrained households, and more challenging political climates in which to implement necessary growth-enhancing reforms. Uncertainty and economic instability can lead to excessive saving by households, thereby lowering short-term demand and contributing to stagnating growth. It also appears that greater uncertainty reduces the willingness of firms to hire and invest (Bloom 2014). Longer time periods spent in unemployment can have long-term effects through diminished labor market attachment, skill depreciation, and lower labor productivity.

Fiscal policy has an important role to play to ensure that the benefits of growth are shared more widely within populations. In a majority of advanced economies, however, fiscal policy has been less and less effective at fulfilling this role over the last 20 years (Caminada, Goudswaard, and Wang 2012; IMF 2014a). Reductions in the generosity of social benefits coupled with less progressive taxation have reduced the ability of fiscal policy to narrow income disparities since the mid-1990s. In many countries, this trend has been reinforced by benefit cuts in recent years, as illustrated by Figure 1.14 (OECD 2016a). These average trends, however, mask important heterogeneity, with countries such as Italy and Japan having improved the redistributive role of their tax and transfer systems. In emerging market and developing economies, the impact of fiscal policy on inequality remains relatively modest, in part because of lower tax revenues and a lower share of total spending allocated to social transfers. In these countries, the lack of access to public education and health services among the poor has also translated into a lower ability to integrate low-skilled and vulnerable groups into the productive economy (IMF 2014a).

Overall, fiscal policy could do more to promote inclusive growth at all levels of economic development, as part of a comprehensive approach including labor, product market, and financial sector reforms. This can be achieved in two main ways: first, fiscal policy can affect income inequality through the improved use of taxes and transfers; second, fiscal policy can promote "equality of opportunity" by helping individuals—through investment in human capital and protection against risk—take an active part in the fast-changing global economy.[15] The paragraphs that follow describe these two sets of policies in greater detail.

Figure 1.13. Per Capita Real Market Income in Advanced Economies, 1980–2012
(Index, 1980 = 100)

In advanced economies, the incomes of the top 1 percent have grown three times faster than those of the rest of the population over the last three decades.



Sources: World Wealth & Income Database; IMF, *World Economic Outlook*; and IMF staff calculations.
Note: The sample comprises Australia, Canada, Denmark, France, Germany, Ireland, Italy, Japan, Korea, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Market income refers to individuals' income before taxes and transfers.

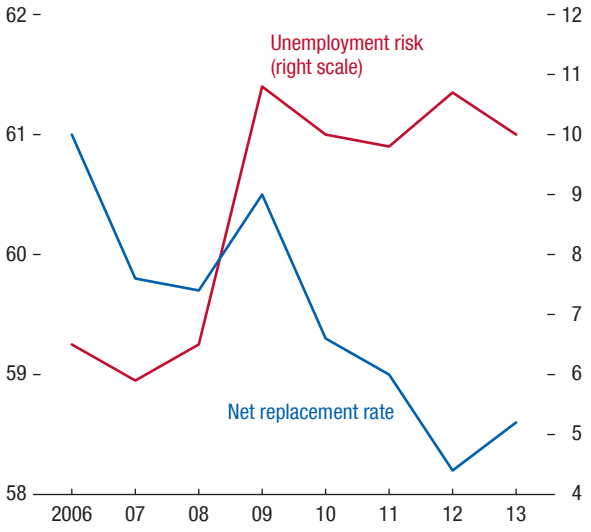
The first task of inclusive fiscal policy is to identify combinations of transfer and tax instruments that achieve the desired level of income redistribution—which is country specific—in the most efficient way:

- *Improved design of transfers to households.* Broader use of in-work tax credits, in which benefits are available only to working individuals, is an efficient way in advanced economies to support low-income families while encouraging work. For instance, in the United States, an extension of the Earned Income Tax Credit in combination with a raise in the minimum wage could promote employment for low-income work-

[15]This definition of "equality of opportunity" is broader than the one traditionally used in the economic literature, which focuses on the concepts of level playing field, nondiscrimination, and merit-based social mobility.

Figure 1.14. Benefit Generosity and Unemployment Risk in Advanced Economies, 2006–13
(Percent)

During the global financial crisis, benefits to unemployed workers were significantly reduced.



Source: Organisation for Economic Co-operation and Development.
Note: Net replacement rate refers to the average net replacement rate over 60 months following unemployment for a one-earner couple with two children in which the earner previously earned the average wage. Benefits include net-of-tax unemployment and family benefits, social assistance, and other means-tested benefits. Unemployment risk is the probability of becoming unemployed times the average duration of an unemployment spell (in months).

ers while also ensuring higher wages. In addition, conditional cash transfer programs—transfers to poor households that, for instance, make benefits conditional on the attendance of children at health clinics and at school—could be expanded in a number of emerging market and developing economies, including Indonesia, Jamaica, and Pakistan. Such transfers would support the income of the poor, while generating incentives for the development of human capital, for instance, through improved school attendance and better health outcomes.

- *More progressive tax systems.* In some advanced economies, income tax progressivity could be further enhanced by reducing regressive tax exemptions, such as those on mortgage interest payments in the United States and to a lesser extent Sweden. In addition to income taxes, there is scope to make further use and improve the design of property and wealth taxes in many countries, including Ireland, Italy, and the Netherlands. Not only are recurrent value-based property taxes an efficient source of revenues, but they are also progressive, as wealth is usually concentrated among high-income households. In emerging market and developing economies, expanding the coverage of the personal income tax by reducing exemptions and bringing more firms and individuals into the formal sector could increase fiscal revenues and equity. For instance, in China, despite a nominally progressive personal income tax, reducing the level of the basic personal income tax exemption to ensure that more middle-income earners are liable to pay some tax could be an efficient way of increasing revenues in a fair manner (Box 1.3).

The second aim of inclusive fiscal policy is the promotion of "equality of opportunity," which involves helping people acquire and maintain the appropriate skills to fully participate in and adapt to a changing economy through quality education and health, as well as insurance against risks such as employment shocks.

- *Public education and training.* As countries face shifting demand for labor due to global economic integration and technological change, governments should help workers acquire and maintain the appropriate skills for the evolving global economy. In the United Kingdom, further expanding vocational training and apprenticeship programs could improve employment prospects for youth.[16] Similarly, in Canada, more vocational and specialized skills training would facilitate labor mobility and help workers and firms move into high-value-added activities. In emerging market and developing economies, education reform should focus on improving access of low-income groups to primary and secondary education, especially for girls and in rural areas.
- *Public health care.* Better access to basic health services can also contribute to promoting social and economic inclusion. Indeed, healthier children achieve better schooling outcomes and enjoy better prospects. Healthier workers can stay active in the labor market, ensuring sustained earnings and longer periods of productive employment. For instance, in the United States, further subsidies to health care for the poor would contribute to reducing the persistence of poverty. In Nigeria, the challenge is to ensure efficient delivery and broader

[16]With this aim, the apprenticeship program in England is being expanded and reformed, funded by a new apprenticeship levy, and the U.K. government has announced an expansion in vocational training in its FY2017/18 budget.

coverage of health services for the poor, while in Thailand, coordination of fragmented health insurance schemes would result in more equal coverage in terms of benefits and contributions.

- *Employment and social insurance.* Governments should take measures to prevent workers from drifting away from the "core" labor market and losing their skills following shocks such as layoffs or illness. In the United States, reforming the disability insurance program could help workers maintain an attachment to the labor market by creating better incentives for beneficiaries to work part-time, as opposed to dropping out of the labor force entirely. France should seek to enhance active labor market policies, such as job-search support programs for recipients of unemployment and welfare benefits, to help them find new work more quickly. In Japan, clarifying the legal framework and providing subsidies for converting nonregular workers to "intermediate" contracts that balance job security and wage increases would reduce labor market duality and encourage greater skill acquisition. China could improve the equity and insurance components of social security by reforming the household residency system that currently discriminates between urban dwellers and migrants.

As is the case with growth-friendly policies, inclusive policies can be implemented without increasing the overall budget envelope and the fiscal deficit. In countries with limited or no fiscal space, inclusive policies would have to be accompanied by offsetting measures. In Egypt, for instance, full implementation of the VAT and tax administration reform could free resources for higher spending on health, education, and social protection. In Nigeria, better non-oil revenue mobilization could finance a range of social measures, including better access to education, enhanced social safety nets, and a scaling up of vocational training to better equip job seekers with relevant skills. Recent experience with IMF programs shows that it is possible to enhance social spending along a path of fiscal adjustment, while mitigating the negative impact on vulnerable groups (Clements, Gupta, and Nozaki 2013, 2014; IMF 2015c).

Greater Use of Fiscal Policy May Require Additional Resources

The implementation of countercyclical, growth-friendly, and inclusive policies often requires additional resources, which need to be made available in a way that is the least harmful for growth.[17] As discussed earlier in this chapter, some fiscal reforms are associated with larger fiscal deficits, while others can be conducted in a budget-neutral way, by changing the composition of taxes or expenditures.

