CHAPTER 1

FISCAL POLICY FOR A CHANGING GLOBAL ECONOMY

With global growth slowing and uncertainty rising, fiscal policy should prepare for potential downturns—balancing stabilization and sustainability objectives—and put more emphasis on reforms to foster long-term inclusive growth in a fast-changing global economy. Shifting demographics, rapid technological progress, and deepening international economic integration bring challenges. To remain effective, fiscal policy needs to adapt to these key trends reshaping the global economy. Where there is limited budgetary room, such adaptation will have to occur through inclusive and growth-friendly budget recomposition. International cooperation to improve the taxation of multinational companies, and to tackle climate change and corruption could amplify and spread the reform gains.

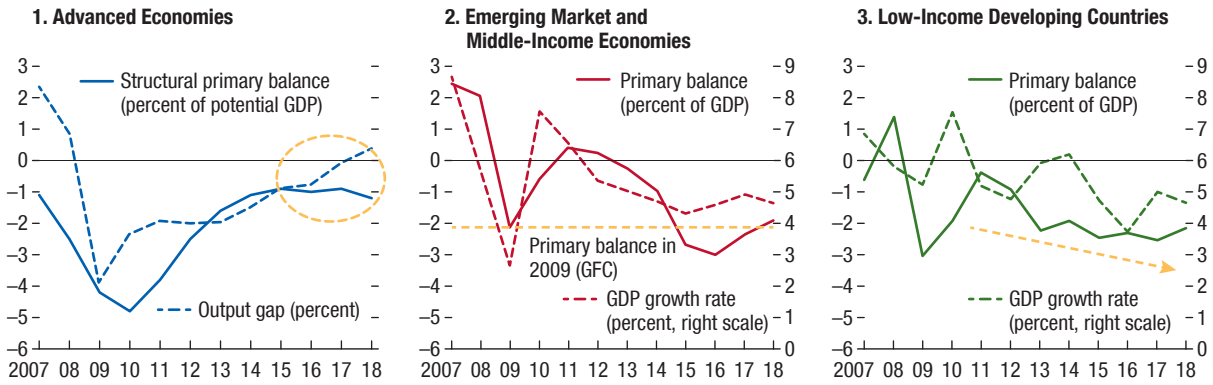
Introduction

Over the past decade, fiscal policies have focused on economic stabilization, whereas less attention has been given to reforms to foster long-term inclusive growth. Major fiscal expansions across the globe after the 2007–08 global financial crisis helped address demand-side weaknesses, including through support for financial systems in some cases (Figure 1.1). Emerging market and developing economies returned to expansionary fiscal policies during 2012–15, notably in commodity exporters to cushion the blow from persistently lower commodity prices. In most countries, however, subsequent fiscal adjustment remains incomplete. Advanced economies, on average, have reverted to a neutral fiscal stance rather than gradually restoring depleted fiscal buffers, and in emerging market and developing economies deficits have remained high or risen further. As a result, public debt ratios are now significantly higher than before the global financial crisis in all country groups; and emerging market and developing economies face notably higher interest burdens whereas low interest rates have reduced the interest bill in advanced economies (Figure 1.2). Meanwhile, per capita income growth has trended downward in advanced economies since the mid-1970s and in emerging market and developing economies during the past decade; moreover, income inequality has risen in many advanced economies and remains pervasive in most emerging market and developing economies (Figure 1.3).

Getting fiscal policy right at this juncture requires more attention to growth-friendly and inclusive reforms. Demographic shifts, technological advances, and international economic integration have left fiscal policy, in some cases, unsustainable or outdated.

Figure 1.1. General Government Fiscal Stance and Cyclical Position, 2007–18

Fiscal expansions following the global financial crisis and commodity price shocks have yet to be reversed.



Source: IMF, World Economic Outlook database.
Note: The averages are weighted by PPP-adjusted nominal GDP in US dollars. GFC = global financial crisis; PPP = purchasing power parity.

Figure 1.2. General Government Gross-Debt-to-GDP and Interest-Bill-to-Tax-Revenue, 2007–18
(Percent)

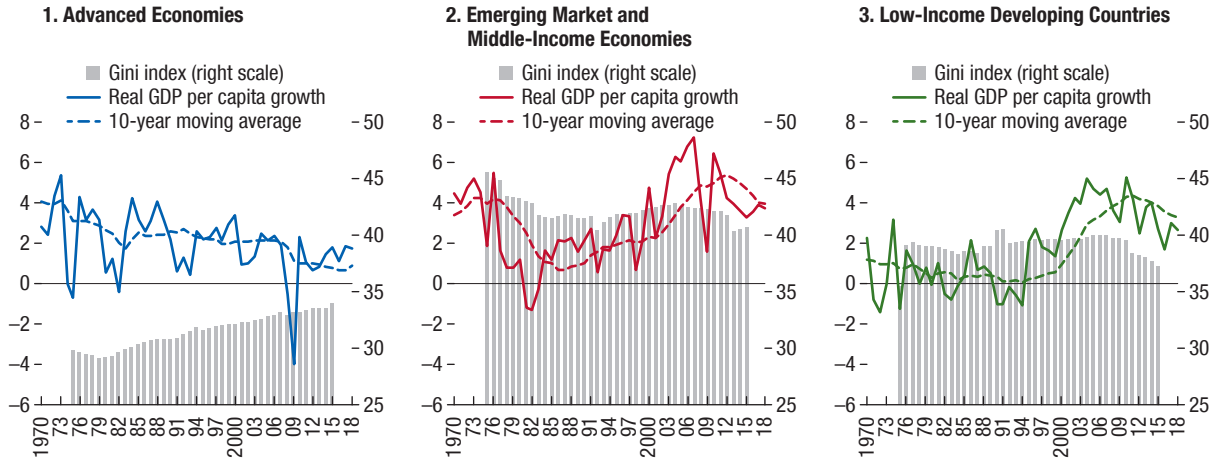
Public debt vulnerabilities are higher today than before the global financial crisis.

Source: IMF, World Economic Outlook database.

Populations are aging in advanced and some emerging market economies (for example, China), while they are rapidly expanding and urbanizing in many low-income developing countries (for example, sub-Saharan Africa) and several emerging market economies (for example, India). Labor-saving innovations such as automation and digitalization, combined with increasingly integrated global production and distribution, are having a profound impact on the relative contributions of labor, capital, land, and productivity in generating economic activity. These forces also reshape the relative contributions of skilled versus unskilled labor and manufacturing versus services sectors to economic output within countries. Income gains are increasingly accruing to those at the top, and wealth is becoming more concentrated. Fiscal policies need to adapt to these global trends by upgrading tax, social spending, and active labor market policies, and by providing

Figure 1.3. Real GDP per Capita Growth and Income Inequality, 1970–2018
(Percent)

GDP per capita has trended down and inequality remains a concern across the globe.



Sources: IMF, World Economic Outlook database; Standardized World Income Inequality Database; and IMF staff estimates.
Note: The averages are weighted by PPP-adjusted nominal GDP in US dollars. PPP = purchasing power parity.

the infrastructure needed for better service delivery. Taking such steps will help to foster higher potential growth—which is also key for durably reducing public debt levels—and to ensure that gains from openness and innovation are broadly shared within and across countries. Moreover, it is likely that rising distrust in public institutions and growing support for protectionism reflect, among other causes, the failure of fiscal policy choices to spread the gains from globalization and technological innovation across individuals and localities.

Even so, the case for fiscal restraint remains strong. High debts and deficits, along with the associated financing requirements, leave countries vulnerable to interest rate and other fiscal risks and may be a drag on long-term growth.[1] Gradual fiscal adjustment remains appropriate in many countries in the current environment of slowing but still respectable global growth (see Chapter 1 of the April 2019 *World Economic Outlook*) and a risk of tightening financial conditions worldwide (see Chapter 1 of the April 2019 *Global Financial Stability Report*). Fiscal expansions are usually less effective (that is, fiscal multipliers are lower) when economic slack is limited, and monetary policy is normalizing, because the impact of fiscal stimulus on inflation prospects would lead central banks to offset it (DeLong and Summers 2012; Mineshima, Poplawski-Ribeiro, and Weber 2014). In addition, global policy uncertainty is elevated, particularly surrounding trade relations among the world's largest economies. Uncertainty makes businesses and consumers more cautious in responding to fiscal stimulus, thereby dampening the effects of expansionary fiscal policy (Bloom and others 2018). Moreover, although negative interest-growth rate differentials, as currently experienced by many advanced economies, help fiscal solvency (Blanchard 2019), market confidence is often lost abruptly resulting in sharp increases in borrowing costs. Lowering public debt ratios would create room for countercyclical fiscal policy to operate during the next recession.[2] Fiscal restraint is important, particularly if rising public debt leads to higher sovereign bond spreads, which can increase private borrowing costs and further reduce economic activity (Corsetti and others 2013; Zoli 2013).

Fiscal policy also needs to remain nimble in view of the downside risks to the global economy. At present, these risks include further escalation in trade tensions, a sharper slowdown in China, a deterioration in risk sentiment amplified by high public and private debt (totaling $184 trillion, or 225 percent of global GDP at the end of 2017), financial market volatility, and political developments (including uncertainty about Brexit). Previous studies show that backloading of adjustment could be warranted if, after a significant worsening in the outlook, a recession became likely.[3] However, a decision to delay fiscal adjustment should be anchored in a clear and credible medium-term adjustment plan to ensure debt sustainability (Gaspar, Obstfeld, and Sahay 2016).

Against the current backdrop, the case for pursuing growth-friendly and inclusive policies is even stronger. Fiscal restraint alone is unlikely to significantly reduce public debts; robust economic growth is also necessary (Baldacci, Gupta, and Mulas-Granados 2015; Best and others 2019; Cottarelli and Jaramillo 2013).[4] However, the argument for fiscal policy to focus on measures that raise potential growth extends beyond reducing the public debt burden. The quality of fiscal spending in terms of boosting growth and making it more inclusive has deteriorated in member countries of the Organisation for Economic Co-operation and Development (OECD) in the aftermath of the global financial crisis (Bloch and Fournier 2018). For their part, emerging market and developing economies face significant infrastructure and social spending needs, as well as revenue gaps to meet their Sustainable Development Goals (SDGs) (Gaspar and others 2019).

To remain effective, policies to enhance long-term growth also need to evolve with the key trends reshaping the global economy, including *demographic shifts*, *technological advances*, *and global integration*.

[1]See Chapter 1 of the April 2018 *Fiscal Monitor* for a review of evidence on why high government debts and deficits are a cause for concern.

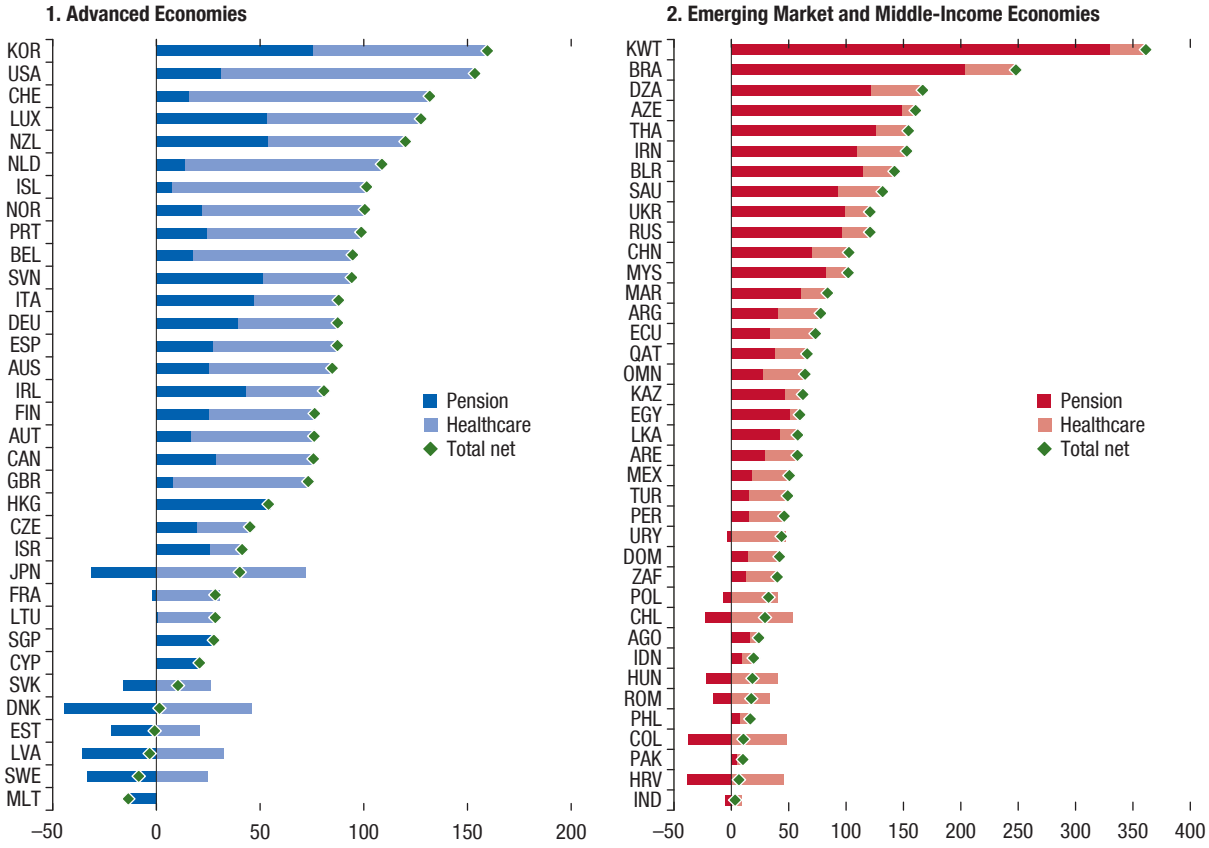
[2]Countries with stronger public sector balance sheets (proxied by higher public sector net financial worth) have faced shallower recessions and returned to growth more quickly than did those with weaker ones (see the October 2018 *Fiscal Monitor*). Similarly, countries entering a financial crisis with weak fiscal positions (proxied by high public debt) have experienced deeper and longer recessions than did those with stronger ones (see the October 2016 *Fiscal Monitor*).

[3]See Blanchard and Leigh (2013) for an overview of studies on the appropriate speed of fiscal adjustment.

[4]Beyond fiscal restraint, fiscal policy could also remove incentives for debt financing over equity financing that have contributed to the buildup of public and private corporate debt (IMF 2016b).

Figure 1.4. Implicit Liabilities of Pension and Healthcare Spending, 2015–50
(Percent of GDP in present value terms)

Pension and healthcare spending for aging populations will add significantly to government obligations.



Source: IMF staff estimates.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.

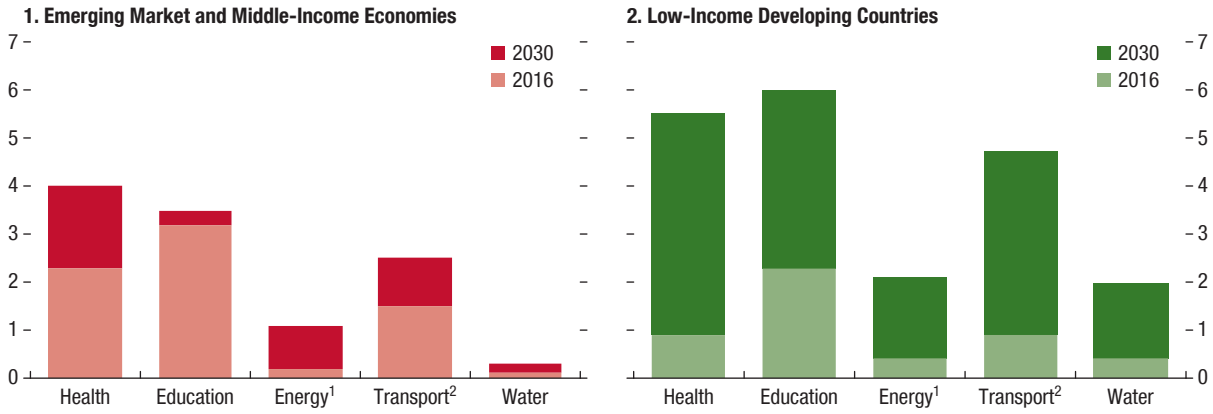
Demographic Shifts

Aging populations will strain public finances in many advanced and emerging market economies as fewer workers will need to finance more retirees. Age-related government expenditures on public pensions and healthcare already account for 17 percent of GDP in advanced economies and 7 percent of GDP in emerging market economies and are projected to rise to 23 percent and 14 percent of GDP, respectively, by 2050. These spending profiles add considerably to the current government obligations when portrayed in net present value terms (Figure 1.4). At the same time, the projected decline in working age populations will reduce payroll tax revenues and social security contributions. To ensure the sustainability of such spending while providing adequate social insurance, further parametric pension and healthcare reforms are necessary in many countries (Clements and others 2015; IMF 2019a). Migration can also help ease fiscal pressures in aging economies (Clements and others 2015). Rapid labor market integration of migrants would help maximize the public financial benefits (Aiyar and others 2016).

In contrast, rapidly growing and urbanizing populations in low-income developing countries present significant development spending needs. The population of sub-Saharan Africa is projected to increase by 70 percent over the next 30 years, accounting for more than half of the anticipated global population growth (United Nations 2017). This increase will require creating 20 million jobs a year in the region over the next two decades (Abdychev and others 2018). In addition, urban populations are projected to double in many African and Asian countries by 2050 (United Nations 2018). Fiscal policies will need to support the ensu-

Figure 1.5. Additional Spending Required to Achieve High Performance in Selected Sustainable Development Goals in 2030
(Percent of GDP)

Upgrading public services and infrastructure for growing populations requires substantial additional spending.



Source: Gaspar and others 2019.
Note: The data for 2030 refer to the spending in that year as a share of GDP that would be consistent with high performance in the selected Sustainable Development Goal areas reported in the figure. For education and healthcare, additional spending corresponds to the difference between spending as a share of GDP consistent with high performance in 2030 and the 2016 level of spending as a share of GDP. For physical capital, additional spending corresponds to the annualized spending required to close infrastructure gaps between 2019 and 2030.
[1]Increase reflects only additional spending need for electricity.
[2]Increase reflects only additional spending need for roads.

ing need for infrastructure (housing, transportation, energy) and services (education, healthcare), including by encouraging private sector development and participation (Hellebrandt and Mauro 2016). Delivering high performance on core infrastructure and services SDGs will require additional spending in 2030 of $2.6 trillion (2.5 percent of 2030 world GDP) in emerging market and developing economies (Gaspar and others 2019) (Figure 1.5).

Technological Advances

Existing social spending programs may become inadequate as technological advances reshape employment modalities. The digital economy has given rise to more part-time, short-term, on-demand, and self-employment jobs. Automation has replaced positions that entail routine or repetitive work (see Chapter 3 of the April 2017 *World Economic Outlook*). While boosting productivity and per capita incomes, technological progress has contributed to the decline in labor income shares and favored high-skilled over low-skilled workforces (IMF 2018) (Figure 1.6). These changes have increased income uncertainty and created a need to continuously upgrade skills. Adapting to these new realities through social spending reforms would support labor mobility and facilitate a more equitable distribution of income.

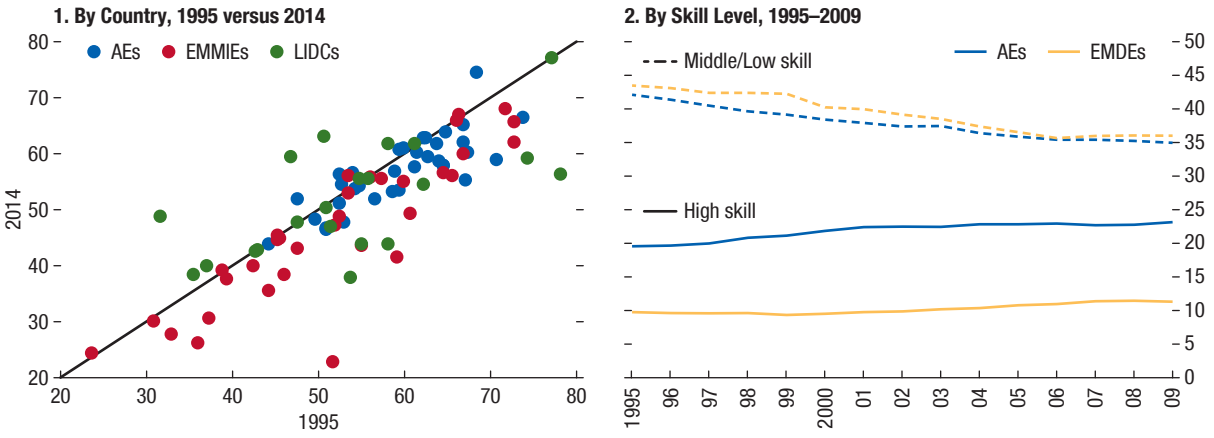
Global Integration

Global integration of production and distribution has altered labor, capital, and goods market dynamics, aiding some and leaving out others, and creating a need to reform tax and spending policies to share its benefits. International economic integration has supported an unprecedented reduction in worldwide poverty in recent decades. However, this welcome development has been accompanied by growing income and wealth inequality within many countries, particularly advanced economies (see the October 2017 *Fiscal Monitor* and Dabla-Norris and others 2015). At the same time, private capital can move easily around the globe. Although this can allow for a more efficient allocation of capital, some of the flows are driven by efforts to avoid national taxes,[5] wors-

[5]Damgaard and Elkjaer (2017) find that almost 40 percent of all foreign direct investment positions globally ($12 trillion) pass through empty corporate shells in low-tax jurisdictions with no real activity. Similarly, Tørsløv, Wier, and Zucman (2018) estimate that close to 40 percent of multinational profits are shifted to low-tax jurisdictions each year globally.

Figure 1.6. Evolution of Labor Income Shares since 1995
(Percent of GDP)

The income share of labor has declined globally, in particular for low- and middle-skilled labor.



Source: World Input-Output Database Socio-Economic Accounts.
Note: Labor income share refers to the portion of gross domestic product allocated to labor compensation. AEs = advanced economies; EMDEs = emerging market and developing economies; EMMIEs = emerging market and middle-income economies; LIDCs = low-income developing countries.

ening inequalities and undermining trust in government (Zucman 2015). With rising protectionism, policies urgently need to be adapted to better distribute the benefits of global economic integration and to ensure that capital movements are driven by economic efficiency considerations rather than by tax avoidance.

Adapting to Global Trends

The pivot to structural reforms that take global economic trends into account will require inclusive and growth-friendly fiscal adjustments or budget recomposition in countries without fiscal space. With elevated debt levels, financing fiscal reforms to support medium-term growth and adapt to the changing global economy will require savings or budget-neutral policy shifts. This puts a premium on (1) expenditure reprioritization, including cost savings from cutting wasteful spending such as energy subsidies and curbing corruption (see Chapter 2); (2) reforms to achieve efficiency gains; and (3) revenue generation, particularly in emerging market and developing economies where tax intake remains relatively low. These reforms can involve difficult tradeoffs and can be politically challenging. To be sustainable, they must be accompanied by efforts to protect vulnerable populations. Synergies across reforms should also be used. For example, reform of education and training policies to align skills with rapid technological change could encourage people to lengthen their productive work lives and move across regions within a country for better opportunities. These developments would boost growth and could ease financial pressures on public pensions. Budget-neutral tax reforms aimed at enhancing the efficiency of the tax system and recomposition toward infrastructure investment have been shown to yield significant growth dividends (Bussière and others 2017; IMF 2015a). Moreover, making tax systems more progressive would help distribute the benefits of technology and trade more evenly.

International cooperation will be critical to manage transnational concerns with a bearing on national fiscal policies. Corporate taxation, climate change, and corruption (see Chapter 2) are prime candidates to be addressed through a multilateral approach. For instance, multilateral cooperation would provide a more effective and efficient approach to taxing the rents of multinational firms, including those that are highly digitalized (IMF 2019b). Similarly, it can mitigate the negative consequences of international corporate tax competition, which can lead to global tax inefficiencies. A multilateral approach also remains the best framework for national fiscal policies to mitigate and manage climate change, including through carbon taxes (IMF 2019c; Krogstrup and Obstfeld 2018). Moreover, coordinated international support and

financing could help low-income developing countries achieve their SDGs (Gaspar and others 2019).

The rest of this chapter reviews country-specific fiscal trends, as well as policies to adapt to a rapidly changing global economy. The next section presents recent fiscal developments and the outlook. A key takeaway is that little fiscal room exists in many countries to respond if risks discussed in the subsequent section materialize. Given the limited progress with rebuilding buffers, the final section reemphasizes the need for fiscal restraint tailored to country-specific circumstances. It also proposes that greater attention be paid to designing and implementing fiscal policies that are responsive to evolving demographics, advancing technology, and deepening economic integration to foster inclusive growth.

Recent Fiscal Developments and Outlook

This section examines recent fiscal developments in the three main country groups (advanced economies, emerging market and middle-income economies, and low-income developing countries) and provides an overview of the fiscal outlook (Tables 1.1–1.4).

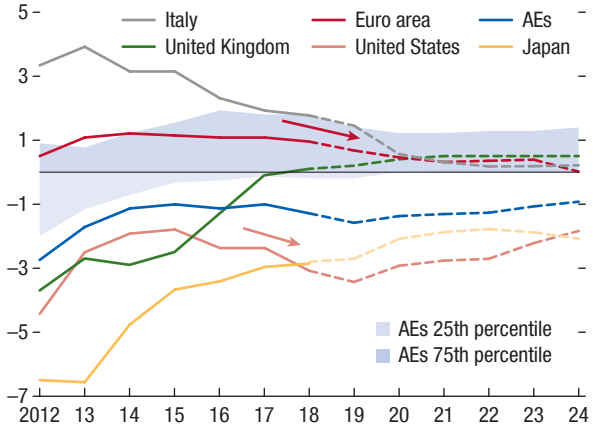
Table 1.1. General Government Fiscal Balance, 2012–24: Overall Balance
(Percent of GDP)

								Projections					
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
World	**–3.7**	**–2.8**	**–2.8**	**–3.2**	**–3.4**	**–2.9**	**–2.8**	**–3.3**	**–3.1**	**–3.1**	**–3.1**	**–3.0**	**–2.9**
Advanced Economies	**–5.4**	**–3.6**	**–3.0**	**–2.5**	**–2.5**	**–2.1**	**–2.1**	**–2.4**	**–2.3**	**–2.2**	**–2.2**	**–2.1**	**–2.0**
United States[1]	–7.6	–4.1	–3.7	–3.2	–3.9	–3.8	–4.3	–4.6	–4.4	–4.4	–4.4	–4.0	–3.7
Euro Area	–3.7	–3.1	–2.5	–2.0	–1.6	–1.0	–0.6	–1.0	–0.9	–1.0	–1.1	–1.1	–1.1
France	–5.0	–4.1	–3.9	–3.6	–3.4	–2.7	–2.6	–3.3	–2.4	–2.5	–2.5	–2.6	–2.6
Germany	0.0	–0.1	0.6	0.8	0.9	1.0	1.7	1.1	1.1	0.8	0.8	0.7	0.7
Italy	–2.9	–2.9	–3.0	–2.6	–2.5	–2.4	–2.1	–2.7	–3.4	–3.5	–3.7	–3.7	–3.8
Spain[2]	–10.5	–7.0	–6.0	–5.3	–4.5	–3.1	–2.7	–2.3	–2.3	–2.4	–2.5	–2.7	–2.8
Japan	–8.6	–7.9	–5.6	–3.8	–3.7	–3.2	–3.2	–2.8	–2.1	–1.9	–1.8	–1.9	–2.1
United Kingdom	–7.5	–5.3	–5.3	–4.2	–2.9	–1.8	–1.4	–1.3	–1.2	–1.1	–0.8	–0.6	–0.6
Canada	–2.5	–1.5	0.2	–0.1	–0.4	–0.3	–0.4	–0.6	–0.6	–0.6	–0.7	–0.6	–0.6
Others	0.5	0.2	0.2	0.1	0.8	1.4	1.3	1.0	0.9	0.9	0.8	0.8	0.8
Emerging Market and Middle-Income Economies	**–0.9**	**–1.4**	**–2.4**	**–4.4**	**–4.8**	**–4.3**	**–4.0**	**–4.8**	**–4.4**	**–4.4**	**–4.4**	**–4.3**	**–4.3**
Excluding MENAP Oil Producers	–1.9	–2.3	–2.6	–4.0	–4.4	–4.2	–4.1	–4.9	–4.5	–4.5	–4.5	–4.4	–4.3
Asia	–1.6	–1.8	–1.9	–3.3	–3.9	–4.1	–4.7	–5.6	–5.2	–5.1	–5.1	–5.0	–5.0
China	–0.3	–0.8	–0.9	–2.8	–3.7	–3.9	–4.8	–6.1	–5.5	–5.4	–5.4	–5.3	–5.3
India	–7.5	–7.0	–7.1	–7.2	–7.1	–7.0	–6.7	–6.9	–6.6	–6.4	–6.3	–6.2	–6.1
Europe	–0.7	–1.5	–1.4	–2.7	–2.9	–1.9	0.2	–0.8	–1.2	–1.4	–1.6	–1.6	–1.6
Russia	0.4	–1.2	–1.1	–3.4	–3.7	–1.5	2.8	1.0	0.8	0.4	0.0	–0.2	–0.4
Latin America	–2.8	–3.1	–4.8	–6.8	–6.2	–5.6	–4.9	–4.8	–4.2	–4.1	–3.8	–3.6	–3.4
Brazil	–2.5	–3.0	–5.4	–10.2	–9.0	–7.9	–6.8	–7.3	–7.0	–6.9	–6.6	–6.2	–5.8
Mexico	–3.7	–3.7	–4.5	–4.0	–2.8	–1.1	–2.3	–2.5	–2.4	–2.3	–2.3	–2.3	–2.3
MENAP	5.6	3.9	–1.5	–8.5	–9.5	–5.7	–3.4	–4.4	–3.7	–3.8	–3.7	–3.6	–3.7
Saudi Arabia	11.9	5.6	–3.5	–15.8	–17.2	–9.2	–4.6	–7.9	–5.7	–7.2	–6.8	–6.5	–6.4
South Africa	–4.4	–4.3	–4.3	–4.8	–4.1	–4.4	–4.4	–5.1	–5.1	–4.9	–5.0	–5.0	–4.9
Low-Income Developing Countries	**–2.0**	**–3.5**	**–3.3**	**–3.9**	**–3.9**	**–4.2**	**–4.0**	**–4.0**	**–3.8**	**–3.6**	**–3.5**	**–3.4**	**–3.4**
Nigeria	0.2	–2.3	–2.1	–3.5	–4.0	–5.4	–4.5	–5.1	–4.6	–4.5	–4.5	–4.5	–4.4
Oil Producers	**1.6**	**0.4**	**–1.2**	**–4.2**	**–4.6**	**–2.7**	**–0.8**	**–1.7**	**–1.3**	**–1.4**	**–1.5**	**–1.5**	**–1.6**
Memorandum													
World Output (percent change)	**3.5**	**3.5**	**3.6**	**3.4**	**3.4**	**3.8**	**3.6**	**3.3**	**3.6**	**3.6**	**3.6**	**3.6**	**3.7**

Source: IMF staff estimates and projections.
Note: All country averages are weighted by nominal GDP converted to US dollars (adjusted by purchasing power parity only for world output) 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, 2018 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 US Bureau of Economic Analysis.
[2] Including financial sector support.