For countries that have fiscal room, one option is to finance the policies through additional borrowing. But debt should be used wisely. The return on debt-financed projects should clearly outweigh the cost and risks that higher leverage creates. Assessing the extent to which public debt can be safely increased is a difficult task. The IMF has recently developed a new approach to measuring "fiscal space" based on a variety of tools and indicators (Annex 1.1).

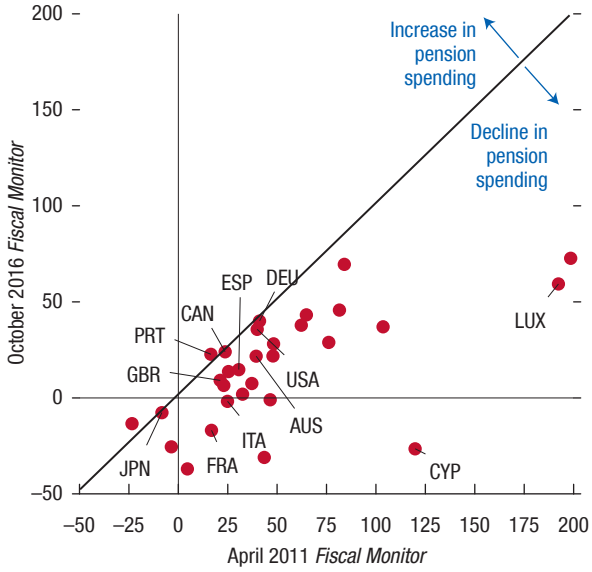
Although this assessment is country specific, it seems that fiscal space may be higher than previously believed in a number of advanced economies. First, the difference between the interest rate and GDP growth may be persistently lower than it has been in the past. This might be for a number of reasons; for example, this lower difference would be consistent with expectations adjusting, with a lag, to the low-growth low-inflation environment;[18] with the risk-free rate declining (because of either higher demand or lower supply of safe assets, as discussed in Chapter 3 of the April 2012 *Global Financial Stability Report*); or with structural changes in the economy, particularly demographics, that may have a stronger negative effect on interest rates than growth in the long term (Carvalho, Ferrero, and Nechio 2016; Favero, Gozluklu, and Yang 2016). Box 1.4 examines how a structurally lower interest–growth rate differential would affect the maximum level of sustainable debt and finds that a permanent decline of 1 percentage point in the differential could allow advanced economies to borrow safely an additional 25 percent of GDP, on average. Second, many countries have made significant progress in containing age-related spending; therefore, their "implicit" debt obligations, measured as the present value of

[17]This section refers to fiscal measures for which financing requires additional resources. It implicitly excludes the case of measures that are self-financed, for example, because their very strong positive effects on GDP offset the initial costs (see, for instance, Box 1.2).

[18]Assuming that economic agents set interest rates based on expected growth, it is easy to show that ex post, the interest–growth rate differential moves with the forecast errors on real growth and inflation.

Figure 1.15. Net Present Value of Future Pension Obligations in Advanced Economies, 2015–50
(Percent of GDP)

In advanced economies, future pension obligations have declined by 25 percent of GDP in the past six years, on average.



Source: IMF staff estimates.
Note: Future obligations are measured as the net present value of future increases in pension spending relative to 2015. For net present value calculations, a discount rate of 1 percent a year in excess of GDP growth is used. To ensure consistency in comparing the data from the two *Fiscal Monitor* reports, the 2011 estimate is recalculated to cover the same period as the 2016 report, and the 2011 projections are rescaled to start at the same 2015 pension spending value. Data labels in the figure use International Organization for Standardization (ISO) country abbreviations; see "Country Abbreviations" for definitions.

future increases in pension and health spending, have declined. On average, the stock of implicit debt in advanced economies has shrunk by 25 percent of GDP in the past six years, creating more room to accumulate "explicit" debt (Figure 1.15).[19] In emerging market economies, the average decline has been more modest. Nonetheless, the additional space related to pension reforms should not be taken for granted. Age-related spending remains high in many countries, and reforms are always at risk of being reversed. In addition, there is no one-to-one equivalence between implicit and explicit debts, meaning that a one-dollar reduction in pension obligations does not translate automatically into the ability to borrow an additional dollar: one of the reasons is that future commitments are generally less binding than financial obligations.

Fiscal institutions also play an important role in expanding fiscal space. First, sound fiscal institutions can improve the credibility of fiscal policy. Credible commitment mechanisms, such as well-designed and effectively implemented medium-term budget frameworks and fiscal rules, can lower the interest risk premium and create budgetary room. Empirical evidence suggests that the introduction of credible fiscal rules can reduce borrowing costs (Box 1.5). Nonetheless, to achieve this result, fiscal rules need to be well designed, well calibrated, and regularly reviewed. Poorly designed fiscal rules may, on the contrary, unduly constrain countries' ability to use available fiscal space or may increase the risk of fiscal positions becoming unsustainable. Second, fiscal institutions may be necessary to tap available but not readily accessible resources. This is well illustrated by the recent discussion on the creation of a central fiscal capacity in the euro area. In some variants of the proposal, the central capacity would borrow from the market at favorable rates and on-lend the funds to individual member states, thereby creating fiscal space in countries that cannot fully take advantage of the low-interest-rate environment. Such a scheme would require appropriate safeguards to preserve fiscal discipline and reform incentives (IMF 2016b).

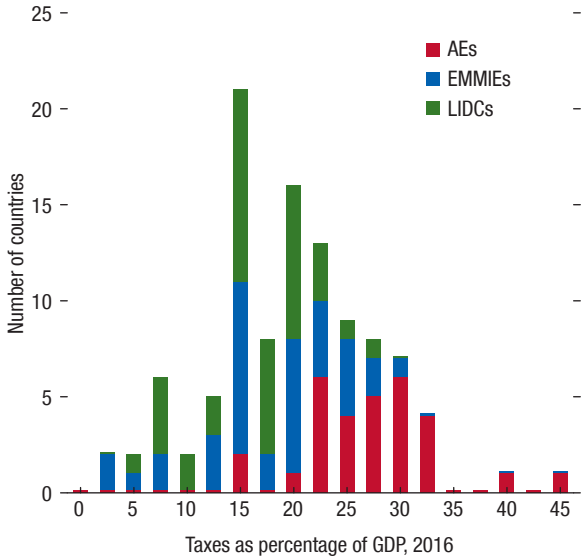
For countries that do not have fiscal space, room has to be created within the budget by raising more revenue or by cutting expenditures. In this way, desired policies can be implemented in a budget-neutral manner—meaning without increasing the fiscal deficit—although this may be difficult to achieve politically.

On the revenue side, the priority is to identify revenue-enhancing measures that are the least "distortionary"—meaning that they have minimal effects on individuals' incentives to work, save, and invest. A first approach is to broaden the tax base (by eliminating tax exemptions and preferential tax rates) or raise indirect and property taxes, which are found to be less detrimental to growth than other forms of taxation. In the United States, revenues could be generated by introducing a federal-level VAT, which might also entail efficiency and revenue administration gains but be difficult to implement, given the need to coordinate with existing state sales taxes (Duncan and Sedon 2011; CBO 2016). Italy should rationalize its relatively large tax

[19]Adding health spending slightly increases the amount of space created, but some changes in the methodology used to forecast health expenditure make the comparison less reliable than that for pensions.

Figure 1.16. World Distribution of Tax-to-GDP Ratio, 2016

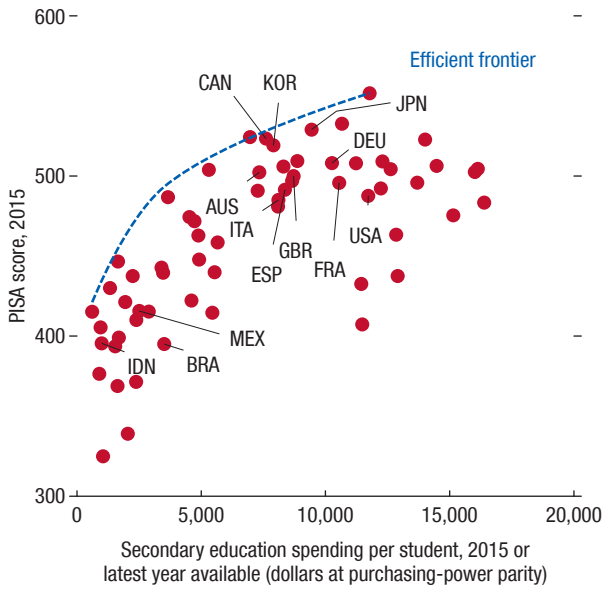
Revenue mobilization remains limited in low-income developing countries.



Source: IMF staff estimates.
Note: AEs = advanced economies; EMMIEs = emerging markets and middle-income economies; LIDCs = low-income developing countries.