Figure 1.7. Advanced Economies: General Government Structural Primary Balance, 2012–24
(Percent of potential GDP)

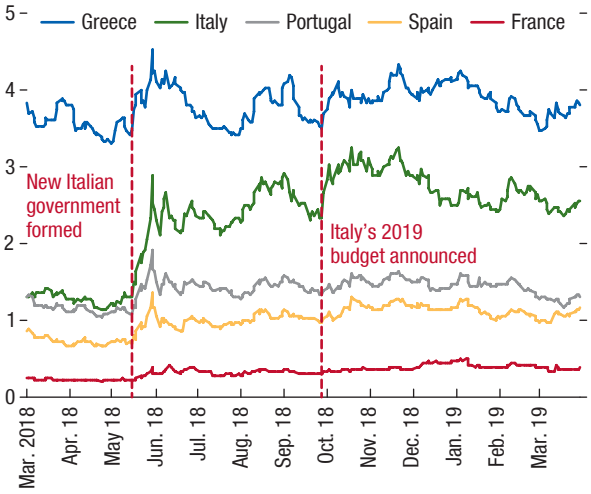
The fiscal stance is easing across major advanced economies.



Source: IMF, World Economic Outlook database.
Note: AEs = advanced economies.

Figure 1.8. Advanced Economies: Spread over 10-Year German Bond Yield, 2018–19
(Percentage points)

Italian spreads widened over the past year, but spillover to other euro area countries was limited.



Source: Bloomberg Finance L.P.
Note: Spread data through March 29, 2019.

Advanced Economies: Shifting Gears to Fiscal Easing

The aggregate fiscal stance for advanced economies eased slightly in 2018, after remaining broadly neutral during 2014–17 (Figure 1.7).[6] The average structural primary deficit edged up to 1⅓ percent of GDP in 2018 from 1 percent a year earlier. The easing was driven, to a large extent, by strong procyclical fiscal policy in the United States, mainly through higher discretionary spending and the reduction in effective tax rates under the 2017 Tax Cuts and Jobs Act (TCJA).

In contrast, fiscal policy was tightened in Korea by ¾ percentage point of GDP, partly because of higher marginal tax rates on the top two income tax brackets. In Australia, Canada, Japan, and the United Kingdom, fiscal policy remained broadly neutral in 2018. The aggregate euro area fiscal stance also remained broadly neutral in 2018, with heterogeneity across member countries. The stance was broadly neutral in France, Italy, Portugal, and Spain. It tightened slightly in Germany, reflecting underspending partly because of a delay in forming the coalition government, and eased in the Netherlands by close to 1 percentage point of GDP, reflecting public investment increases. Interest expenditures, reflecting the European Central Bank's loose monetary policy, continued to fall relative to GDP in most euro area countries. In Italy, spreads rose in the second half of 2018, although spillovers to other euro area economies with high debt levels were limited (Figure 1.8).

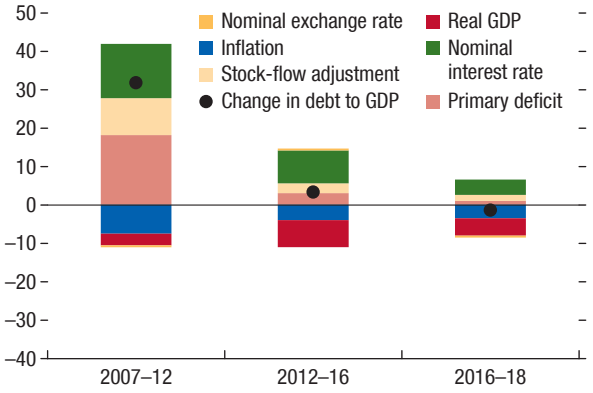
Nevertheless, gross public debt as a share of GDP fell in advanced economies in 2018, on average, for a second year in a row. General government debt eased from a recent peak of almost 107 percent of GDP in 2016 to 103½ percent of GDP in 2018. This mainly reflected a decline in nominal interest rates, and, in some cases, a cyclical recovery in primary balances (euro area) (Figure 1.9).[7] Total government expenditures have declined by almost 5 percentage points of GDP since reaching a peak in 2009 but remain higher than precrisis levels (Figure 1.10). Over the same period, investment as a share of GDP has remained low and below 2007 levels in many countries. Total

[6]A neutral fiscal stance is defined as a change in the structural primary balance between –¼ and ¼ of a percentage point of potential GDP in a year. Any change above ¼ (below –¼) of a percentage point is defined as fiscal tightening/contraction (loosening/expansion).

[7]A decline in the GDP shares of highly indebted economies (for example, Japan) also contributed to the decline in the weighted average debt ratio for advanced economies.

Figure 1.9. Advanced Economies: Drivers of Change in General Government Debt, 2007–18
(Percent of GDP)

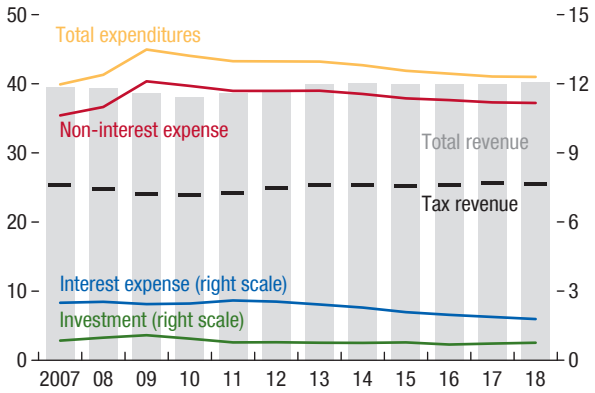
The contribution of primary balances to debt accumulation has diminished since the financial crisis.



Sources: IMF, World Economic Outlook database; and IMF staff estimates.

Figure 1.10. Advanced Economies: General Government Expenditures and Revenue, 2007–18
(Percent of GDP)

Spending restraint has driven the recent increase in the primary balances.



Source: IMF, World Economic Outlook database.

revenues, on the other hand, remained broadly unchanged as a share of GDP.

The fiscal stance in advanced economies is expected to ease further in 2019, mainly driven by expansionary budget plans in major euro area countries, Korea, and the United States, and—to a lesser extent—in Australia. The projected fiscal stimulus in Germany is ⅔ percentage point of GDP in 2019, and includes personal income tax relief and higher spending on public investment, childcare, and education, as well as targeted transfers to reduce poverty risks. The Netherlands plans a stimulus of ½ percentage point of GDP, including higher public investment in both physical and human capital. In Italy, the fiscal stance will loosen by ⅓ percentage point of GDP, reflecting current spending increases with a new minimum income program and a partial reversal of past pension reforms, including easing of early retirement rules for a trial period of three years. Korea is also projected to ease fiscal policy by ⅔ percentage point of GDP in 2019, with an increase in welfare spending. In the United States, the structural primary deficit is projected to widen by ⅓ percentage point of GDP in 2019 because of higher mandatory spending, and in Australia by ¼ percentage point of GDP because of increased infrastructure investment.

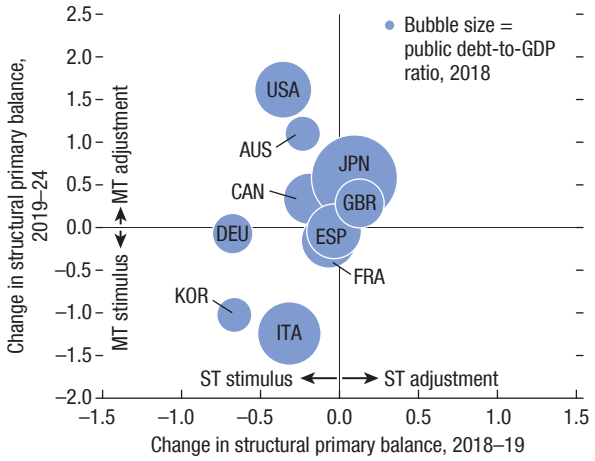
Fiscal policy in other large advanced economies is expected to be broadly neutral in 2019 (Canada, France, Japan, and the United Kingdom—albeit with large uncertainty surrounding Brexit). In Japan, the planned measures to mitigate the impact of the forthcoming hike in the consumption tax rate—including reduced taxes on car ownership, an extension of tax breaks on housing, rebates on cashless purchases, and infrastructure investment—will keep the fiscal stance neutral in 2019.

The medium-term outlook foresees fiscal adjustment across several large economies outside the euro area (Figure 1.11). The structural primary balance is projected to improve by more than 1 percentage point of GDP in Australia and the United States, and more than ½ percentage point of GDP in Japan between 2019 and 2024. The improvement reflects higher tax revenues from stronger terms of trade and suspended corporate tax cuts (Australia), expiration of some provisions in the TCJA after 2022 (United States), and the increase in the consumption tax rate in 2019 (Japan), respectively. Conversely, the fiscal stance is projected to further ease in Italy with a rise in spending on pensions, social assistance, and infrastructure investment, as well as in Korea with a medium-term plan to strengthen the social safety net and create jobs.

General government gross debt in advanced economies is projected to remain broadly unchanged over the medium term, at more than 103 percent of GDP. While public debt is projected to decline in all euro area countries except Italy, it will increase in the United States, and—to a lesser extent—in Japan and Korea (Figure 1.12). Gross public debt in the United States

Figure 1.11. Advanced Economies: Change in General Government Structural Primary Balance, 2018–24
(Percent of GDP)

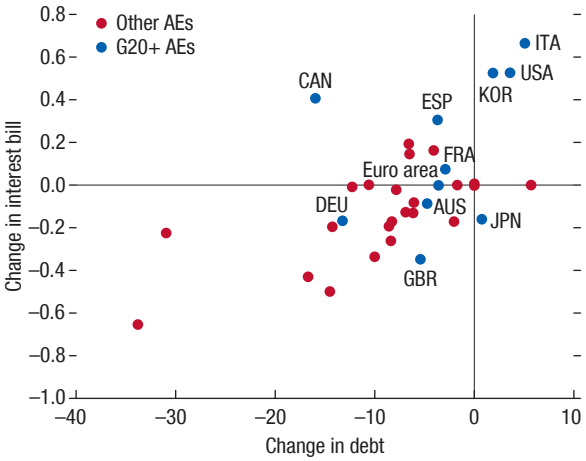
Medium-term fiscal adjustment is projected for most advanced economies outside the euro area.



Source: IMF, World Economic Outlook database.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes. MT = medium term; ST = short term.

Figure 1.12. Advanced Economies: Change in General Government Gross Debt and Interest Bill, 2018–24
(Percent of GDP)

The debt-to-GDP ratio is projected to rise materially only in the United States over the medium term.



Source: IMF, World Economic Outlook database.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes. AEs = advanced economies; G20+ = Group of Twenty plus Spain.

is expected to exceed 110 percent of GDP by 2024, as headline fiscal deficits remain above 4 percent of GDP until 2024. In several advanced economies, the debt-to-GDP ratio is projected to increase further after 2024, reflecting rising age-related expenditures (Italy, Japan). With high debt burdens and tightening financial conditions, interest payments as a share of GDP are expected to rise in the medium term for some advanced economies (for example, Canada, Italy, Spain, and the United States) (Figure 1.12). These countries, as well as Belgium, France, Japan, and Portugal, all face annual financing requirements ranging from 10 to 40 percent of GDP over the next three years (Table 1.3).

Emerging Market and Middle-Income Economies: Fiscal Consolidation on Hold

Overall fiscal deficits in 2018 declined in emerging market and middle-income economies for a second year in a row, driven primarily by fiscal adjustment in oil exporters (Figure 1.13). The average overall deficit declined from 4⅓ percent of GDP in 2017 to 4 percent of GDP in 2018, with diverging fiscal developments across countries.

Headline fiscal balances improved for most oil exporters, supported by a pickup of oil prices in the first half of 2018 and continued adjustments to adapt to lower medium-term oil prices (Angola, Azerbaijan, Gulf countries, Kazakhstan, Russia). In Saudi Arabia, the overall deficit declined by half to 4½ percent of GDP as higher oil and non-oil revenues more than offset additional spending on capital and social benefits, including compensatory payments to households to help ease the impact of energy price and value-added tax (VAT) reforms, and new allowances for public sector workers, retirees, and students. In Russia, the overall budget turned from a deficit of 1½ percent of GDP to a surplus of 2¾ percent of GDP, owing to higher oil revenues and expenditure restraint on social benefits and subsidies. In Mexico, however, the overall deficit increased in 2018—after benefiting from a significant one-off central bank transfer in 2017—but remained ½ percentage point of GDP below its 2016 level.

Headline deficits for non-oil exporters deteriorated on average, with some offsetting outturns across countries. General government overall deficits widened in China and Turkey by around 1 percentage point of GDP in 2018 because of demand support in response to slowing growth. The measures included cuts in personal income and value-added taxes, and additional public investment in China; and increases in employment incentives, civil

Table 1.2. General Government Debt, 2012–24

(Percent of GDP)

								Projections					
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Gross Debt													
World	**79.7**	**78.4**	**78.7**	**79.8**	**82.9**	**81.7**	**82.0**	**82.9**	**83.0**	**83.2**	**83.4**	**83.4**	**83.5**
Advanced Economies	**106.6**	**105.1**	**104.6**	**104.2**	**106.7**	**104.6**	**103.6**	**104.0**	**103.7**	**103.7**	**103.6**	**103.3**	**103.0**
United States[1]	103.2	104.8	104.4	104.7	106.9	106.2	105.8	106.7	107.5	108.4	109.4	110.0	110.3
Euro Area	89.7	91.6	91.8	89.9	89.1	86.8	85.0	83.6	81.8	80.2	78.6	77.2	75.7
France	90.6	93.4	94.9	95.6	96.6	98.5	98.6	99.2	98.7	98.2	97.6	97.0	96.2
Germany	79.9	77.4	74.5	70.8	67.9	63.9	59.8	56.9	53.8	51.1	48.5	46.0	43.7
Italy	123.4	129.0	131.8	131.6	131.3	131.3	132.1	133.4	134.1	135.3	136.4	137.5	138.5
Spain	85.7	95.5	100.4	99.3	99.0	98.1	97.0	96.0	94.9	94.1	93.3	92.7	92.3
Japan	229.0	232.5	236.1	231.6	236.3	235.0	237.1	237.5	237.0	237.4	237.8	238.0	238.3
United Kingdom	84.1	85.2	87.0	87.9	87.9	87.1	86.9	85.7	84.4	83.6	82.6	81.5	80.3
Canada[1]	85.5	86.2	85.7	91.3	91.8	90.1	90.6	88.0	84.7	81.3	78.0	74.9	72.0
Emerging Market and Middle-Income Economies	**37.5**	**38.7**	**40.8**	**43.9**	**46.8**	**48.5**	**50.8**	**53.4**	**55.1**	**56.8**	**58.4**	**59.8**	**61.2**
Excluding MENAP Oil Producers	39.9	41.3	43.5	45.9	48.5	50.1	52.7	55.2	57.0	58.7	60.4	61.8	63.1
Asia	39.8	41.5	43.6	44.8	47.2	49.4	52.0	55.5	58.2	60.7	63.1	65.0	66.8
China	34.3	37.0	39.9	41.1	44.2	46.8	50.5	55.4	59.5	63.2	66.7	69.7	72.4
India	69.1	68.5	67.8	69.9	69.0	69.8	69.8	69.0	67.8	66.5	65.3	64.2	63.1
Europe	25.7	26.6	28.7	31.0	31.9	30.2	29.4	29.6	29.4	29.6	30.0	30.5	30.8
Russia	11.9	13.1	16.1	16.4	16.1	15.5	14.0	13.8	13.9	14.1	14.7	15.9	16.9
Latin America	48.8	49.5	51.5	55.1	58.8	62.6	69.5	70.0	70.0	70.0	70.0	69.7	69.5
Brazil[2]	62.2	60.2	62.3	72.6	78.3	84.1	87.9	90.4	92.4	94.1	95.6	96.5	97.6
Mexico	42.7	45.9	48.9	52.8	56.8	54.0	53.6	54.1	54.5	54.5	54.5	54.4	54.3
MENAP	22.8	23.5	23.6	33.3	40.7	40.0	38.6	41.2	41.4	41.6	41.5	42.2	43.2
Saudi Arabia	3.0	2.1	1.6	5.8	13.1	17.2	19.1	23.7	25.4	27.6	28.1	32.4	37.5
South Africa	41.0	44.1	47.0	49.3	51.5	53.0	56.7	57.8	59.8	61.8	63.5	65.1	66.5
Low-Income Developing Countries	**31.8**	**32.9**	**33.7**	**37.7**	**41.3**	**43.7**	**45.0**	**45.1**	**44.5**	**44.1**	**43.6**	**43.2**	**42.8**
Nigeria	17.7	18.6	17.5	20.3	23.4	25.3	28.4	30.1	31.4	32.7	33.8	34.9	35.9
Oil Producers	**32.5**	**33.3**	**34.2**	**39.8**	**43.2**	**42.7**	**43.8**	**44.1**	**43.2**	**42.6**	**41.9**	**41.6**	**41.3**
Net Debt													
World	**65.7**	**64.8**	**65.0**	**66.6**	**69.3**	**67.7**	**68.1**	**69.3**	**69.9**	**70.3**	**71.1**	**71.3**	**71.4**
Advanced Economies	**76.5**	**75.7**	**75.5**	**75.6**	**77.4**	**75.4**	**75.4**	**76.4**	**77.2**	**77.7**	**78.6**	**78.9**	**79.0**
United States[1]	80.3	80.9	80.5	80.4	81.7	80.7	80.9	83.4	86.2	88.2	91.3	93.0	94.3
Euro Area	72.1	74.6	75.0	73.8	72.8	70.9	68.9	67.9	66.7	65.5	64.4	63.4	62.3
France	80.0	83.0	85.5	86.4	87.5	87.5	87.6	88.2	87.7	87.3	86.7	86.0	85.2
Germany	58.4	57.5	54.0	51.0	48.2	44.5	41.0	38.6	36.2	34.1	32.1	30.2	28.4
Italy	111.6	116.7	118.8	119.5	118.9	119.0	120.1	121.5	122.5	123.8	125.2	126.6	127.8
Spain	71.5	80.8	85.2	85.3	86.2	84.8	84.1	83.5	82.9	82.4	82.1	81.9	81.8
Japan	146.7	146.4	148.5	147.8	152.6	151.1	153.2	153.6	153.2	153.6	153.9	154.1	154.5
United Kingdom	75.5	76.8	78.8	79.3	78.8	77.5	77.5	76.2	75.0	74.2	73.2	72.1	70.9
Canada[1]	29.0	29.8	28.6	28.5	28.8	27.6	27.9	26.6	25.8	25.0	24.3	23.6	23.0
Emerging Market and Middle-Income Economies	**22.4**	**22.6**	**23.9**	**28.3**	**34.2**	**35.6**	**36.4**	**38.6**	**39.6**	**40.5**	**41.4**	**42.1**	**42.6**
Asia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Europe	32.0	31.6	29.7	28.8	31.1	30.1	30.3	30.9	30.4	30.5	30.9	31.0	30.9
Latin America	29.3	29.3	31.9	35.2	40.7	43.0	43.7	45.3	46.6	47.6	48.4	48.9	49.4
MENAP	–3.2	–4.0	–0.7	14.6	28.2	28.9	30.8	36.2	38.9	41.2	43.5	45.6	47.5
Low-Income Developing Countries	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .

Source: IMF staff estimates and projections.

Note: All country averages are weighted by nominal GDP converted to US dollars (adjusted by purchasing power parity only for world output) 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, 2018 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, 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] Gross debt refers to the nonfinancial public sector, excluding Eletrobras and Petrobras, and includes sovereign debt held on the balance sheet of the central bank.

Table 1.3. Selected Advanced Economies: Gross Financing Needs, 2019–21
(Percent of GDP)

	2019			2020			2021		
	Maturing Debt	Budget Deficit	Total Financing Need	Maturing Debt[1]	Budget Deficit	Total Financing Need	Maturing Debt[1]	Budget Deficit	Total Financing Need
Australia	1.6	1.5	3.0	2.6	0.7	3.3	2.4	0.0	2.3
Austria	7.6	0.1	7.7	5.8	0.3	6.0	4.8	0.3	5.1
Belgium	15.8	1.2	17.0	15.6	1.4	17.0	15.3	1.4	16.7
Canada	8.9	0.6	9.6	10.4	0.6	11.1	8.2	0.6	8.8
Czech Republic	4.4	–1.1	3.3	3.2	–0.8	2.3	2.6	–0.6	2.0
Denmark	4.0	0.4	4.4	3.4	0.4	3.8	4.3	0.3	4.6
Finland	5.7	0.3	6.0	7.7	0.0	7.8	4.1	–0.1	4.0
France	10.2	3.3	13.5	11.4	2.4	13.8	10.6	2.5	13.1
Germany	4.7	–1.1	3.5	4.8	–1.1	3.8	2.9	–0.8	2.1
Iceland	2.2	–0.7	1.5	4.1	–0.5	3.7	1.9	–0.5	1.3
Ireland	7.2	0.0	7.2	8.2	–0.2	8.0	3.4	–0.3	3.1
Italy	21.0	2.7	23.7	20.6	3.4	24.0	21.2	3.5	24.7
Japan	36.7	2.8	39.5	36.3	2.1	38.5	31.2	1.9	33.0
Korea	2.0	–2.1	–0.1	2.9	–1.5	1.4	2.9	–1.1	1.9
Lithuania	3.2	–0.4	2.8	5.2	–0.3	4.9	5.1	–0.3	4.8
Malta	5.7	–0.6	5.1	5.5	–0.6	4.9	5.2	–0.7	4.5
Netherlands	6.2	–1.0	5.1	6.0	–0.8	5.3	4.2	–0.8	3.5
New Zealand	4.5	–0.1	4.4	3.6	–0.7	3.0	4.6	–1.0	3.6
Portugal	13.7	0.6	14.4	12.9	0.1	13.1	15.8	–0.4	15.4
Slovak Republic	2.9	0.0	2.9	4.0	–0.3	3.7	2.0	–0.3	1.6
Slovenia	6.2	–0.5	5.7	4.3	–0.2	4.1	5.9	–0.4	5.5
Spain[2]	14.4	2.3	16.7	14.2	2.3	16.5	14.1	2.4	16.5
Sweden	4.3	–0.5	3.7	3.7	–0.3	3.4	1.2	–0.3	0.9
Switzerland	1.6	–0.3	1.4	1.4	–0.2	1.2	1.3	–0.2	1.1
United Kingdom	8.2	1.3	9.5	7.4	1.1	8.5	6.6	1.1	7.7
United States[3]	20.5	4.6	25.1	20.5	4.4	24.9	17.6	4.4	21.9
Average	16.5	2.6	19.1	16.5	2.4	19.0	14.3	2.4	16.7

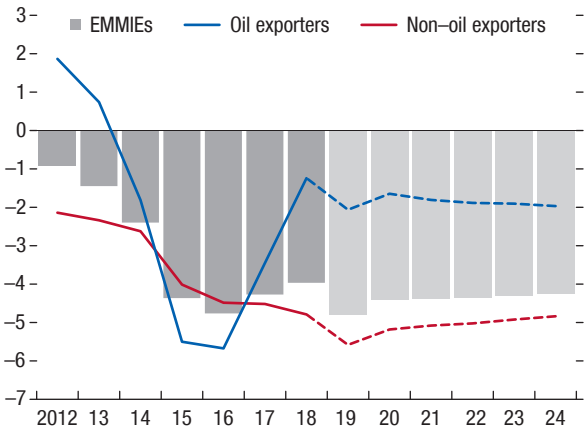
Sources: Bloomberg Finance L.P.; and IMF staff estimates and projections.
Note: For most countries, data on maturing debt refer to central government securities. For some countries, general government deficits are reported on an accrual basis. For country-specific details, see "Data and Conventions," and Table B in the Methodological and Statistical Appendix.
[1] Assumes that short-term debt outstanding in 2019 and 2020 will be refinanced with new short-term debt maturing in 2020 and 2021, respectively. Countries projected to have budget deficits in 2019 or 2020 are assumed to issue new debt based on the maturity structure of debt outstanding at the end of 2018.
[2] Data refer to the general government on a consolidated basis. Data are from staff estimates and not based on Ministry of Finance data for upcoming amortization.
[3] 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 US Bureau of Economic Analysis.

servant salaries, and pensions in Turkey. In Pakistan, the overall deficit was 2½ percentage points of GDP looser than budgeted, owing to underperforming revenues and expenditure overruns related to the political cycle. In contrast, overall deficits declined in Argentina and Egypt by 1½ and 1 percentage point of GDP, respectively, largely from higher VAT collection and increased export taxes. In Brazil, the overall deficit also declined by 1 percentage point of GDP as a result of a reduction in net interest payments, while the primary deficit remained broadly unchanged at 1¾ percent of GDP. In India, the general government deficit declined by ⅓ percentage point of GDP in fiscal year 2018/19, although a recently announced farm-income-support program alongside weaker-than-expected goods and services tax revenues led to a deterioration relative to the previous central government budget outturn.

The general government debt-to-GDP ratio for the group rose by 2⅓ percentage points in 2018 to almost 51 percent of GDP on average, a level not seen since the early 1980s. More than half of those countries saw debt rising in 2018, and almost a fifth had debt ratios exceeding 70 percent of GDP—the threshold beyond which debt sustainability is considered at high risk for emerging market economies. The rise in debt was mainly driven by currency depreciations against the US dollar and the increase in government borrowing costs. The sharp depreciation against the US dollar

Figure 1.13. Emerging Market and Middle-Income Economies: General Government Overall Balance, 2012–24
(Percent of GDP)

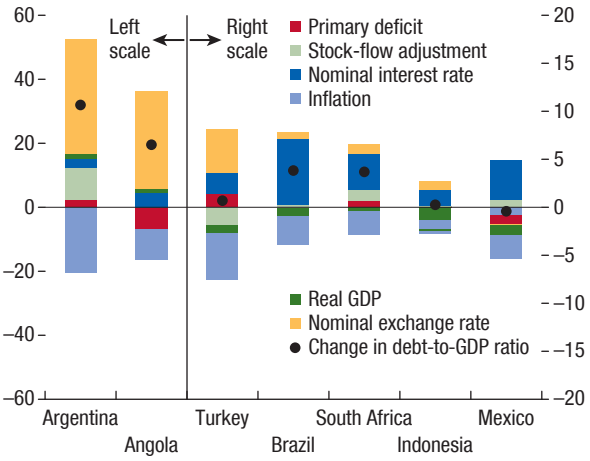
After narrowing in the past three years, the average overall deficit is projected to widen in 2019.



Source: IMF, World Economic Outlook database.

Figure 1.14. Emerging Market and Middle-Income Economies: Drivers of Change in General Government Debt, 2017–18
(Percent of GDP)

Exchange rate and interest rate shocks boosted debt ratios in several countries with debt vulnerabilities.

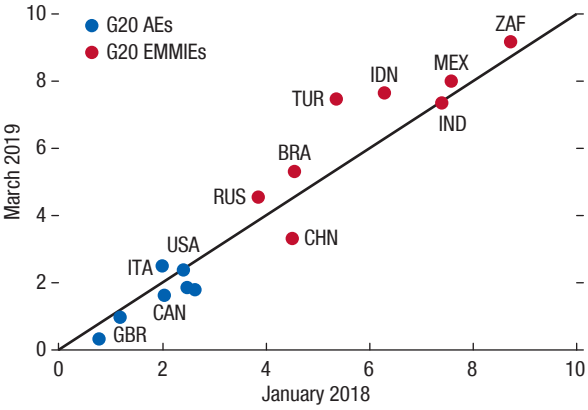


Source: IMF, World Economic Outlook database.

led to a spike in government debt in countries with high exposure to foreign-currency-denominated debt (Angola, Argentina) (Figure 1.14, left side). As global financial conditions tightened in 2018, interest rates on sovereign bonds denominated in US dollars rose for several large emerging markets that rely on external financing (Indonesia, Mexico, Turkey) (Figure 1.14, right side; Figure 1.15). Risk premiums, measured by the spreads over 10-year US Treasury yields, have risen by 40 percent on average in selected economies since

Figure 1.15. Emerging Market and Middle-Income Economies: Sovereign 10-Year US Dollar Bond Yields, 2018–19
(Percent)

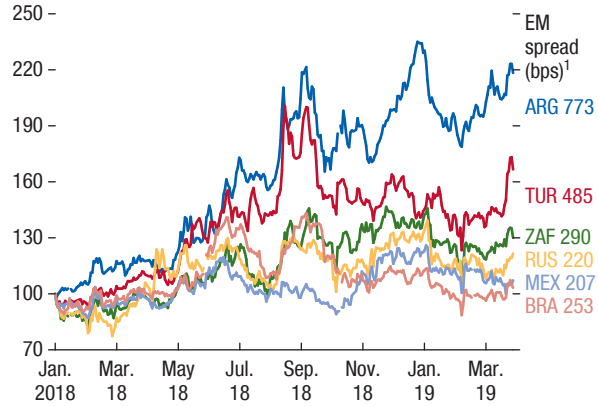
Tighter financial conditions in 2018 led to an increase in bond yields in large emerging markets.



Source: Bloomberg Finance L.P.
Note: AEs = advanced economies; EMMIEs = emerging market and middle-income economies; G20 = Group of Twenty.

Figure 1.16. Emerging Market and Middle-Income Economies: Sovereign Spreads over 10-Year US Treasury Bond Yields, 2018–19
(Index = 100 for January 1, 2018)

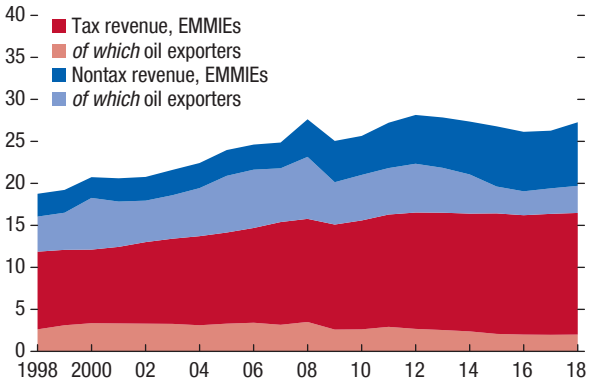
Spreads have widened in many emerging markets over the past year.



Source: Bloomberg Finance L.P.
Note: bps = basis points; EM = emerging market. Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Actual sovereign spreads as of March 29, 2019.

Figure 1.17. Emerging Market and Middle-Income Economies: General Government Revenue, 1998–2018
(Percent of GDP)

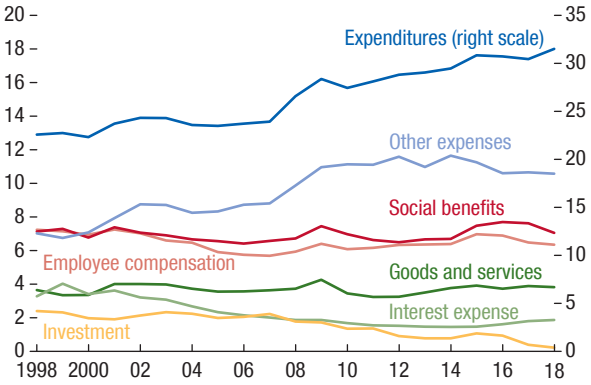
Revenue has remained broadly flat since 2010, despite a drop in nontax revenue of oil exporters.



Source: IMF, World Economic Outlook database.
Note: EMMIEs = emerging market and middle-income economies.

Figure 1.18. Emerging Market and Middle-Income Economies: General Government Expenditures, 1998–2018
(Percent of GDP)

Total expenditure has increased following the global financial crisis, but investment continued to fall.