Figure 1.17. Secondary Education Spending per Student, 2015

Some countries achieve better education outcomes at no additional cost to public finances.



Sources: Organisation for Economic Co-operation and Development; World Bank; and IMF staff estimates.
Note: PISA (Program for International Student Assessment) scores assess the competencies of 15-year-olds in reading, mathematics, and science. Data labels in the figure use International Organization for Standardization (ISO) country abbreviations; see "Country Abbreviations" for definitions.

expenditures, broaden the tax base, and create a modern real estate tax. In the United Kingdom, scaling back distortionary tax expenditures (such as nonstandard zero VAT rates) could improve efficiency, increase tax neutrality, and free resources. In Japan, the consumption tax should be raised in a preannounced and gradual manner to generate a stable source of revenue in an aging society. Gulf countries should continue working on introducing a VAT. Environmental taxes can also create substantial fiscal resources while promoting environmentally sustainable growth. In China, significantly raising taxes on fossil fuel and pollution (in the form of a carbon or coal tax, for example) would generate revenue, while helping curtail emissions and improving energy efficiency. In India, the authorities should continue to raise taxes on petroleum products while oil prices remain low. One important factor to consider when assessing the scope and need for enhancing revenue is the initial tax burden. As shown in Figure 1.16, there is a large disparity in tax ratios across the world. Almost half of low-income developing countries have a tax ratio below 15 percent of GDP, suggesting ample room to mobilize revenues further in these economies. In fact, recent research shows that in countries with tax ratios significantly below this thresh old, raising tax revenue is a critical element for state capacity building and long-term economic growth (Gaspar, Jaramillo, and Wingender 2016). The second approach to raising revenue entails improving revenue administration. Long a priority in low-income developing countries, ensuring strong tax compliance has acquired greater importance in advanced economies facing high revenue needs and where compliance worsened markedly during the financial crisis (IMF 2015d).

On the spending side, savings can be generated by improving the targeting of expenditures and increasing efficiency, preferably as part of comprehensive expenditure reviews. In almost all categories of spending, there is room to achieve desired outcomes at a lower cost (Figure 1.17). Countries may opt to eliminate generalized subsidies that disproportionately benefit higher-income

groups in favor of targeted measures that tie benefits more closely to those in need. For instance, overhauling India's food and fertilizer subsidy regime through better targeting and efficiency could generate substantial fiscal gains. In Nigeria, implementing an automatic fuel-price-setting mechanism could help eliminate the recurrence of fuel subsidies. In France, increasing the targeting of social transfers, for instance, by further expanding means testing (notably for family and housing allowances) could yield savings without adversely affecting social outcomes. In addition, many countries have scope to lower the government wage bill while preserving the quality of public services. In France, for instance, reducing public employment (notably at the local level) and pursuing measures to limit wage drift could translate into greater expenditure efficiency. In Argentina, a structural reduction in public employment would be facilitated by strengthening payroll management to track and control public employees, undertaking a census to identify ghost workers, and putting in place an attrition-based system. Finally, in many advanced and emerging market economies, pension and health reforms could tremendously improve the fiscal outlook. In Brazil, where pension and other benefits represent nearly half of federal noninterest spending, the success of the strategy to contain expenditures will depend on reforming the social security system, whose outlays have a strong growth momentum in real terms.

Box 1.1. The Destination-Based Cash Flow Tax—A Primer

The idea of replacing the corporate income tax (CIT) with a "destination-based cash flow tax" (DBCFT) has attracted much discussion—and been a source of much confusion—over the past few months.[1] But what exactly is the DBCFT, and how would it affect both any country that adopted it and those that did not?

Design of a DBCFT

The international tax architecture is now based largely on "source taxation": that is, taxation where production takes place. This generates significant cross-border spillovers of various kinds by distorting the location of investment, encouraging profit shifting to low-tax jurisdictions, and spurring competitive rate cuts and tax incentives (IMF 2014b). The search has continued for alternative approaches that resolve these difficulties, and the DBCFT has emerged as a potential candidate. No country has yet introduced a DBCFT, although many have sought to move in a similar direction by relying more on a value-added tax (VAT) and reducing labor taxes and the rate of CIT.

The "cash flow" part of "DBCFT" refers to allowing immediate full deduction for capital expenses (in lieu of depreciation allowances), but not allowing deduction of net interest expense. This makes it a "rent tax": one that taxes only those profits above the minimum required by the investor.[2] This means that the tax would not affect marginal investment decisions. Cash flow treatment also eliminates the tax bias toward debt finance—which is a source of concern for financial stability—and the use of loans between related companies to avoid tax.

The "destination-based" part of "DBCFT" refers to "border-adjusting" the tax by exempting exports and taxing imports[3]—or, equivalently, not taxing imports at the border, but denying companies a deduction for them when calculating tax liability. This border adjustment in itself has no direct impact on real activity in the DBCFT described in Auerbach and others 2017. Relative prices would not change because the border adjustment would be exactly offset by some combination of an exchange rate appreciation and an increase in domestic prices. What the border adjustment does do is put the tax base not where production occurs, but at the location of final consumption, which is much less mobile than investment. This eliminates the tax advantage from locating production or profits in low-tax jurisdictions, and along with it a host of base erosion and profit-shifting (BEPS) activities that plague the current system.

DBCFT in a Global Setting

The properties of the DBCFT mentioned above point to collective efficiency gains if *all* countries were to replace their source-based income taxes with destination-based taxes.[4] Opportunities for profit shifting would also be reduced: there would be no tax benefit, for instance, from manipulating transfer prices between entities within a multinational group, since exports between them would not be taxed and imports would not be deducted.

In the discussion so far, we have assumed that the DBCFT would be adopted by all countries. If, however, only a subset of countries was to adopt it, significant adverse spillovers would likely arise as other countries would adjust and, potentially, retaliate. Because source-based tax rates in countries that adopted the DBCFT would, in effect be zero, those that did not adopt it would suffer from both a loss of real investment and increased incentives for outward profit shifting (although nontax factors also matter for investment decisions). They would likely react, though it is not clear how; they might take measures to protect their own tax bases and/or ultimately feel pressed to adopt a DBCFT, or something like it, themselves.

There would be numerous legal, practical, and political challenges to face in adopting a DBCFT. A fundamental concern is whether, as currently described, it would be WTO consistent. There would also be issues for double tax treaties, which set out and to some degree constrain the taxing rights of the signatory countries. Like any major tax reform, shifting to a DBCFT would create winners and losers across

[1]In the United States, movement to a DBCFT is a centerpiece of the June 2016 Republican tax reform "Blueprint" (https://waysandmeans.house.gov/taxreform/); it was also proposed—under the label of a "growth and investment tax"—by the President's Advisory Panel on Federal Tax Reform in 2005. In the United Kingdom, it was proposed by the Mirrlees Review (Auerbach, Devereux, and Simpson 2010). The account here draws on Auerbach and others (2017).

[2]If an investment yields exactly that minimum, the present value of tax payments, discounted at that rate, is zero. There are many forms of rent tax other than the DBCFT.

[3]Note, though, that sales by domestic producers are subject to the same tax.

[4]In fact, some degree of source taxation is likely to remain important, notably for the extractive industries, for which mobility of production is a much lesser concern.

Box 1.1 *(continued)*

different industries. Importers, in particular, fear that the loss of tax deductions for their inputs would not in practice be offset by either price or exchange rate adjustment.

Implementation Considerations

Moreover, the properties of the DBCFT as described above rest on design features that may be difficult to achieve in practice. For instance, in order for such a tax to operate as a tax on rents, exporters (which would have perpetual tax losses) should receive refunds—but that could be difficult to institute politically and carries the risk of fraud. The efficiency properties also require uniform tax treatment of all sectors and transactions, which may be hard to sustain in the face of lobbying. Key design issues (notably, the treatment of financial transactions) have not been fully developed, and some thorny transition issues (such as the treatment of "old" investments) would need careful attention. Many of the effects of adoption remain highly uncertain, notably the impact on exchange rates and prices, calling for great caution in judging its impact on both adopters and nonadopters.

As with any major tax reform, a key concern with the DBCFT is its distributional impact. As a tax on rents, the DBCFT in itself[5] has the potential to be mildly progressive. The precise distributional impact would depend on whether adjustment to the DBCFT came through domestic prices, the exchange rate, or some combination of the two.[6] If it came mainly through prices, the burden would fall on those spending domestically from nonwage income—largely the relatively wealthy and those on unindexed nominal incomes. If the adjustment came predominantly through the nominal exchange rate, the tax would burden those spending domestically from incomes denominated in foreign currency (such as foreign corporate earnings). The final effect would also depend, of course, on any accompanying changes to personal taxes. Adding to the spillover effects stressed above, there would also be windfall gains to foreigners with income or assets in the currency of the adopter and potential impacts abroad from debts and contracts specified in the appreciating currency.

[5]The discussion here relates to adoption of the DBCFT in isolation; if it were to replace a CIT, the distributional effects of that would need consideration too.

[6]This is true, at least, when viewed over a lifetime in which consumption and wage income effectively balance; viewed over a shorter horizon, the burden would fall on those whose consumption is high relative to their wage income.

Box 1.2. What Are the Budgetary Costs and Gains of Structural Reforms?

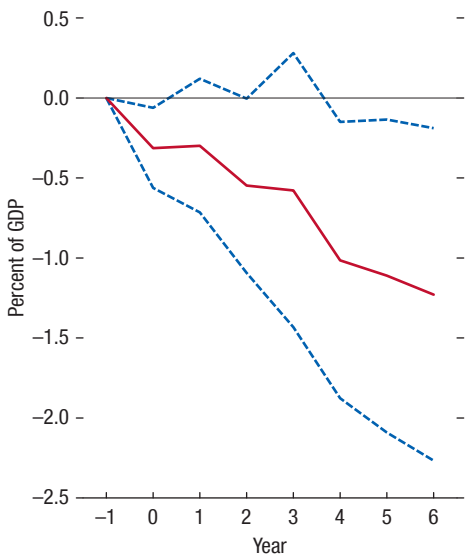
To assess the impact of labor and product market reforms on fiscal positions in advanced economies, this box relies on the analysis conducted by Banerji and others (2017). The authors use a new database that identifies major policy changes in five reform areas for a sample of 26 advanced economies spanning four decades. The reform areas include product market deregulation, relaxation of employment protection legislation for regular workers (such as the rules governing recruitment and dismissal of employees), reductions in unemployment benefits, higher spending on active labor market policies, and cuts in labor tax wedges. The empirical analysis traces out the average evolution of output, the fiscal balance, and the public-debt-to-GDP ratios in the aftermath of historical policy changes (in the form of estimated "impulse responses"). To examine the sensitivity of the impact of the reforms on debt dynamics, the empirical analysis is supplemented by numerical simulations using a framework inspired by DeLong and Summers (2012) but departs from it by assuming a zero fiscal multiplier over the medium term.

Three main results emerge from this empirical and simulation work:

- *Most labor and product market reforms strengthen public finances in the medium term.* The short-term impact depends on the type of reform: some reforms are mainly associated with direct budgetary costs (for example, labor tax cuts or higher spending on active labor market policies) or savings (for example, reduction in the duration of unemployment benefits). Others affect public finances mainly indirectly through their gradual effects on output (for example, product market or job protection reforms). Importantly, indirect effects can be large and can partly or even fully offset the direct up-front costs. Thus, some structural reforms with direct fiscal costs may generate net fiscal benefits over the medium term. In the case of labor tax wedge cuts, for example, empirical results suggest that, on average, these reforms have not been associated with an increase in the public-debt-to-GDP ratio over the medium term (Figure 1.2.1). This is in part because the fiscal gains from higher output have outweighed the direct fiscal costs, but also because such reforms have often been accompanied by offsetting tax increases or spending cuts or both. Simulations confirm that if the direct costs of these reforms are financed through higher borrowing (rather than offset in a budget-neutral way), fiscal benefits in terms of improved debt dynamics may not materialize.
- *The effect of certain structural reforms on fiscal positions depends on the business cycle conditions at the time the reforms are implemented.* Because the macroeconomic impact of some reforms varies depending on the cyclical conditions, so does its impact on budgetary outcomes (April 2016 *World Economic Outlook*, Chapter 3). For instance, the analysis of past reforms shows that employment protection legislation reforms reduce the public-debt-to-GDP ratio in the medium term when carried out during expansions, but not if implemented during periods

Figure 1.2.1. Impact of Labor Tax Wedge Cut on Public-Debt-to-GDP Ratio

Even structural reforms with up-front budgetary costs can improve public finances in the medium term.

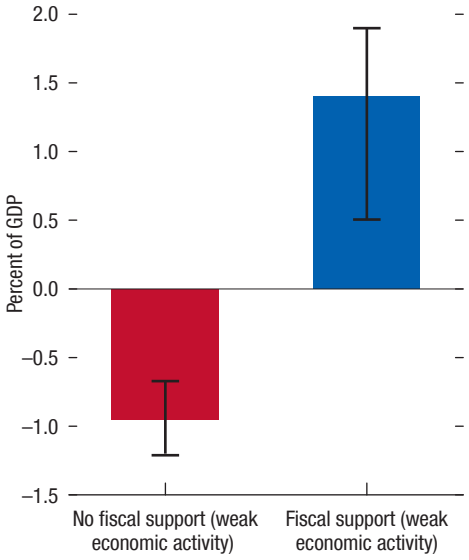


Source: Banerji and others 2017.
Note: The figure shows the effect of a 1 percentage point cut in the labor tax wedge and is based on empirical analysis; $t = 0$ is the year of the reform shock (for details, see Chapter 3 of the April 2016 *World Economic Outlook* and Banerji and others 2017). The solid red line denotes the average estimated response to the shock; the dashed blue lines denote 90 percent confidence intervals.

Box 1.2 *(continued)*

Figure 1.2.2. Net Medium-Term Fiscal Benefit of Job Protection Reforms under Weak Economic Conditions

Fiscal support for structural reforms can pay for itself in the medium term.



Source: Banerji and others 2017.
Note: The figure is based on numerical simulations. The bars represent the net fiscal gains associated with job protection reforms, as measured by the increase in tax revenues net of the financing burden of the additional debt incurred at the time of reform (in the case of fiscal support) over the medium term, relative to the no-reform scenario. The error bars indicate minimum and maximum values in member countries of the Organisation for Economic Co-operation and Development.

of major slack, when they entail short-term output costs. To a lesser extent, the same holds true for unemployment benefit reforms.

- *A package combining structural reforms and fiscal stimulus can yield a net budgetary gain in the medium term.* By improving business cycle conditions, a temporary and well-designed fiscal stimulus can front-load the macroeconomic benefits of structural reforms that are found to be less effective in periods of economic slack. This is because the stimulus supports the economy and enhances the growth dividend of reform, with positive effects on tax revenues. For instance, when employment protection legislation is relaxed, a fiscal stimulus can make firms more willing to hire new workers rather than dismissing existing ones in a downturn. In this case, the cost of the fiscal stimulus may be fully offset by subsequent gains (Figure 1.2.2). Nonetheless, country-specific circumstances—such as government funding costs and their response to stimulus, the magnitude and quality of that stimulus, and the credibility and strength of the implementation of the reform—will affect the extent to which such gains can be reaped.

Box 1.3. Making Growth More Inclusive in China

China has experienced unprecedented levels of economic growth over the past 35 years. The number of people living in poverty (on less than $1.90 a day in real purchasing-power parity terms) has declined by 850 million since the early 1980s, and the average per capita income has increased almost tenfold over the period. However, the proceeds from development have not been evenly distributed. China's Gini coefficient, which is a measure of income inequality, has increased and now ranks high among the world's largest economies (Cevik and Correa-Caro 2015). Estimates indicate that wealth is also extremely concentrated. A recent survey found that the top 1 percent of the wealthiest families possess about one-third of the country's total wealth, compared to 18 percent on average for countries belonging to the Organisation for Economic Co-operation and Development.

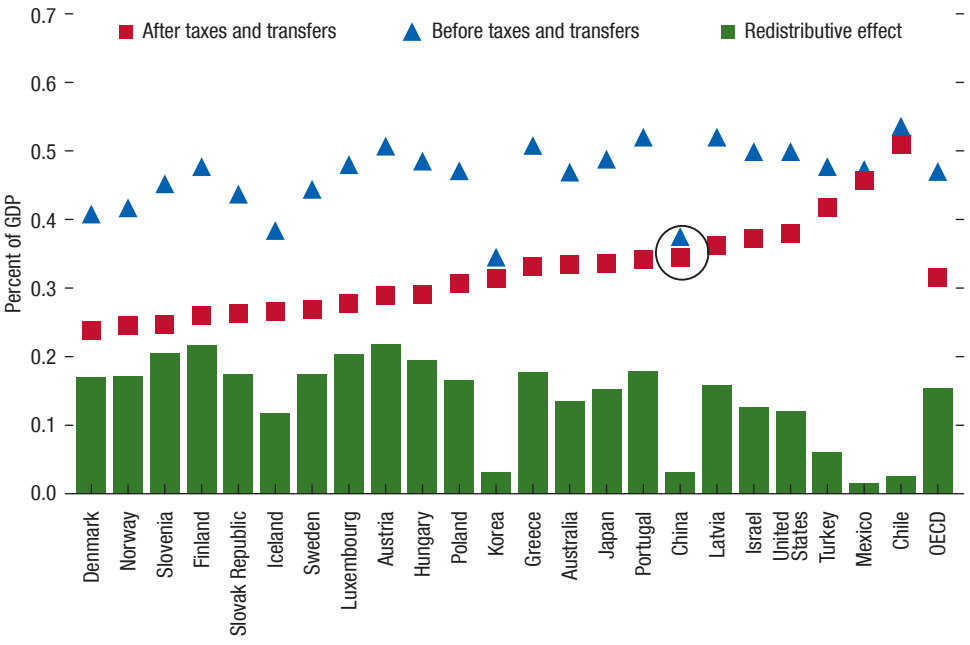
Fiscal policy contributes relatively little to narrow these rising inequalities, as reflected in the difference between Gini coefficients before and after taxes and transfers (Figure 1.3.1). This can be explained in part by a relatively low overall tax burden. China also relies comparatively more on indirect taxes and on a largely regressive design of direct taxation, especially for social security contributions. Local governments—which are broadly responsible for social insurance, health, and education—rely on limited, inefficient, and uncertain revenue sources and have been reluctant to undertake reforms to expand and improve public service delivery.