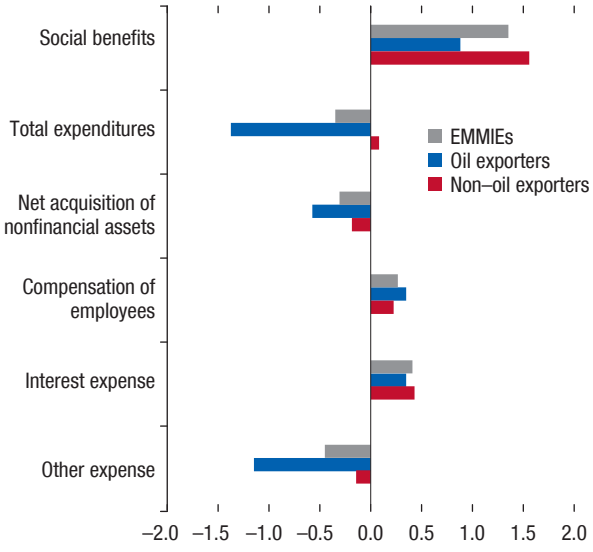
Source: IMF, World Economic Outlook database.

the beginning of 2018, in part driven by deteriorating investor confidence (Figure 1.16). For economies that are less reliant on global market financing or issue debt largely in local currency (Brazil, India, South Africa) domestic financial conditions also tightened in 2018. Thus, many economies saw rising interest burdens, which exceeded 20 percent of total revenue in 2018 in Egypt, Pakistan, and Sri Lanka. As a result, emerging market economies have become vulnerable to rollover risks if they face large financing needs (see Table 1.4).

Fiscal developments in 2018 did not reverse the structural revenue and spending trends of the past decade. Tax-to-GDP ratios remained flat on average (Figure 1.17), while spending rigidities on wage bills and transfers continued to crowd out public investment (Figure 1.18). Of note, nontax revenues increased in non-oil exporters since 2012, largely reflecting gains from improved administration of the social security system in China. This was offset by a decline in nontax revenues among oil exporters during 2012–15, partly because of lower dividends from state-owned oil companies. Meanwhile, expenditures as a share of GDP have declined in oil exporters, reflecting both current and capital spending cuts, but have continued to rise across most categories for non-oil exporters, apart from investment spending, which has remained low over the years (Figure 1.19).

Figure 1.19. Emerging Market and Middle-Income Economies: Change in General Government Expenditures, 2012–18
(Percent of GDP)

Spending on social benefits and interest increased substantially since 2012.



Source: IMF, World Economic Outlook database.
Note: EMMIEs = emerging market and middle-income economies.

Table 1.4. Selected Emerging Market and Middle-Income Economies: Gross Financing Needs, 2019–20
(Percent of GDP)

	2019			2020		
	Maturing Debt	Budget Deficit	Total Financing Need	Maturing Debt	Budget Deficit	Total Financing Need
Argentina	12.7	2.7	15.3	8.4	1.5	9.8
Brazil	7.7	7.3	15.0	12.6	7.0	19.5
Chile	0.6	1.8	2.4	1.2	1.5	2.7
Colombia	2.3	2.6	4.9	1.6	1.0	2.7
Croatia	8.6	0.0	8.7	8.4	–0.1	8.3
Dominican Republic	3.6	3.1	6.7	3.2	3.3	6.5
Ecuador	5.6	0.0	5.6	6.1	–3.8	2.3
Egypt	28.0	8.6	36.6	25.9	6.5	32.4
Hungary	13.6	1.9	15.5	13.2	1.9	15.1
India	3.8	6.9	10.7	3.7	6.6	10.4
Indonesia	1.9	1.8	3.8	1.7	1.8	3.5
Malaysia	7.0	3.0	10.0	6.5	2.5	9.1
Mexico	7.6	2.5	10.1	7.9	2.4	10.3
Morocco	5.5	3.7	9.1	5.5	3.3	8.7
Pakistan	35.1	7.2	42.3	37.2	8.7	46.0
Peru	2.5	1.9	4.4	2.4	1.3	3.7
Philippines	3.1	1.2	4.3	2.9	1.4	4.3
Poland	5.7	2.2	7.9	5.0	3.1	8.1
Romania	4.2	3.8	8.0	3.8	4.1	8.0
Russia	1.3	–1.0	0.4	1.2	–0.8	0.4
South Africa	9.0	5.1	14.0	8.6	5.1	13.7
Sri Lanka	13.5	4.6	18.1	12.0	3.5	15.5
Thailand	5.3	0.1	5.4	5.2	0.7	5.9
Turkey	3.9	3.1	7.1	4.7	3.5	8.1
Ukraine	5.7	2.3	8.1	6.0	2.3	8.3
Uruguay[1]	15.2	2.7	17.9	17.1	2.6	19.7
Average	6.1	3.8	9.9	6.5	3.6	10.2

Source: IMF staff estimates and projections.
Note: Data in the table refer to general government data. For some countries, general government deficits are reported on an accrual basis. For country-specific details, see "Data and Conventions," and Table C in the Methodological and Statistical Appendix.
[1] Data correspond to the consolidated public sector (as presented in the authorities' budget documentation), which includes the nonfinancial public sector, local governments, Banco Central del Uruguay, and Banco de Seguros del Estado.

The overall deficit is expected to increase in 2019 before gradually declining over the medium term, but debt is expected to continue trending up (see Table 1.5 on the fiscal outlook in selected emerging market and middle-income economies in 2019 and beyond).

- The increase in the 2019 general government deficit is largely driven by the projected stimulus in China (about 1¼ percentage point of GDP) to mitigate the growth slowdown, and partly by the deteriorating fiscal positions among oil exporters—particularly Russia and Saudi Arabia—that are expected to face lower oil revenues and plan to increase spending. In contrast, several countries plan fiscal adjustment through expenditure rationalization or increased tax revenue (Argentina, Egypt, Malaysia, Turkey).
- The medium-term adjustment is expected to rely on spending restraint (over 1 percentage point of GDP by 2024) without mobilizing higher revenues. Countries aim to contain current spending, including pensions and the wage bill (Brazil), while protecting capital spending (India) or increasing it (Indonesia). Overall investment spending is expected to edge up steadily (cumulatively by ½ percentage point of GDP by 2024), albeit decline in oil exporters. Meanwhile, total revenues as a share of GDP are expected to further decline over the medium term. For oil-exporting countries, this reflects the expected moderation of oil

Table 1.5. Selected Emerging Market and Middle-Income Economies: Fiscal Outlook in 2019 and over the Medium Term

Argentina	The authorities plan a zero-primary balance in 2019 at the federal level by raising taxes on exports, drawing down assets of the national pension fund, scaling down energy subsidies, and reducing other non-entitlement spending. Medium-term budget projections foresee a primary surplus of 1 percent of GDP by 2020.
Brazil	To comply with the constitutional expenditure ceiling, the authorities plan to implement pension reform and contain personnel spending. However, even complying with the constitutional spending ceiling, IMF staff projections are for public debt to continue increasing to just below 100 percent of GDP in 2024.
China	The government plans a more proactive fiscal stance for 2019 that would include reductions in the value-added, personal income, and corporate income tax rates. General government debt is projected to rise over the medium term to over 72 percent of GDP by 2024.
India	The interim federal government budget of February 2019 envisages a slower pace of adjustment than previously planned, primarily due to the newly announced rural farm income-support scheme. IMF staff projections are that the achievement of the federal government deficit target of 3 percent of GDP will likely be delayed and that the debt target of 40 percent of GDP will be achieved after 2024.
Indonesia	The authorities intend to keep the deficit unchanged at 1.8 percent of GDP in 2019 and increase tax revenue by at least 3 percentage points of GDP in five years through tax policy and administration reforms. Extra revenue is to be spent on infrastructure, health, education, and structural reforms. In the medium term, public debt is projected to remain below 30 percent of GDP.
Mexico	The government targets a public sector borrowing requirement of 2½ percent of GDP in 2019—corresponding to a general government primary surplus of more than 1 percent of GDP—which would fall slightly over the medium term and stabilize the public debt around its current level. The 2019 budget envisages significant expenditure reallocation, including public wage cuts and higher investment in the energy sector.
Russia	The government temporarily relaxed its fiscal rule, by allowing a primary deficit of ½ percent of GDP at the benchmark oil price for the next six years. The authorities increased the main value-added tax rate in January 2019 and plan to increase spending by about 1 percentage point of GDP per year (half to be spent on infrastructure, and half on health, education, and other current spending).
Saudi Arabia	The government's medium-term fiscal plan envisages a balanced budget by 2023, with increased spending on infrastructure development offset by continued non-oil revenue and energy price reforms after 2019. IMF staff projections are for continued fiscal deficits through 2024 reflecting lower oil prices and higher spending than envisaged by the authorities.
South Africa	The government's medium-term budget envisages a widening of the overall deficit to 4.5 percent of GDP in 2019 to accommodate financing for the public utility Eskom, before declining to 4 percent of GDP over the medium term. IMF staff projections suggest that additional consolidation in the next few years would be needed to stabilize the public debt well below 60 percent of GDP.
Turkey	The government's medium-term fiscal plan projects the overall deficit to remain below 2 percent of GDP through 2019–21, helped by spending cuts, including on public investment. IMF staff projections are that the overall deficit will gradually fall below 3 percent of GDP by 2024 and that debt will remain below 30 percent of GDP over the medium term.

Sources: IMF, World Economic Outlook database; and IMF staff reports.

prices, whereas non-oil revenue is expected to pick up in some cases (Kuwait, Russia). The projected improvement in the overall fiscal balance of emerging market and middle-income economies will not be sufficient to stabilize debt over the medium term, particularly in non–oil-exporting countries (Brazil, China).

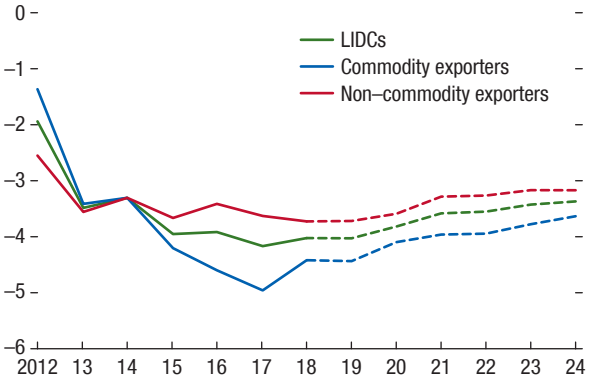
Low-Income Developing Countries: Fiscal Expansion Slows

The overall fiscal deficit in low-income developing countries tightened slightly in 2018 to 4 percent of GDP. An improvement in the average overall deficit of commodity exporters more than offset the slight deterioration in non–commodity exporters' balances (Figure 1.20). Higher commodity prices in the first half of 2018, particularly for oil, boosted revenue in oil exporters. Commodity exporters used half the increased fiscal space to cover additional spending on interest and other recurrent activities and the other half for deficit reduction. Non–commodity exporters' balances slipped further as overall expenditures rose slightly faster than revenues (Figure 1.21).

In 2018, weighted-average expenditures increased by ⅓ percentage point of GDP in low-income developing countries, including ¾ percentage point of GDP in commodity exporters. Nigeria increased spending on

Figure 1.20. Low-Income Developing Countries: General Government Overall Balance, 2012–24
(Percent of GDP)

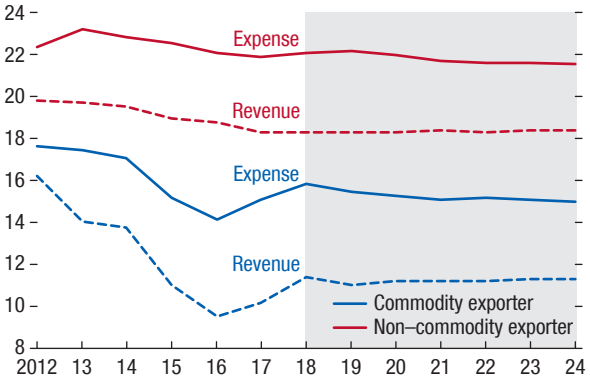
The average fiscal deficit has bottomed out in low-income developing countries.



Source: IMF, World Economic Outlook database.
Note: LIDCs = low-income developing countries.

Figure 1.21. Low-Income Developing Countries: General Government Revenue and Expense, 2012–24
(Percent of GDP)

In line with commodity price developments, revenues and expenditures rose notably in commodity exporters in 2017–18.



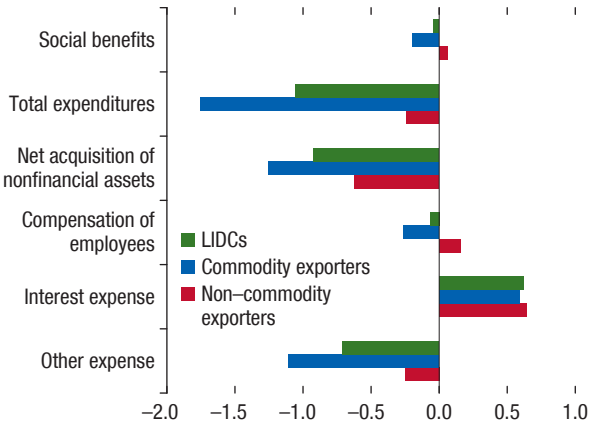
Source: IMF, World Economic Outlook database.

capital projects while implicit fuel subsidies rose amid higher oil prices; and Ghana increased its spending by more than 3½ percentage points of GDP in large part to address banking sector problems. Among non–commodity exporters, significant increases in recurrent spending (Bangladesh) or transfers (Nepal) and capital investments (Moldova, Nepal, Rwanda, Uganda) were partially offset by investment cuts in other countries (Ethiopia, Honduras, Kenya, Kyrgyz Republic). Between 2012 and 2018, the expenditure composition of low-income developing countries shifted away from public investments that could support long-term growth to servicing existing debt burdens (Figure 1.22). For the group, the proportion of tax revenue spent on servicing debt increased by 7 percentage points between 2012 and 2018 to 19½ percent, and increased particularly sharply in Bangladesh, Kenya, Nigeria, and Zambia (Figure 1.23). In Ghana, interest expenditures consume about 40 percent of domestic tax revenue.

Public debt rose further in 2018 and reached 45 percent of GDP. As in prior years, debt drivers varied considerably across countries. General government debt increased by more than 2 percentage points of GDP in Bangladesh (deficit and exchange rate depreciation), Ethiopia (deficit and financial asset accumulation to prefinance public investment), Ghana (deficit and exchange rate depreciation), Kenya (deficit), and Nigeria (deficit), and by close to 10 percentage points of GDP in Zambia (deficit and exchange rate depreciation). The share of low-income developing countries in debt distress or at high risk of debt distress increased by almost a half from 2012 to 43 percent in 2018 (Figure 1.24).

Figure 1.22. Low-Income Developing Countries: Change in General Government Expenditures, 2012–18
(Percent of GDP)

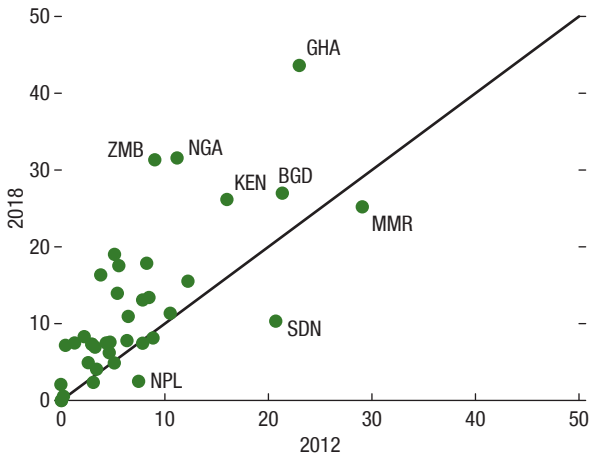
Interest expense has crowded out investment.



Source: IMF, World Economic Outlook database.
Note: LIDCs = low-income developing countries.