Important reforms, described in greater detail by de Mooij, Lam, and Wingender (2017), could be implemented to make fiscal policy more redistributive and promote household consumption in support of economic rebalancing. Options include

- *Making direct taxation more progressive.* The individual income tax provides little redistributive effect despite relying on a nominally progressive tax rate schedule. Recent estimates based on household survey data indicate that close to 80 percent of urban workers are not liable to pay this tax (Lam and Wingender 2015). Lowering the currently high level of the basic personal allowance and redesigning

Figure 1.3.1. Redistributive Effect of Fiscal Policy in Selected Advanced and Emerging Market Economies, 2009
(Gini coefficient)

Taxes and transfers in China achieve relatively little income redistribution.



Sources: Ding and He 2016; and Organisation for Economic Co-operation and Development (OECD) Income Distribution Database.
Note: The redistributive effect is the difference in the Gini coefficient before and after taxes and transfers.

Box 1.3 *(continued)*

the tax brackets could ensure that more middle- and high-income taxpayers contribute to revenue collections.

- *Introducing a property tax.* Recurrent property taxes based on market values are largely absent in China. Such taxes are also broadly viewed as progressive, because high-income households usually tend also to have higher property wealth (Norregaard 2013).
- *Reforming the household registration system.* The quality of and access to social entitlements—health care, education, and housing—varies with the residency status of households. Relaxing residency constraints and allowing more urban migrants to contribute to and benefit from the social safety net would reduce disparities and strengthen the redistributive effect of fiscal policy.

Box 1.4. Can Countries Sustain Higher Levels of Public Debt?

The global decline in interest rates over the past three decades has dramatically reduced sovereign borrowing costs in many countries. Some commentators have argued that in this environment, governments can sustain higher levels of public debt, particularly in advanced economies (Furman 2016; OECD 2016b; Buti and Carnot 2016). The argument is simple: lower interest rates reduce the cost of debt service, so governments can afford to borrow more.

This box examines an extended version of this argument: that debt sustainability is determined not by the interest rate alone, but by the differential between the interest and growth rates. A smaller differential implies that the debt ratio increases more slowly (if the differential is positive) or decreases more quickly (if the differential is negative) for a given level of the primary balance, hence allowing a government to sustain a higher debt ratio without the need for tighter fiscal policy. As the results in this box show, what matters most for debt sustainability is not the short-term evolution of the differential, which reflects cyclical factors, but its longer-term structural level.

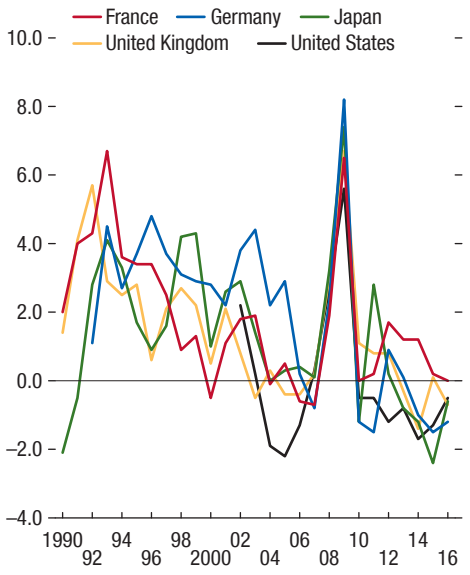
Figure 1.4.1 shows the difference between the effective interest rate on government debt and the rate of nominal growth since 1990 for a sample of advanced economies.[1] During this time, there has been a marked downward trend in the interest–growth rate differential; even though interest and growth rates have both declined, the interest rate has fallen further than the growth rate. Rather than its being a recent phenomenon, declines in the past five years (reflecting higher growth rather than lower interest rates) are simply the continuation of this trend.

What might have driven the persistent decline in the interest–growth rate differential? The likely causes are structural. For example, this pattern would arise if expectations about nominal growth took time to adjust to the lower rates seen in the 1990s and 2000s. Likewise, a worldwide reduction in safe assets or decreasing global risk appetite would also have pushed down the interest rate on government bonds. And demographic changes may have increased the demand for savings instruments, reducing the compensation governments must offer to public debt holders.

Given the structural nature of these factors, this trend is unlikely to be reversed in the near term. As a result, future interest–growth rate differentials are likely to be lower than they were on average in the past decade. This box reports on two experiments to assess the impact of a transitory and permanent decline in the interest–growth rate differential on sustainable debt levels. The analytical framework, which is an extension of the work done by Ghosh and others (2013), produces a debt limit—the maximum debt level before default—for each country in the sample. An important feature of this approach is that the evolution of the interest–growth rate differential is partly unpredictable. In technical terms, the differential follows a persistent stochastic process.[2] The model is calibrated to important aspects of public finance data for seven countries: Canada, France, Germany, Japan, the Netherlands, the United Kingdom, and the

Figure 1.4.1. Interest–Growth Rate Differentials in Advanced Economies, 1990–2016
(Percent)

Interest–growth rate differentials have been generally declining over the past 25 years or so but remain volatile.



Source: IMF staff estimates.
Note: The interest rate is computed as interest payments divided by outstanding debt at the end of previous year.

[1]Ongoing structural changes in emerging market economies make it harder to identify similar trends there.

[2]Further details of this framework are discussed by Barrett (forthcoming).

Box 1.4 *(continued)*

United States. The process governing the evolution of the interest–growth rate differentials is estimated from the data since the early 1990s.

Transitory decline in the interest–growth rate differential. This experiment simulates the impact the recent decline in the interest–growth rate differential has had on the debt limit for each country in the sample by assuming that the observed decline is a draw from the estimated distribution of the interest–growth rate distribution. Specifically, the model-generated debt limit in 2012 is compared to that consistent with the *World Economic Outlook* forecast for 2022 (to allow for the dissipation of expected monetary policy changes). Between these two points, the interest–growth rate differential is forecast to fall by an average of 1.6 percentage points for the countries in the sample. The results of this experiment are quite small. They suggest that this fall could increase debt limits by about 2 percent of GDP, on average.

Permanent decline in the interest–growth rate differential. This experiment assumes that the decline in the interest–growth rate differential is permanent. This is implemented by shifting to the left the distribution of the differential by 1 percentage point. The key finding is that the sensitivity of debt limits to a permanent decline in the interest–growth rate differential is much larger than that for a transitory decline. A permanent decline of 1 percentage point increases the maximum sustainable debt level by an average of 25 percent of GDP in the sample. Across countries, this figure ranges from a low of 10 percent of GDP to a high of 40 percent of GDP. Of course, in reality, it is difficult to assess whether the decline in the interest–growth rate differential is transitory or permanent. But even if only a portion of the decline is permanent, the impact on debt limits is likely to be large.

The intuitive explanation for the larger sensitivity to structural changes is that public debt issued today is rolled over and repaid over long periods of time. Thus, the sustainability of debt is driven principally by future interest–growth rate differentials, which ultimately depend on the shape of the distribution. The exact results also depend on the simplifying assumptions of the model, including that debt is short term, growth is exogenous, and shocks to the surpluses are uncorrelated with growth. However, the results are robust to various estimation periods of the process for the interest–growth rate differential and are of similar magnitude to those found in other studies, such as OECD 2016b.

Box 1.5. Do Fiscal Rules Lower Sovereign Borrowing Costs in Countries with Weak Track Records of Fiscal Performance?

In many advanced economies, there is widespread concern that fiscal policy has run out of space because of high debt levels. In this constrained environment, governments are exploring new ways to create fiscal space to finance much-needed reforms. Fiscal rules are often seen as a mechanism to enhance credibility that can, in turn, lower the government's interest risk premium and the interest bill, thereby creating room to raise productive public expenditures or reduce distortionary taxes.

The empirical literature, mostly focused on Europe and the United States, is cautiously optimistic about the ability of fiscal rules to lower government borrowing costs—measured as sovereign bond yields or spreads.[1] Results are nonetheless controversial because of the suspicion of "spurious correlation." The intuition is that a country's preference for fiscal prudence may explain both its fiscal performance and the adoption of fiscal rules, but there is no evidence that rules themselves could effectively constrain and change policies. In this case, rules would act only as signaling devices of voters' preferences toward fiscal prudence. Knowing that, financial markets would not reward the introduction of rules in countries that are fiscally less prudent because they know that rules are not sufficient to alter their fiscal behavior.

To assess whether rules reduce borrowing costs by enhancing fiscal credibility or simply reveal fiscal preferences, this box proposes an alternative approach relying on Jordà's (2005) methodology, which estimates the response of interest rates over the medium term following the introduction of a fiscal rule. The sample covers 33 advanced economies between 1980 and 2016. For each future year k the following regression is estimated:

$$Y_{i,t+k} - Y_{i,t} = \alpha_i^k + \sum_{j=1}^{l} \gamma_j^k \Delta Y_{i,t-j} + \beta_k rule_{i,t} + \boldsymbol{X}'_{i,t}\delta_k + \varepsilon_{i,t}^k, \qquad (1.5.1)$$

in which k = 1 to 4 (in years) and $Y_{i,t}$ corresponds to the 10-year sovereign government bond yield; $rule_{i,t}$ denotes a dummy variable that equals 1 for the date when the rule is first implemented (in country i at time t) and is 0 otherwise; and $\boldsymbol{X}'_{i,t}$ is a vector of controls that includes real GDP growth, the inflation rate, and lagged level of debt. The main coefficient of interest is β_k, which measures the impact of fiscal rules on yields for each future year k. Given that the introduction of rules (and the decision concerning their design features) may be subject to the omitted-variables bias previously described, the estimation uses the Arellano and Bond (1991) difference generalized method of moments, which partly addresses the endogeneity problem.

A plain estimation of equation (1.5.1) confirms the standard literature result that fiscal rules are associated with lower interest rates (result not shown). Yields of government bonds in advanced economies are found to decline by about 2 percentage points, on average, in the four years following the rule's introduction. However, this result does not hold when the countries' fiscal track records are explicitly taken into account. In countries that are fiscally less prudent, there is no evidence that rules lower borrowing costs, while the opposite is true for better performers (Figure 1.5.1, panel 1). The underlying regression, adapted from the smooth-transition autoregressive model of Granger and Teräsvirta (1993), interacts the rule variable with a nonlinear function of either the public debt ratio or an index of fiscal stabilization (computed in Chapter 2 of the April 2015 *Fiscal Monitor*).

Nonetheless, further analysis shows that the design of rules can make a difference. In the sample of countries that are fiscally less prudent, equation (1.5.1) is reestimated by interacting $rule_{i,t}$ with a binary variable taking the value 1 if a specific design feature of the fiscal rule is present and 0 otherwise. The characteristics that are considered in this exercise include the legal basis of the rule, enforcement and monitoring mechanisms, rule coverage, escape clauses, and provisions for cyclical adjustment (IMF 2009). The results show that, even in countries with a mixed record of fiscal responsibility, rules can lower financing costs if they are

[1]Studies looking more specifically at the United States include Eichengreen and Bayoumi 1994, Poterba and Rueben 1999, Lowry and Alt 2001, and Johnson and Kriz 2005. For European countries, examples include Hallerberg and Wolff 2008, Iara and Wolff 2010, and Feld and others 2017. For advanced economies in general, see IMF 2009.

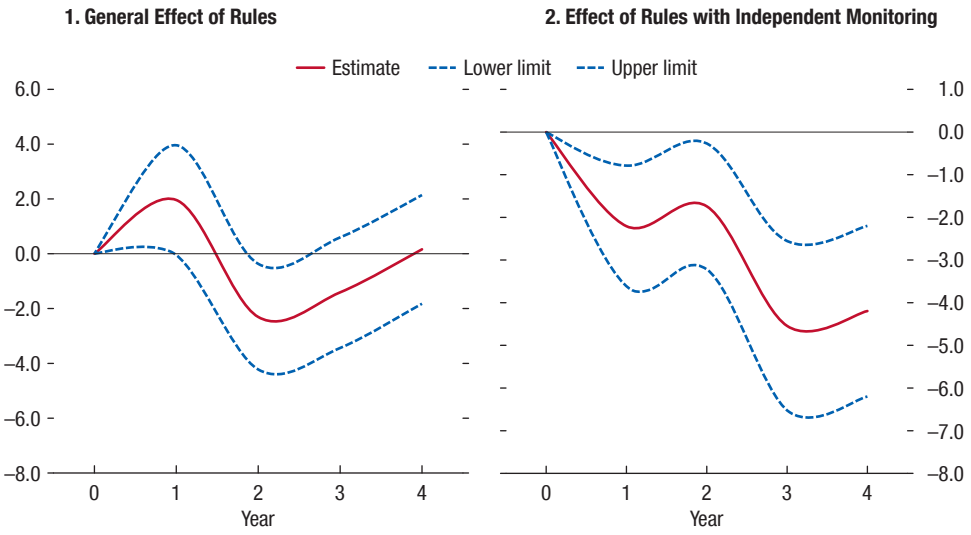
Box 1.5 *(continued)*

Figure 1.5.1. Impact of Fiscal Rules on Government's Borrowing Costs in Countries with Weak Track Records of Fiscal Performance

(Percent of GDP)

Fiscal rules are, in general, not associated with lower borrowing costs in countries with a weak fiscal track record, …

… but monitoring mechanisms can make the rules effective in these countries.



Source: IMF staff estimates based on data from IMF, World Economic Outlook database, and IMF, Fiscal Rules Dataset.
Note: The figure plots the impulse response functions following the introduction of a fiscal rule in high-debt countries. Dashed lines show 90 percent confidence bands. Interest rates above the 95th percentile of the distribution have been removed to exclude outliers. In the sample of countries that are fiscally less prudent, interest rates have historically been relatively high (up to 22 percent over the period, with a mean of 7 percent).

accompanied by independent monitoring mechanisms (Figure 1.5.1, panel 2). This is consistent with past evidence on the role of fiscal councils and their synergies with fiscal rules (IMF 2013). On the contrary, flexibility in the rule design (such as escape clauses) is not found to affect the ability to lower the risk premium. Results on enforcement procedures (sanctions and correction mechanisms) are not conclusive.

Annex 1.1. Defining and Measuring Fiscal Space

There is no widely accepted definition of fiscal space. The IMF (2016d) approach focuses on the government's ability to undertake discretionary fiscal policy (that is, raise spending or lower taxes) while preserving market access and debt sustainability. When fiscal space exists, discretionary policy can take the form of either a fiscal expansion or a slower pace of consolidation—both of which require additional borrowing relative to an unchanged policy scenario. Conversely, the inability to conduct such policies is interpreted as an absence of fiscal space.

Fiscal space has a number of important characteristics:

- *Fiscal space is a multidimensional concept*. Whether or not there is room to raise spending or lower taxes depends on multiple factors, including the sustainability of the level and trajectory of public debt and financing needs over the medium term, the availability of financing on favorable terms and the risk of market perceptions sharply increasing funding costs, and the realism of the medium- and long-term fiscal adjustment needed to achieve prudent debt ratios. All these aspects need to be assessed with different tools. Thus fiscal space cannot be summarized using a single indicator. Annex Tables A.1.1 and A.1.2 report an illustrative subset of potential fiscal space indicators, partly drawing from IMF 2016d and focusing on four main dimensions: the debt burden, the debt profile, the financing conditions, and the adjustment needed to stabilize debt in a context of rising aging costs. As discussed next, these indicators do not account for the dynamic impact of future policies on financing availability and debt sustainability, which is an important component of fiscal space.
- *Fiscal space is a forward-looking and dynamic assessment*. Today's fiscal space depends on the future effect of policies. For instance, in the face of a large negative shock, excessive fiscal consolidation could reduce fiscal space by reducing GDP growth. Alternatively, a temporary stimulus could create space and improve medium-term debt prospects, especially if it is used to fund investment in productive infrastructure, support structural reforms, and help repair balance sheets of the private sector. Therefore, fiscal space should be assessed under alternative assumptions on future policies and states of the economy.
- *The assessment of fiscal space should take into account fiscal spillovers from policies in other countries, when relevant*. There are interdependencies between the fiscal positions of economies. For instance, a stimulus in the United States could benefit its trading partners and indirectly improve their fiscal positions, creating more room in their budgets. This is particularly important in the case of an international fiscal stimulus, which would create positive spillovers, amplifying the beneficial effects from each country's policies. In this way, coordinated actions could increase the amount of fiscal space (Gaspar, Obstfeld, and Sahay 2016).

For all these reasons, fiscal space is a concept that is difficult to operationalize. To inform its assessment, a variety of tools and indicators should be used. Ultimately, assessing fiscal space is and should remain a matter of economic judgment.