Figure 1.23. Low-Income Developing Countries: General Government Interest Expense, 2012–18
(Percent of tax revenue)

As debt levels rise, interest payments are consuming evermore tax revenue.



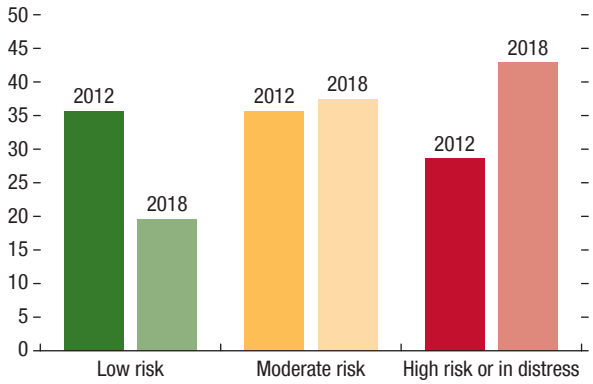
Source: IMF, World Economic Outlook database.

The average headline fiscal deficit is projected to remain broadly unchanged in 2019 among both commodity and non–commodity exporters. In several non–commodity exporters headline deficits are expected to widen owing to higher spending on social programs (Uzbekistan) and capital investments (Kyrgyz Republic, Madagascar, Uganda). However, this widening will be offset by fiscal adjustment in other countries, through cuts in non-investment spending (Senegal) and income tax and revenue administration measures (Benin, Nepal). The headline fiscal deficit in Ethiopia, on the other hand, is expected to remain unchanged in 2019–20 as foreign-financed projects are curtailed. Among commodity exporters, the narrowing headline deficits in Côte d'Ivoire (as current spending growth is kept below GDP growth) and Ghana (as spending on bank resolution diminishes) will counterbalance a deterioration in Nigeria's fiscal balance caused by lower projected oil revenues.

General government debt is expected to trend down after 2019 if deficits decline as projected (Figure 1.25), largely through expenditure control. However, given large spending gaps to meet the SDGs, there is some tension associated with expenditure-based debt stabilization. At the same time, continued reliance on non-concessional financing in many countries (Côte d'Ivoire, Ethiopia, Ghana, Kenya, Senegal) could add to their debt vulnerability if the proceeds are not properly managed to generate growth and repayment capacity. In Nigeria, non-interest spending growth is expected to align with revenue growth, while expenditures in Bangladesh are expected to contract by about 1 percentage point of GDP between 2018 and 2024, because of gradual winding down of large infrastructure investment and current spending restraint. Tax collections are projected to be rela-

Figure 1.24. Low-Income Developing Countries: Risk of Debt Distress, 2012 and 2018
(Percent of total countries)

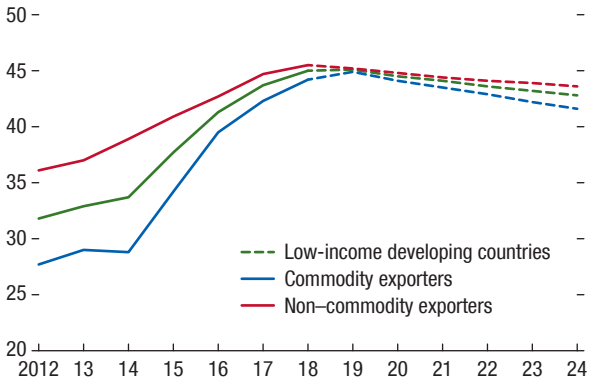
Over 40 percent of countries face a high risk of debt distress or are in debt distress.



Source: IMF staff estimates.

Figure 1.25. Low-Income Developing Countries: General Government Gross Debt, 2012–24
(Percent of GDP)

The pace of debt accumulation slowed in 2018, following three years of rapid increase.



Source: IMF, World Economic Outlook database.

tively level in terms of GDP over the period, with an increase in tax revenue for non–commodity producers (Kenya, Ethiopia) offsetting a fall for commodity producers (Nigeria). Several countries plan to focus on reforms to improve public investment management (Kenya, Uzbekistan) as part of their medium-term fiscal adjustment planning.

Risks to the Fiscal Outlook

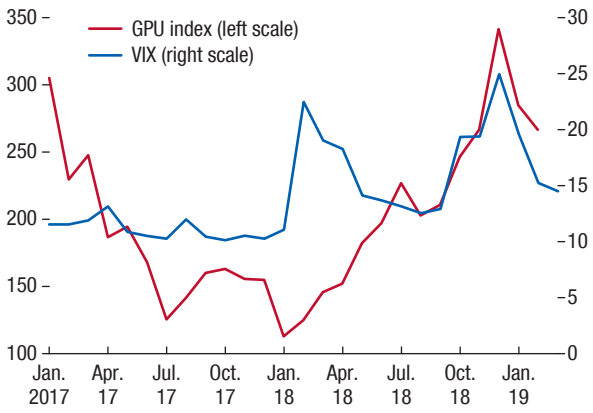
Many of the risks outlined in the April 2018 *Fiscal Monitor* have materialized: rising tariffs and trade policy uncertainty have weighed on global growth and fiscal prospects; reduced social and political cohesion has delayed fiscal adjustment in several advanced economies; higher borrowing costs and US dollar appreciation have contributed to deteriorating debt dynamics in vulnerable emerging market and frontier market economies with high external and foreign currency debt; and oil price volatility has increased uncertainty in revenues for oil exporters and in energy bills for oil importers.

Looking ahead, fiscal risks have intensified amid an increase in policy uncertainty and market volatility (Figure 1.26). Key sources of risk include *weaker global growth* because of a further escalation in trade tensions and continued deterioration in investor sentiment, in particular from a sharper slowdown in China; *tighter financial conditions* resulting from stress on vulnerable sovereigns as well as leveraged firms and households; *large swings in oil prices,* which would have a differential impact on fiscal outturns in oil exporters and importers; and *contingent liabilities* triggered by any of these factors.

- *Weaker nominal growth*: As noted in Chapter 1 of the April 2019 *World Economic Outlook*, failure to reach a negotiated resolution of existing trade tensions between the United States and China could sharpen the recent global slowdown, worsening fiscal accounts amid limited policy space. Relatedly, weaker-than-expected growth in China could negatively affect activity in trading partners as well as global commodity prices and could also prompt China to undertake a larger fiscal stimulus. In the United Kingdom and, to a lesser extent, the European Union, failure to ratify an agreement for an orderly Brexit could disrupt the smooth functioning of goods, labor, and financial markets, potentially prompting a stimulus in response. With weaker growth, policy rates would be lower, but risk premiums could be higher as corporate earnings and credit quality decline. If, however, trade disputes are resolved, and market sentiment recovers, growth and fiscal outturns could rise above the baseline forecast.
- *Tighter financial conditions*: Alternatively, as outlined in Chapter 1 of the April 2019 *Global Financial Stability Report*, while major central banks have paused the process of monetary normalization, financial conditions could tighten unexpectedly from a sudden change in risk sentiment due to factors other than weak growth. A sharp tightening of financial conditions caused by risk aversion across investors could expose high-debt emerging market and frontier economies to debt service, refinancing, and exchange rate risks (Box 1.1). In Italy, sustained high sovereign spreads would weigh on growth, fiscal, and banking prospects, while renewed stress through a spike in borrowing costs could spill over to other countries in the region.
- *Commodity price volatility*: Commodity prices are projected to remain low relative to recent peaks (Figure 1.27). In oil markets, slowing global demand

Figure 1.26. Global Economic Uncertainty Indices, 2017–19

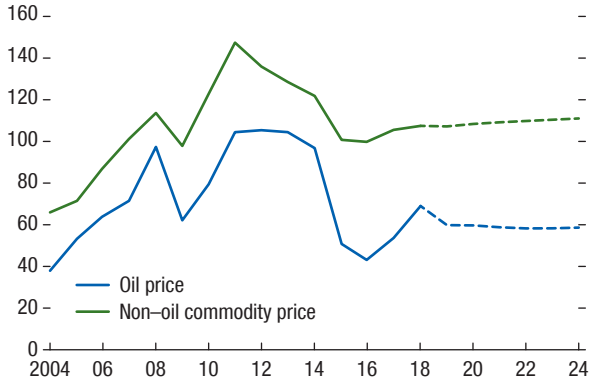
Economic policy uncertainty and financial market volatility are at their highest levels in two years.



Sources: Bloomberg Finance L.P.; and Baker, Bloom, and Davis 2016.
Note: Global EPU was calculated as the GDP-weighted average of monthly EPU index values for the United States, Canada, Brazil, Chile, the United Kingdom, Germany, Italy, Spain, France, Netherlands, Russia, India, China, South Korea, Japan, Ireland, Sweden, and Australia, using GDP data from the IMF's World Economic Outlook database. National EPU index values are from www.PolicyUncertainty.com and Baker, Bloom and Davis 2016. Each national EPU Index is renormalized to a mean of 100 from 1997 to 2015 before calculating the Global EPU Index. EPU = economic policy uncertainty; GPU = global policy uncertainty; VIX = Chicago Board Options Exchange Volatility Index.

Figure 1.27. Commodity Price Outlook, 2004–24
(Oil: US dollar per barrel; non-oil: 2016 = 100)

Commodity prices have shown large swings, creating further uncertainty.



Source: IMF, World Economic Outlook database.

could reduce oil prices further, whereas rising political tensions in the Middle East, or supply cuts by the Organization of the Petroleum Exporting Countries, pose an upward risk to prices. Lower oil prices would worsen the fiscal position in oil exporters directly through lower commodity revenues and indirectly through weak activity, affecting both oil and non-oil sector growth, while improving the fiscal position in oil importers, on average.

- *Contingent liabilities*: Weaker global growth, tighter financial conditions, and a pullback in private investment induced by policy uncertainty could lower profitability in public and private corporations, especially those with high external and foreign currency debt as well as non-transparent financing agreements. Persistently lower oil prices could also lower the profitability of state-owned energy companies in oil exporters. In that event, recapitalizations or debt assumption of distressed financial and nonfinancial corporations could also weaken public balance sheets.

The next section outlines the policy recommendations under the baseline forecasts and discusses the policy options available should downside risks materialize.

Setting the Right Course for Fiscal Policy

Preparing for the Next Downturn

Public debt remains elevated in advanced economies and has grown in emerging market and developing economies. The associated vulnerabilities could limit the ability of many advanced and emerging market and middle-income economies to pursue countercyclical policies in the event of a major economic downturn. Where growth remains favorable in these countries, growth-friendly fiscal adjustment is still appropriate to make room to manage the next downturn. The size, pace, and composition of adjustment will need to be tailored to country circumstances, such as the unemployment rate, excess capacity, and access to financial markets, to balance growth and sustainability objectives. Where growth is slowing toward a lower potential rate, policymakers should prioritize growth-enhancing expenditures. Should the downside risks outlined earlier materialize in the form of a major cyclical downturn, fiscal stimulus could complement monetary easing where there is policy space. For low-income developing countries, efforts to boost revenue would help stabilize high public debt and provide resources to aggressively pursue their development objectives.

In advanced economies, fiscal restraint is appropriate for most countries with high debt levels to provide room for countercyclical policies during the next downturn. In addition, pressure on expenditures from an aging population add to the argument for fiscal prudence. Efforts to gradually rebuild buffers would also help keep interest bills in check, thereby freeing resources for growth-friendly uses or further debt reduction over the medium term. Those countries with fiscal space should draw on it wisely to accelerate growth-enhancing reforms and adapt to changing trends in the global economy.

- High-debt economies should pursue gradual fiscal adjustment (Canada, France, Japan, Spain, United Kingdom, United States), especially in view of fiscal balances remaining below long-term debt stabilizing levels, unless there are signs of a major economic downturn. The need for adjustment is particularly relevant if spreads remain high and financing needs are large (Italy). Signaling the intention to credibly reduce debt over the medium term and taking high-quality measures to do so (for example, reforming pensions in Italy and social security and healthcare programs in the United States) will be important to address any drag on growth from the debt overhang. In the euro area, better compliance with and enforcement of the EU fiscal rules would help reduce fiscal vulnerabilities and preserve the credibility of the common fiscal

framework.[8] In Japan, despite very high public debt, maintaining a neutral fiscal stance during 2019–20 is advisable to support growth momentum and reflation. Japan's public debt is, however, unsustainable under current policies and will start to increase again amid rapid aging and depopulation beyond the medium term. Thus, starting in 2021, an annual consolidation of ½ percentage point of GDP in the structural primary balance could stabilize public debt below the current level of 235 percent of GDP by 2030.

- Where there is fiscal space, fiscal policy should strive to boost aggregate demand if slack remains. In Korea, besides allowing for automatic stabilizers to operate in 2019, frontloading the planned increase in spending is warranted to tackle sluggish growth. In Australia, if the growth slowdown in late 2018 worsens in 2019, discretionary infrastructure spending could be used to boost growth momentum, as well as to reduce infrastructure gaps.
- Several advanced economies operating above potential and enjoying low public debt could pursue fiscal reforms to raise potential GDP. In Germany, the general government fiscal buffer in relation to the EU fiscal rules remains large. This gives room for forceful policy action, beyond the expansion that is already planned, especially if the current weakness in activity persists. With a focus on investment in physical and human capital, this could boost potential growth. In the Netherlands, more ambitious fiscal reforms, such as further reducing labor income taxes and increasing public spending on research and development and lifelong learning, could raise potential output while leaving an ample fiscal buffer to address demographic pressures.

In emerging market and middle-income economies, debt vulnerabilities, volatile oil prices, and the risk of tightening financial conditions call for fiscal restraint but limited fiscal support could be warranted in a few countries where demand is weak and there is some fiscal space.

- Among non-oil exporters, those with no fiscal space (Argentina, Brazil) should continue consolidating to put debt on a firm downward trend. Improving fiscal sustainability is imperative in Argentina and Brazil to contain financing risks, which prevails over demand support. Among those with limited fiscal space, a faster pace of consolidation is affordable in India given an expected acceleration in growth, and it is necessary in South Africa to stabilize debt at a lower level than currently projected. Nevertheless, well-designed social transfers and productive infrastructure investment should be protected.
- Where there is some fiscal space and also the risk of a sharper growth slowdown (China, Turkey), fiscal policy should carefully balance stabilization and sustainability objectives. China should adopt a targeted high-quality stimulus to facilitate rebalancing, complemented by continued efforts on deleveraging and a credible medium-term consolidation plan (Box 1.2). In Turkey, automatic stabilizers should be allowed to operate in the near term, while improvements in fiscal transparency would help identify the scope for discretionary stimulus if additional support is needed.
- Among oil exporters, consolidation is planned and should continue at an appropriate pace, also balancing growth, equity, and sustainability objectives. Mexico and Russia could aim for faster consolidation to better deal with demographic pressures and raise intergenerational equity. Countries with available fiscal space and weak non-oil growth (Kuwait, United Arab Emirates) can afford to adjust gradually, while saving any revenue windfalls if oil prices rise. More broadly, oil exporters, particularly in the Gulf region, need to support the development of the non-oil and private sector to diversify and mobilize revenue, and to reduce large public-sector wage bills. In addition, energy subsidies should be eliminated (for example, in Gulf countries and Indonesia) to make room for social and productive spending.

In low-income developing countries, fiscal policy should focus on supporting long-term growth and development objectives. The estimated resources needed to achieve high development outcomes by 2030 in developing and emerging market economies are immense (Figure 1.5). Efforts to boost revenues, improve spending quality, and better manage debt burdens will be critical to meeting these objectives.

- Noncommodity exporters with high debt should pursue gradual adjustment to reduce financing risks and lower macroeconomic vulnerabilities. In Kenya, an adjustment of 3 percentage points of GDP over the next two fiscal years, including revenue measures, is recommended to keep public debt on a downward trajectory. In Vietnam, more ambitious revenue-based fiscal consolidation than currently planned is required

[8]At the same time, the EU fiscal rule framework should be reformed to make the rules simpler and more enforceable (Andrle and others 2015; Eyraud and others 2018).

to ensure long-term debt sustainability. Noncommodity exporters with low to moderate debt ratios should strive to keep debt stable while pursuing revenue and expenditure reforms that support development. For Bangladesh, this implies keeping spending growth in line with the revenue increases, while carrying through with reforms to boost tax revenue. In Myanmar and Tanzania, a low risk of debt distress allows for a fiscal deficit of 4 percent over the medium term to support social and infrastructure development objectives.