Annex Table 1.1.1. Advanced Economies: Selected Potential Indicators of Fiscal Space

	Current and Future Debt Burden Indicators		Financing Availability and Condition			Debt Profile			Adjustment Needs		
	Public Debt, 2016	Public Debt Change, 2016–22	Gross Financing Needs, 2017[1]	10-Year Sovereign Yield Spreads (Against U.S.)[2]	Projected Interest Rate–Growth Differential, 2017–22[3]	Share of Foreign Currency Public Debt, 2017	Nonresident Holding of General Government Debt, 2016[4]	Share of Short-Term External Debt, 2017	Primary Gap in 2017[5]	Primary Gap in 2022[6]	Health and Pension Spending Change, 2022–50[7]
	(percent of GDP)	*(percent of GDP)*	*(percent of GDP)*	*(percent)*	*(percent)*	*(percent)*	*(percent of total)*	*(percent)*	*(percent of GDP)*	*(percent of GDP)*	*(percent of GDP)*
Australia	41.1	–4.5	3.2	0.3	–1.3	0.0	41.9	. . .	0.7	–1.6	4.2
Austria	83.9	–14.1	4.9	–1.8	–0.9	. . .	85.2	. . .	–1.2	–1.3	4.9
Belgium	105.5	–6.2	17.5	–1.5	–0.9	0.0	66.7	27.0	–0.9	–0.6	6.8
Canada	92.3	–9.6	10.6	–0.8	–0.4	. . .	24.2	. . .	1.2	0.1	2.8
Cyprus	108.0	–21.3	. . .	. . .	–1.1	. . .	75.2	. . .	–3.2	–3.5	. . .
Czech Republic	37.7	–8.1	5.5	–1.5	–1.6	16.7	44.2	43.6	–1.3	–0.9	2.5
Denmark	39.9	–7.6	4.7	–1.8	–1.0	. . .	33.4	. . .	0.7	–0.8	2.1
Estonia	9.5	–1.3	. . .	. . .	–4.8	. . .	79.3	46.4	–0.6	0.0	0.4
Finland	63.6	–3.7	7.8	–1.9	–1.6	. . .	79.4	32.3	1.0	–0.8	0.8
France	96.6	–6.3	13.2	–1.4	–1.2	0.0	65.1	. . .	1.1	–2.5	0.5
Germany	67.6	–16.8	2.7	–2.1	–1.4	. . .	63.2	. . .	–2.3	–2.5	4.8
Greece	181.3	–18.5	. . .	4.6	–1.6	3.7	. . .	29.6	. . .	. . .	. . .
Hong Kong SAR	0.1	–0.1	. . .	–0.7	0.8	. . .	. . .	70.7	–0.8	–0.4	. . .
Iceland	53.2	–23.5	0.2	2.6	–0.2	. . .	34.5	29.1	–3.9	–1.9	5.4
Ireland[8]	76.4	–15.2	5.8	–1.4	–1.6	. . .	68.7	17.7	–2.5	–3.7	3.5
Israel	62.2	1.4	. . .	. . .	0.9	21.2	13.7	. . .	1.9	1.5	2.0
Italy	132.6	–11.3	16.5	–0.1	0.8	. . .	38.9	31.2	0.3	–2.6	2.1
Japan	239.2	–6.8	40.8	–2.3	–1.1	. . .	10.1	. . .	1.4	–0.8	4.5
Korea	38.6	–2.5	1.6	–0.2	–1.3	1.1	12.4	29.0	–1.1	–2.1	9.9
Latvia	34.3	–7.7	. . .	. . .	–2.5	. . .	84.4	52.0	–0.4	–1.3	1.0
Lithuania	40.0	–8.1	5.6	. . .	–0.1	. . .	84.8	47.7	–0.9	–1.2	3.3
Luxembourg	22.6	0.2	. . .	. . .	–3.3	0.0	37.2	. . .	–1.1	–0.2	4.6
Malta	59.4	–10.3	6.4	–0.8	–1.5	. . .	11.0	43.0	–2.9	–1.9	. . .
Netherlands	62.6	–12.5	5.6	–1.8	–1.2	. . .	55.1	. . .	–1.7	–1.7	8.0
New Zealand	29.5	–17.1	3.4	0.8	1.1	0.0	79.6	. . .	–1.3	–2.9	7.5
Norway	33.2	0.0	. . .	–0.7	–1.5	. . .	55.3	. . .	–2.3	–2.5	4.6
Portugal	130.3	–7.4	12.0	1.6	0.7	. . .	64.2	33.5	–1.8	–0.4	4.4
Singapore	112.0	–9.6	. . .	–0.1	–3.6	. . .	. . .	. . .	–3.4	–5.0	. . .
Slovak Republic	52.3	–7.4	9.2	–1.3	–2.1	. . .	63.2	32.1	0.0	–1.9	3.2
Slovenia	78.9	–1.0	8.1	2.1	–0.5	. . .	73.6	17.3	–0.7	–0.7	6.6
Spain	99.3	–5.4	17.8	–0.7	–0.7	. . .	50.4	. . .	–0.3	–0.5	5.0
Sweden	41.7	–6.1	4.5	–1.8	–2.1	. . .	41.7	. . .	–0.8	–0.9	0.5
Switzerland	45.4	–6.6	2.1	–3.2	–1.2	. . .	11.3	. . .	–0.3	–0.9	7.0
United Kingdom	89.2	–6.0	9.2	–1.2	–0.8	. . .	33.8	. . .	0.4	–1.8	4.1

(continued)

Annex Table 1.1.1. Advanced Economies: Selected Potential Indicators of Fiscal Space (continued)

	Current and Future Debt Burden Indicators		Financing Availability and Condition			Debt Profile			Adjustment Needs		
	Public Debt, 2016	Public Debt Change, 2016–22	Gross Financing Needs, 2017[1]	10-Year Sovereign Yield Spreads (Against U.S.)[2]	Projected Interest Rate–Growth Differential, 2017–22[3]	Share of Foreign Currency Public Debt, 2017	Nonresident Holding of General Government Debt, 2016[4]	Share of Short-Term External Debt, 2017	Primary Gap in 2017[5]	Primary Gap in 2022[6]	Health and Pension Spending Change, 2022–50[7]
	(percent of GDP)	*(percent of GDP)*	*(percent of GDP)*	*(percent)*	*(percent)*	*(percent)*	*(percent of total)*	*(percent)*	*(percent of GDP)*	*(percent of GDP)*	*(percent of GDP)*
United States[9]	107.4	10.0	19.3	0.3	–1.0	. . .	31.0	29.6	–0.1	2.5	6.7
Group Median	62.6	–7.4	6.1	–0.8	–1.2	0.0	52.8	32.1	–0.8	–1.2	4.3

Sources: Bloomberg L.P.; Joint External Debt Hub, Quarterly External Debt Statistics; national authorities; and IMF staff estimates and projections.

[1] Gross financing need is defined as the projected overall deficit and maturing government debt in 2017; for more details on the assumptions, see note 1 in Table A23. Data are from Bloomberg L.P. and IMF staff projections.

[2] Data are as of March 31, 2017.

[3] Interest rate refers to the interest payments divided by outstanding debt at the end of previous year in nominal term. Growth rate refers to the nominal GDP growth rate.

[4] Nonresident holdings of general government debt data are for the fourth quarter of 2016 or latest available from the Joint External Debt Hub (JEDH), Quarterly External Debt Statistics, which include marketable and nonmarketable debt. For some countries, tradable instruments in the JEDH are reported at market value. External debt in U.S. dollars is converted to local currency, then taken as a percentage of 2015 gross general government debt.

[5] Primary gap in 2017 refers to the change in primary balance in 2017 (relative to the forecast in the *World Economic Outlook*) to stabilize the debt-to-GDP ratio at the 2016 level.

[6] Primary gap in 2022 refers to the change in primary balance in 2022 (relative to the forecast in the *World Economic Outlook*) to stabilize the debt-to-GDP ratio at the 2021 level.

[7] Projections rely on authorities' estimates when these are available. For the European Union countries, pension projections are based on *The 2015 Ageing Report* of the European Commission. When authorities' estimates are not available, IMF staff projections use the methodology described in Clements, Eich, and Gupta 2014. Staff projections for health care spending are driven by demographic and other factors. The difference between the growth of health care spending and real GDP growth that is not explained by demographics ("excess cost growth") is assumed to start at the country-specific historical average and converge to the advanced economy historical average by 2050 (0.8 percent).

[8] Ireland's headline metrics are affected by the one-time shift in nominal GDP recorded in 2015.

[9] For the United States, 10-year sovereign yield spreads refer to 5-year credit default swap spreads.