- In commodity exporters with high debt vulnerabilities the focus should be on growth-friendly adjustment. For Ghana this means running a positive primary budget balance and building the domestic tax revenue base. Commodity exporters not facing debt distress can afford a more gradual adjustment. In Nigeria, fiscal consolidation based on non-oil revenue mobilization is necessary over the medium term to make room for priority expenditure. For Côte d'Ivoire, streamlining the still-substantial tax exemptions as well as containing broader fiscal risks associated with public enterprises and public-private partnerships is key to building the much-needed fiscal space.

Should downside risks materialize in the form of a major slowdown in growth, countries will have less fiscal space to respond than they had during the global financial crisis. Fiscal stimulus would have potency in the presence of prolonged slack and monetary policy near the effective lower bound, though it may be feasible only in countries without substantial public debt vulnerabilities. Given the potential for implementation lags in fiscal policy, policymakers also need to plan policy actions to support demand in advance of the actual realization of a major slowdown. At a minimum, automatic stabilizers should be allowed to work—without discretionary measures to offset the impact on the deficit—for those that have fiscal space.[9] Where output falls substantially below potential, fiscal adjustment could be back-loaded or fiscal stimulus could be pursued in tandem with monetary easing. Any discretionary fiscal expansion, however, should consider the quality of revenue and expenditure measures employed to ensure the effectiveness of the stimulus. If a severe downside scenario were to materialize, in the euro area available monetary policy tools could be complemented with fiscal easing by countries that have appropriate fiscal space and financing conditions. A synchronized fiscal response, albeit appropriately differentiated across member countries, can strengthen the area-wide impact.[10]

Adapting to Global Trends

Reforms to adapt to global trends, including shifting demographics, technological advances, and global economic integration, will require inclusive and growth-friendly fiscal adjustments or budget recomposition, as well as multilateral cooperation. Reprioritization of expenditures, particularly in economies with public debt vulnerabilities, will be imperative to create room for reforms within existing budget envelopes. This implies cutting wasteful spending, such as untargeted energy subsidies, containing rigid recurrent spending, such as wage bills, channeling resources to investment and social spending to build infrastructure and skills fit for the future, and providing better services and equal opportunities for all. Public financial management reforms could also improve spending efficiency and should be accompanied by efforts to mobilize revenues in emerging market and low-income developing economies through tax policy and administration reforms. Tax policy reforms in advanced economies should be geared toward fostering efficiency and a more equitable distribution of disposable income. International cooperation on global public policy issues, such as corporate taxation, climate change, corruption, and more generally, on achieving the 2030 SDGs, could amplify and spread the gains from reforms.

Expenditure Reprioritization and Efficiency

Shift Expenditures to High-Quality Investment in Physical and Human Capital

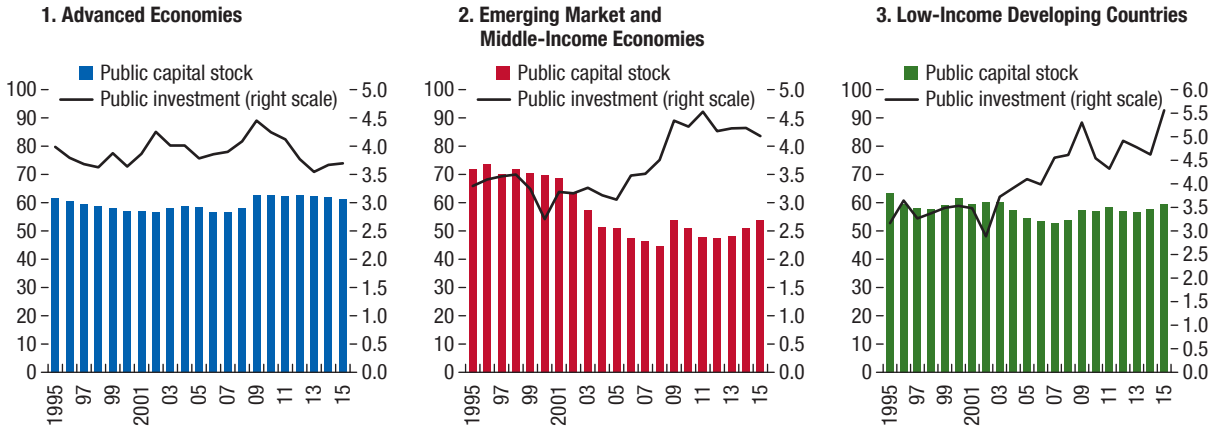
Reprioritizing public spending toward infrastructure investment can boost growth (see Chapter 3 of the October 2014 *World Economic Outlook*) and support inclusion through its positive impact on education and health outcomes (Agénor 2013). Yet the stock of public capital (a proxy for infrastructure capital) as a share of output trended downward across advanced, emerging market, and developing economies in the two decades preceding the global financial crisis and

[9]To reduce the problem of lags in providing fiscal support, consideration could be given to designing better automatic stabilizers—for example, pre-legislated support conditional on observable measures such as a decline in job creation below a given threshold (see Blanchard, Dell'Ariccia, and Mauro 2010 for a review).

[10]Indeed, these are circumstances when a central fiscal capacity to provide euro-area-wide stimulus would be beneficial (Arnold and others 2018).

Figure 1.28. Public Capital Stock and Investment, 1995–2015
(2001 PPP adjusted, in percent of GDP)

Over the past decade, gross public investment has been insufficient to expand the public capital stock.



Source: IMF, Fiscal Affairs Department Investment and Capital Stock Dataset.
Note: "Public investment" refers to gross fixed capital formation. PPP = purchasing power parity.

has plateaued following the stimulus-driven investment spending increase during the crisis (Figure 1.28).

In emerging market and developing economies with growing and urbanizing populations, more and better-quality infrastructure is also critical, to support urban transportation, energy, and water and sanitation networks (India, Indonesia). In addition, in many of these economies increased investment in digital infrastructure is needed to create an environment in which the technology sector can thrive. Internet usage rates are well below those in advanced economies (Figure 1.29). In sub-Saharan Africa, investment needs in digital communication are estimated at $4 billion to $7 billion a year (0.2 to 0.4 percent of the region's GDP) (Abdychev and others 2018). More broadly, delivering high performance on SDGs related to core infrastructure (that is, electricity, roads, and water) will require additional spending in 2030 of 4 and 9 percent of GDP in emerging market economies and low-income developing countries, respectively (Gaspar and others 2019), as well as policy measures that facilitate private sector involvement. By inviting private participation in infrastructure development, public-private partnerships can help improve public services. Yet strong governance institutions are needed to manage risks and avoid unexpected costs from these partnerships.[11]

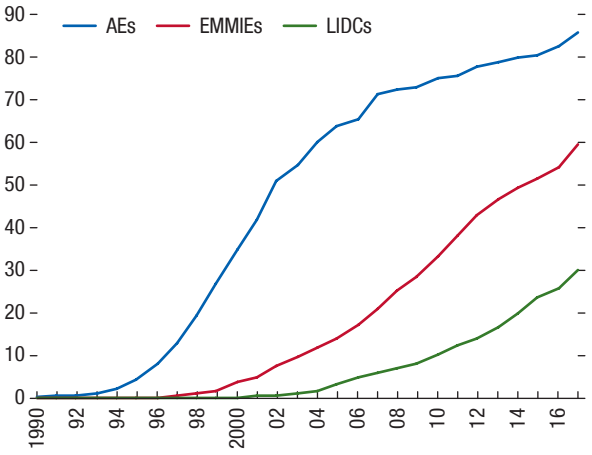
Improving the quality of infrastructure investment matters as much as increasing its size. A significant share of investment—an estimated 30 percent, on average—is lost due to inefficiencies, with larger losses in emerging market and developing economies (IMF 2015a), including from vulnerabilities to corruption in infrastructure provision (see Chapter 2). The reforms necessary to improve investment efficiency frequently cover project planning, allocation, and implementation phases. For example, Nigeria should strengthen project appraisal and selection processes, cash disbursement practices, and coordination of states' capital investment; in Vietnam, improvements are required in spending allocation and coordination to avoid persistent delays and project overruns. In emerging market economies such as India and Indonesia, as infrastructure investment is scaled up the focus should be on improving public financial management, including planning coordination among agencies, within-year budget execution, and implementation capacity.

Expenditure reprioritization and efficiency are also required to support human capital development and facilitate equal opportunities for all. Creating a workforce fit for the future requires meeting the growing demand for advanced cognitive skills, an ability to work with others, and adaptability (World Bank 2019). At the same time, policies aimed at human capital formation, such as access to quality education and healthcare, can improve the dis-

[11]To use public-private partnerships wisely, governments should (1) develop and implement clear rules for their use; (2) identify, quantify, and disclose their risks and expected costs; and (3) reform budget and government accounting frameworks to capture all fiscal costs comprehensively (Irwin, Mazraani, and Saxena 2018).

Figure 1.29. Individuals Using the Internet, 1990–2016
(Percent of population)

Internet usage in developing economies lags the rest of the world.



Source: World Bank, World Development Indicators.
Note: AEs = advanced economies; EMMIEs = emerging market and middle-income economies; LIDCs = low-income developing countries.

tribution of market income by providing equal opportunities (see the October 2017 *Fiscal Monitor*). In emerging market and developing economies, delivering high performance on SDGs related to education and healthcare services will require additional spending in 2030 of 8 and 12 percent of GDP, respectively (Gaspar and others 2019). Similarly, more accessible and flexible social safety nets could provide insurance against the growing informality of work arrangements and the job churn associated with rapid technological progress. Efficiency gains can also be leveraged to obtain more value from public investment in education and healthcare. Among emerging market and developing economies, those in the bottom quartile of efficiency could raise healthy life expectancy by up to five years by addressing inefficiencies in public health spending (Grigoli and Kapsoli 2018).

- Education and training measures could move toward pre-emptive acquisition of new skills ("lifelong learning") (World Bank 2019). For example, Singapore offers unconditional grants to all adults for training throughout their working lives. Tax deductions for training those already in the workforce, such as in the Netherlands, and portable individual learning accounts, as in France, could help remove barriers to lifelong learning. Likewise, it is critical to help workers adapt to the transition arising from new technologies (see Chapter 3 in the April 2017 *World Economic Outlook*). Chile plans to address skill mismatches by establishing targeted scholarships and creating new technical institutes. South Africa should improve teacher training, strengthen their accountability, and align training with evolving business requirements. Colombia should further expand higher-education coverage by supporting access for low-income students and improve the quality of education. In Bangladesh, Indonesia, and Uganda, initiatives that promote technical and vocational training should be strengthened to develop skills for better job opportunities.
- Social protection could be strengthened and adapted to evolving labor market realities in advanced economies by making social benefits more portable, as in most Nordic countries (IMF 2018). In Korea, where there is ample fiscal room, more generous unemployment benefits would give the temporarily unemployed time and resources to adapt to technological changes. In Singapore, introduction of universal, transparent, and time-bound unemployment insurance would complement existing policies on lifelong learning, training, and reskilling. In emerging market and developing economies a major challenge is to expand safety nets that offer some income security. As highlighted in recent IMF staff reports, increasing coverage of social safety net programs (Bangladesh, Zambia) would expand opportunities for the more vulnerable and encourage long-term human capital development.

Cut Wasteful Subsidies and Unsustainable Social Spending

Cutting wasteful spending could create room for the public investment in human and physical capital necessary to adapt to a changing global economy. After ensuring that appropriate protection for the most vulnerable populations is in place, untargeted energy subsidies should be cut in many advanced economies (Finland, Italy, Latvia, Norway), emerging markets (Egypt, Kuwait, Saudi Arabia), and developing economies (Angola, Ethiopia, Nigeria). Effective management of the public sector payroll through better medium-term wage forecasting and position-based employment systems could generate savings in many countries (IMF 2016a). Limiting public sector job creation (for instance in sub-Saharan Africa) and incentivizing private sector employment could also help contain large wage bills. Expenditure reforms to root out corruption could improve the efficiency of public investment and social spending (see Chapter 2).

For advanced and emerging market economies facing fiscal pressures from aging populations, pension and healthcare reforms could also create fiscal

room. In the United States, raising the income ceiling for payroll taxes and indexing benefits to chained inflation would help shore up social security finances and free fiscal resources for other priority spending. Safeguarding the financial viability of pension systems requires a comprehensive set of measures, including measures to offset the implications from the recent relaxation of pension indexation in Spain and early retirement rules that were eased for a trial period of three years in Italy. In Brazil, necessary measures include increasing the retirement age, delinking the minimum pension from the minimum wage, and moderating the generosity of pensions (particularly for public employees). To contain healthcare costs, Japan and the United States should adopt efficiency-improving technology and pursue greater cost sharing with beneficiaries.

Expand the Budget Envelope through Public Financial Management Reforms, Revenue Mobilization, and International Cooperation

Public Financial Management Reforms

Public financial management reforms could extend the limited public resource envelope through efficiency gains. In emerging market and developing economies, enhancing debt management capacity (for instance in Gulf countries) and reducing off-budget activities (for instance in China and Ghana) could improve the monitoring of debt levels and fiscal risks, lead to more prudent debt strategies, and promote transparency. These steps could serve to reduce the interest bill, unlocking government resources for other expenditures. In all countries, public financial assets can play an important role in an economy in terms of revenue, employment, and value added (European Commission 2019). Better management of public sector balance sheets, in particular, nonfinancial public corporations and government financial assets, could yield up to 3 percent of GDP a year in additional revenue (see the October 2018 *Fiscal Monitor*). This is equivalent to the average corporate income tax revenue in advanced economies. Gains could be even higher, as this figure does not account for the potential returns from better management of government nonfinancial fixed assets.

New technologies can also be employed to improve the efficiency of government operations. Taking advantage of the Internet, big data, and increased connectivity, governments could improve service delivery and strengthen governance, accountability, and social infrastructure. For example, technology can enable governments to reduce the cost of tax compliance, facilitate better targeting of social assistance programs, and deliver cash transfers more efficiently (see the October 2018 *Regional Economic Outlook for Sub-Saharan Africa*). India's Direct Benefit Transfer program uses digital technology to provide direct subsidies to the bank accounts of the poorest members of society. In terms of improving government accountability, Slovenia has online platforms for citizens to inform authorities about problems and monitor their solution.

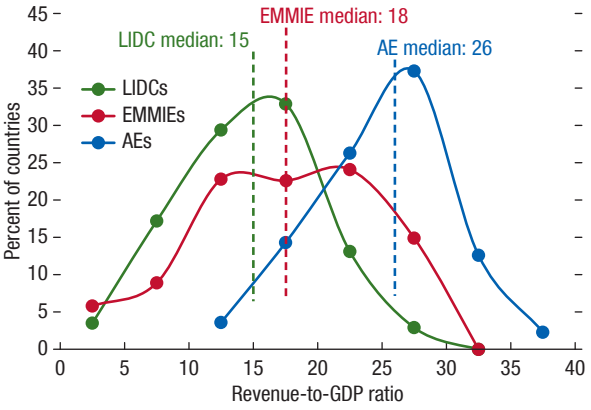
Revenue Mobilization

In emerging market and developing economies, sustained efforts to mobilize revenues can provide for much needed investment in human and physical capital. Tax revenues in these countries are low relative to those in advanced economies (Figure 1.30). There is ample scope to increase tax revenue through measures that broaden the tax base and improve efficiency (for instance by shifting from direct to indirect taxation), which can be accomplished with little impact on growth over the long term (Dabla-Norris and others 2018; IMF 2015b). This should be predicated on building the appropriate public financial management institutions to channel the revenues toward productive expenditures. Removal of tax exemptions (in sub-Saharan Africa and elsewhere, such as in Argentina, China, Sri Lanka, and Turkey) and improving administrative efficiency would yield more revenue for priority initiatives. Sub-Saharan African countries could raise from 3 to 5 percent of GDP in additional revenue, on average, through reforms that improve the efficiency of the current tax systems (see the October 2018 *Regional Economic Outlook for Sub-Saharan Africa*). Key steps include strengthening VAT systems, streamlining exemptions, and expanding the coverage of income taxes, including by tackling informality. More broadly, adoption and implementation of carefully crafted medium-term revenue strategies that include a combination of policy and administrative reforms can be a useful guide to increasing revenue. Papua New Guinea has launched its medium-term revenue strategy, several other countries (Egypt, Lao P.D.R., Uganda) are working to develop theirs, and several others plan to do so (Indonesia, Senegal, Thailand).