Annex Table 1.1.2. Emerging Market and Developing Economies: Selected Potential Indicators of Fiscal Space

	Current and Future Debt Burden Indicators		Financing Availability and Condition			Debt Profile			Adjustment Needs		
	Public Debt, 2016	Public Debt Change, 2016–22	Gross Financing Needs, 2017[1]	10-Year Sovereign Yield Spreads (Against U.S.)[2]	Projected Interest Rate–Growth Differential, 2017–22[3]	Share of Foreign Currency Public Debt, 2017	Nonresident Holding of General Government Debt, 2016[4]	Share of Short-Term External Debt, 2017	Primary Gap in 2017[5]	Primary Gap in 2022[6]	Health and Pension Spending Change, 2022–50[7]
	(percent of GDP)	*(percent of GDP)*	*(percent of GDP)*	*(percent)*	*(percent)*	*(percent)*	*(percent of total)*	*(percent)*	*(percent of GDP)*	*(percent of GDP)*	*(percent of GDP)*
Algeria	20.4	–6.9	. . .	. . .	–3.8	4.9	3.6	50.6	0.9	–0.9	. . .
Angola	71.9	–10.0	. . .	. . .	–8.1	59.9	. . .	0.3	–10.6	–3.3	. . .
Argentina	51.3	–6.5	10.5	–0.8	–12.6	69.2	35.5	53.0	–5.2	–1.9	7.1
Azerbaijan	37.7	–8.8	. . .	. . .	–5.3	75.0	. . .	. . .	5.8	–3.2	7.0
Bangladesh	33.1	–0.1	. . .	. . .	–5.3	. . .	. . .	2.6	0.7	–0.5	2.8
Belarus	52.3	8.1	. . .	. . .	–2.4	. . .	51.5	32.3	3.9	. . .	4.4
Brazil[8]	78.3	9.5	17.4	2.4	2.4	4.4	8.7	7.0	4.5	–0.2	13.2
Chile	21.2	10.0	4.2	1.6	–1.8	18.6	21.9	11.4	2.4	–0.4	2.9
China	46.2	12.7	. . .	. . .	–5.6	0.4	. . .	61.2	–0.1	–1.1	7.8
Colombia	47.6	–8.8	5.1	4.3	0.9	49.1	32.8	9.1	0.3	–1.5	3.9
Croatia	84.4	–8.6	15.4	0.7	0.3	. . .	38.7	8.4	–0.5	. . .	0.3
Dominican Republic	34.4	9.5	7.6	. . .	0.9	72.8	67.4	8.0	1.0	0.7	2.5
Ecuador	29.2	1.9	7.1	. . .	6.9	. . .	77.3	1.7	2.3	–1.2	4.9
Egypt	97.1	–17.3	44.8	. . .	–7.0	. . .	7.6	13.2	–10.1	–5.6	1.3
Hungary	74.2	–4.5	16.3	0.9	–1.5	26.1	53.6	10.9	–0.9	–0.6	3.7
India	69.5	–10.3	10.5	4.3	–4.1	3.8	6.0	18.5	–0.8	–1.3	0.2
Indonesia	27.9	1.4	4.3	4.7	–3.1	37.8	59.1	10.8	–0.1	–0.1	1.2
Iran	35.0	–18.8	. . .	. . .	–5.1	4.8	. . .	31.8	–5.5	–2.2	12.3
Kazakhstan	21.1	3.3	. . .	. . .	–4.5	. . .	43.6	6.8	4.6	–0.5	2.7
Kuwait	18.6	12.6	. . .	. . .	–3.1	. . .	. . .	48.4	6.9	11.2	15.9
Malaysia	56.3	–9.5	10.5	1.8	–2.8	. . .	34.5	37.3	–0.6	–2.1	2.8
Mexico	58.1	–4.0	8.5	4.6	0.4	. . .	31.3	18.5	–1.6	–0.7	2.0
Morocco	64.7	–7.6	10.9	. . .	–1.7	. . .	22.4	0.1	0.8	–1.5	. . .
Nigeria	18.6	6.3	. . .	. . .	–7.8	. . .	. . .	20.4	2.1	0.2	0.8
Oman	34.3	15.1	. . .	. . .	–2.2	. . .	. . .	32.6	7.3	5.1	5.2
Pakistan	66.9	–4.3	32.0	. . .	–2.4	32.2	. . .	5.7	–1.5	–1.6	1.1
Peru	24.8	3.7	4.8	3.4	–1.0	40.4	41.6	10.6	1.1	–0.7	4.7
Philippines	33.7	–4.4	7.9	. . .	–4.3	38.4	29.5	19.7	–2.2	–1.1	1.4
Poland	53.5	–2.5	9.5	1.1	–2.1	33.7	53.5	14.6	0.4	–0.5	3.4
Qatar	47.6	5.7	. . .	. . .	–4.1	. . .	. . .	44.6	–1.5	–4.7	. . .
Romania	39.2	5.7	8.3	. . .	–2.6	. . .	47.2	25.1	1.4	0.4	2.7
Russia	17.0	1.4	4.2	5.6	0.0	23.0	16.5	5.6	1.8	–1.1	4.6

(continued)

Annex Table 1.1.2. Emerging Market and Developing Economies: Selected Potential Indicators of Fiscal Space (continued)

	Current and Future Debt Burden Indicators		Financing Availability and Condition			Debt Profile			Adjustment Needs		
	Public Debt, 2016	Public Debt Change, 2016–22	Gross Financing Needs, 2017[1]	10-Year Sovereign Yield Spreads (Against U.S.)[2]	Projected Interest Rate–Growth Differential, 2017–22[3]	Share of Foreign Currency Public Debt, 2017	Nonresident Holding of General Government Debt, 2016[4]	Share of Short-Term External Debt, 2017	Primary Gap in 2017[5]	Primary Gap in 2022[6]	Health and Pension Spending Change, 2022–50[7]
	(percent of GDP)	*(percent of GDP)*	*(percent of GDP)*	*(percent)*	*(percent)*	*(percent)*	*(percent of total)*	*(percent)*	*(percent of GDP)*	*(percent of GDP)*	*(percent of GDP)*
Saudi Arabia	12.4	14.1	. . .	. . .	0.3	38.6	. . .	27.5	10.6	2.5	7.7
South Africa	50.5	3.2	11.9	6.5	0.1	10.4	32.1	27.4	0.1	–1.4	4.0
Sri Lanka	77.3	–11.0	17.0	. . .	–2.4	. . .	39.8	16.8	–1.8	–3.2	2.5
Thailand	42.2	–0.4	7.3	0.3	–1.5	5.1	12.3	40.3	0.0	0.1	7.1
Turkey	29.1	–0.1	8.1	3.1	–1.5	36.4	35.3	24.0	0.1	–0.5	3.9
Ukraine	81.2	–21.1	7.2	5.5	–5.2	70.9	48.3	13.9	–7.4	–4.1	7.0
United Arab Emirates	19.3	–1.2	. . .	. . .	–4.6	. . .	. . .	20.0	0.9	–1.2	4.4
Uruguay	60.9	3.1	12.3	. . .	–3.7	50.9	43.7	11.0	–1.4	–3.0	5.6
Venezuela	28.2	–10.4	. . .	. . .	–95.2	3.2	. . .	. . .	–10.9	0.0	5.6
Vietnam	62.4	4.8	. . .	. . .	–6.1	47.0	. . .	12.3	–0.2	. . .	. . .
Group Median	44.2	–0.3	9.0	3.1	–2.9	35.1	35.4	15.7	0.1	–1.1	3.9

Sources: Bloomberg L.P.; Joint External Debt Hub, Quarterly External Debt Statistics; national authorities; and IMF staff estimates and projections.

[1] Gross financing need is defined as the projected overall deficit and maturing government debt in 2017; for more details on the assumptions, see note 1 in Table A23. Data are from Bloomberg L.P. and IMF staff projections.

[2] Data are as of March 31, 2017.

[3] Interest rate refers to the interest payments divided by outstanding debt at the end of previous year in nominal terms. Growth rate refers to the nominal GDP growth rate.

[4] Nonresident holdings of general government debt data are for the fourth quarter of 2016 or latest available from the Joint External Debt Hub (JEDH), Quarterly External Debt Statistics, which include marketable and nonmarketable debt. For some countries, tradable instruments in the JEDH are reported at market value. External debt in U.S. dollars is converted to local currency, then taken as a percentage of 2015 gross general government debt.

[5] Primary gap in 2017 refers to the change in primary balance in 2017 (relative to the forecast in the *World Economic Outlook*) to stabilize the debt-to-GDP ratio at the 2016 level.

[6] Primary gap in 2022 refers to the change in primary balance in 2022 (relative to the forecast in the *World Economic Outlook*) to stabilize the debt-to-GDP ratio at the 2021 level.

[7] Projections rely on authorities' estimates when these are available. For the European Union countries, pension projections are based on *The 2015 Ageing Report* of the European Commission. When authorities' estimates are not available, IMF staff projections use the methodology described in Clements, Eich, and Gupta 2014. Staff projections for health care spending are driven by demographic and other factors. The difference between the growth of health care spending and real GDP growth that is not explained by demographics ("excess cost growth") is assumed at the advanced economy historical average by 2050 (0.8 percent).

[8] The IMF staff projects an increase in pension spending in Brazil to 5.9 percent of GDP by 2030. See IMF 2016e.

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