In advanced economies, tax systems could be reformed to ensure that the gains from technology

Figure 1.30. Tax Revenue, 2017

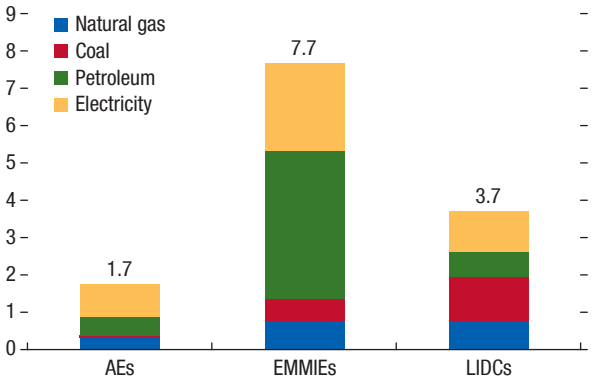
Room exists to boost tax revenues in emerging market and developing economies.



Source: Gaspar and others 2019.
Note: AEs = advanced economies; EMMIEs = emerging market and middle-income economies; LIDCs = low-income developing countries.

Figure 1.31. Energy Subsidies, 2017
(Percent of GDP)

Estimated energy subsidies are significant around the world.



Source: Coady and others, forthcoming.
Notes: AEs = advanced economies; EMMIEs = emerging market and middle-income economies; LIDCs = low-income developing countries.

and global integration are spread more evenly across the population.[12]

Higher tax rates for upper-income groups compared with those in the middle yield redistributive gains that exceed efficiency costs (Diamond 1998; Saez 2001). Tax systems could also be adapted to the broad shift in income from labor to capital. For instance, given that wealth tends to be more unevenly distributed than income, especially in the OECD countries, wealth taxes could be considered. Most countries have room to enhance revenues significantly from taxing inheritances, land, and real estate (October 2017 *Fiscal Monitor*). As in Korea and Lithuania, where top marginal income tax rates have been increased in 2018 and 2019 to address worsening income inequality, some advanced economies (for example, Hong Kong Special Administrative Region and Latvia) should consider increasing the top personal income tax rate. Hong Kong Special Administrative Region should also avoid relief on recurrent property taxes. In Italy, wealth could be taxed through a modern property tax on primary residences.

Pricing fuel efficiently could also gradually build room for adaptation of fiscal policies to a changing global economy in most countries. Global fuel subsidies in 2017 were estimated at $5.2 trillion, or 6.5 percent of global GDP (Coady and others forthcoming). Raising fuel prices to efficient levels through taxes,[13] for instance, would generate additional revenue of $3.2 trillion (4 percent of global GDP) over the long run (Figure 1.31). To help ease the impact of higher fuel prices, mechanisms to compensate those households most affected should be put in place beforehand. Countries can provide compensation by scaling up benefit levels or expanding coverage of existing assistance programs, or by designing and implementing new social safety nets (Abdallah and others 2018). For example, measures to mitigate the impact of fuel subsidy reforms—particularly on the poor—and facilitate public support for the reforms have been employed recently in Saudi Arabia and are recommended for other countries (for instance, Ethiopia and Nigeria). Transparent and extensive communication and consultation with stakeholders—including information on the size of subsidies, how they affect the government's budget, and how the savings will be used to improve public services or lower taxes on households and businesses—are also necessary to build societal support for these desirable measures (IMF 2013).

International Cooperation

International cooperation will be critical for advancing fiscal efforts to address issues related to global

[12]Digitalization also poses challenges for tax policy and administration (Aslam and Shah 2017).

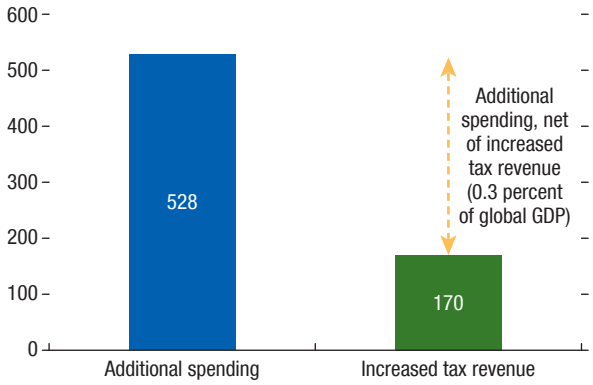
[13]Efficient fuel prices are achieved by applying (1) the same consumption taxes as levied on other consumption goods in general and (2) additional taxes to reflect the supply and environmental costs of fuel.

economic integration and convergence. Multilateralism has proven a powerful driver of strong growth, poverty reduction, and welfare gains. It is clear that coordinated fiscal stimulus helped speed the recovery from the global financial crisis (see Chapter 4 in the October 2017 *World Economic Outlook*). Multilateralism can take on the many transnational challenges that have a bearing on national fiscal policies and that no one government alone, or even a few governments working together, can handle. These include taxation of multinational corporations, climate change, support for SDGs, and corruption (see Chapter 2) (Lipton 2018).

- The taxation of multinational companies, including highly digitalized ones, is ripe for a multilateral approach. Several countries (Benin, France, India, Italy, Spain, Tanzania, Uganda, United Kingdom, Zambia) plan to or have put in place measures to tax digital companies and their users. Uncoordinated, ad hoc measures targeted to specific firms or activities could lead to significant distortions such as double taxation of cross-border digital activities. Similarly, international corporate tax competition can lead to global tax inefficiencies. Multilateral cooperation would provide a more effective and efficient approach to taxing the rents of multinational companies (Box 1.3).
- Climate change is a worldwide, macro-critical phenomenon, with a particularly severe potential impact on low-income developing countries and small island states (see October 2017 *World Economic Outlook* Chapter 3), and large fiscal implications for all countries. However, current mitigation pledges submitted for the Paris Agreement are highly heterogeneous and imply considerable cross-country dispersion in emission prices (IMF 2019c). For mitigation, carbon taxation or similar pricing is the most efficient tool, though other instruments may have a role due to political economy, distributional, or other factors. A carbon price floor arrangement among large emitters could promote some degree of price coordination while strengthening the Paris Agreement and provide some reassurance against losses in competitiveness. The international community should also help low-income developing countries build resilience to climate change, including the development of climate-resilient infrastructure, sustainable macro-fiscal frameworks, and transition to cleaner energy. The commitment by advanced economies to jointly contribute $100 billion a year by 2020 for mitigation of and adaptation to climate change in developing economies is an important step to help the latter make progress on their climate strategies.
- International financial support for low-income developing countries is also needed to complement their efforts to meet their SDGs. The annual spending gap to attain meaningful progress on the SDGs related to infrastructure alone in low-income developing countries amounts to $358 billion, even after assuming an increase in their tax-to-GDP ratio of 5 percentage points over the next decade (Figure 1.32) (Gaspar and others 2019).

Figure 1.32. Additional Spending on the Sustainable Development Goals, Net of Increased Tax Revenue, 2030
(Billions of 2016 US dollars)

Additional spending required to make meaningful progress toward SDGs is more than half a trillion US dollars.



Source: Gaspar and others 2019.

A renewed effort to work within an improved multilateral structure would complement national policies adapted to a fast-changing global economy.

Box 1.1. Fiscal Implications of Potential Stress in Global Financial Markets

This box examines the effects of potential stress in global financial markets on the public finances of large advanced and emerging market economies. Stress in global financial markets could emanate from an increase in risk premiums in reaction to a decline in investor sentiment triggered by a deteriorating outlook (including from trade tensions) or weak policy frameworks amidst concerns about debt in some euro area countries. Such shocks could lead to higher interest rates, exchange rate volatility, corrections in stretched asset valuations (for example, equity and real estate), and sudden international financial flow reversals. These developments would strain leveraged companies, households, and sovereigns; worsen bank balance sheets and profitability; and damage the public finances of advanced and emerging market economies.

Modeling Strategy

The analysis is based on an extended version of the Global Vector Autoregression models of Cashin and others (2014); Cashin, Mohaddes, and Raissi (2016, 2017a, 2017b); and Mohaddes and Raissi (2018). This framework comprises 33 country-specific models, solved in a global setting where key macroeconomic variables of each economy interact with corresponding foreign variables (designed to capture the international trade pattern of each country). The model includes both real and financial variables during 1981:Q2–2018:Q2 (that is, real GDP, inflation, the real exchange rate, short- and long-term interest rates,[1] the government debt-to-GDP ratio, the primary fiscal balance, and the price of oil), as well as an index of financial stress in advanced economies (capturing pressures in banking, securities, and exchange markets, as well as risk aversion).

Fiscal Costs of Financial Stress

Stress in global financial markets—measured by a one standard deviation positive shock to the financial stress index (FSI)[2] in advanced economies—translates into higher public debt-to-GDP ratios in most country groups (with average effects ranging between ½ and 1¼ percentage point of GDP after one year, and large variations across each group) (Figure 1.1.1). Debt-to-GDP dynamics largely depend on the primary fiscal balance and the gap between inflation-adjusted average borrowing costs and the real GDP growth rate of the economy (the interest rate–growth differential). In response to a temporary FSI shock, real GDP growth slows worldwide (by ¼–½ percentage point on average) and the inflation-adjusted long-term interest rate rises (by 10 basis points on average, and higher in emerging market economies)—resulting in increases in the interest rate–growth differentials. In addition, lower revenues from weaker economic activity across countries would lead to worse primary balances (by 0.1–0.2 percentage point of GDP on average). These factors would worsen countries' debt dynamics, albeit with significant size variation across countries.

Which Countries Will Be Affected More?

The impact on the public finances of different countries depends on the magnitude and duration of the FSI shock; countries' economic fundamentals; the size of safe-haven flows; and the level, currency, maturity, and residency holding structure of public debt. For instance, model estimates show that the impact is greater for countries with high debt ratios, because the increase in interest rates applies to larger debts, and for those with a shorter residual maturity of public debt, because the pass-through of higher spreads affects a greater share of the debt. Moreover, emerging market economies with higher debt vulnerabilities (for example, those that have a larger share of foreign-currency-denominated debt in total public debt or a higher share of nonresident holdings of public debt) experience larger debt increases through higher spreads, asset price corrections, depreciated exchange rates, and nonresident capital outflows.

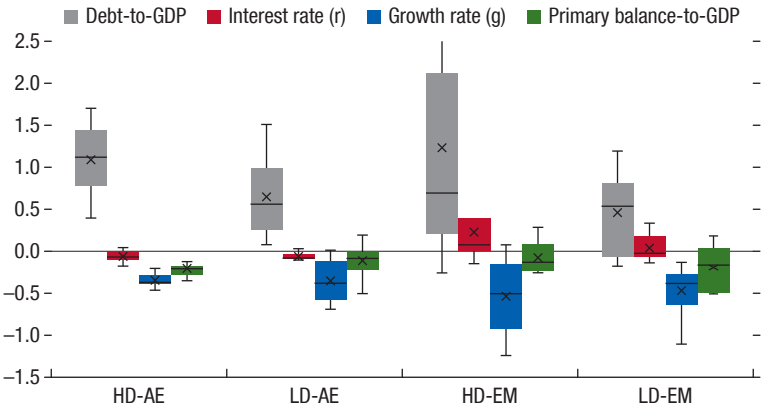
[1]Following Wu and Xia (2016), shadow interest rates are used for time periods during which policy rates were at their effective lower bounds to capture the impact of unconventional monetary policies of advanced economies.

[2]The FSI for advanced economies facilitates the identification of large shifts in asset prices (stock and bond market returns); an abrupt increase in risk/uncertainty (stock and foreign exchange volatility); liquidity tightening (difference between three-month Treasury bill and three-month London interbank offered rate based on US dollars); and the health of the banking system (the beta of banking sector stocks and the yield curve). A one standard deviation positive shock to FSI in advanced economies is ⅔ of the shock that occurred during the European sovereign debt crisis and 1/10 of the global financial crisis shock.

Box 1.1 *(continued)*

Figure 1.1.1. Responses of Key Variables to Potential Stress in Global Financial Markets

(Percentage point of GDP difference)



Source: IMF estimates.

Note: The figure depicts the range of change in macroeconomic/financial variables of a given group of countries—high-debt (HD) and low-debt (LD) advanced economies (AE) and emerging markets (EM) after one year associated with a one-standard-deviation positive shock to FSI. Symbols × and — denote the average and median responses across countries in each group, respectively. The boxes show the 25th–75th percentile responses, and the whiskers show the minimum and maximum responses. The HD-AE group consists of Austria, Belgium, Canada, France, Italy, Japan, Spain, the United Kingdom, and the United States. The LD-AE group consists of Australia, Finland, Germany, Korea, Netherlands, New Zealand, Norway, Sweden, and Switzerland. The HD-EM group consists of Argentina, Brazil, China, India, Philippines, and South Africa. The LD-EM group consists of Chile, Indonesia, Mexico, Peru, Thailand, and Turkey. The median gross-debt-to-GDP ratio in each group (advanced and emerging market economies) is used as the cutoff value to classify countries as high debt or low debt.

Box 1.2. China: How Can Fiscal Policy Support Economic Activity and Rebalancing?

China's growth has slowed over the past year and is set to further decline in 2019, owing to trade tensions and much-needed financial regulatory tightening. The authorities have acted to mitigate the slowdown through various measures including tax cuts and infrastructure spending. Should downside risks further increase, this would bring knock-on effects from a domestic as well as a global perspective (see the April 2019 *World Economic Outlook* and *Global Financial Stability Report*). What would be the appropriate fiscal policy to support economic activity and rebalancing?

Three principles should guide the choice of fiscal measures. First, the policy response should be on budget, to ensure transparency and avoid risks from excessive leverage incurred by borrowing entities. Second, it should facilitate the macroeconomic rebalancing of the Chinese economy. Third, fiscal measures should be targeted to maximize their multiplier effects and to reduce poverty and inequality. Measures could include:

- **On the revenue side**, the recently announced personal income tax cuts, while supporting consumption temporarily, have reduced the progressivity of the overall tax system. Going forward, the tax cuts should be accompanied by medium-term reforms to broaden the overall tax base, improve the progressivity of the tax system (including by alleviating the highly regressive nature of the social security system), and introduce a recurrent property tax.
- **On the expenditure side**, reprioritizing spending toward education, healthcare, and social security can facilitate rebalancing. At the same time, providing a better social safety net by increasing rural pension benefits and widening the coverage of unemployment insurance (currently 40 percent of urban workers) would help cushion the impact of slower growth and reduce poverty and inequality.

Large-scale infrastructure investment would be less desirable, given the build-up of vulnerabilities from past stimuli (IMF 2017). Assessing the risks from such strategy requires looking into the general government's balance sheet, as well as the infrastructure investment's returns, and the broader macroeconomic growth impact, because a large component of past investment-led stimulus occurred in the broader public sector—mainly off-budget through local governments and state-owned enterprises (SOEs). We estimate the general government financial balance sheet for 1997–2017 based on the methodology in the October 2018 *Fiscal Monitor*, using various sources (Garcia-Herrero, Gavila, and Santabarbara 2006; Ma 2006; Yang, Zhang, and Tang 2017) and adjusting for nonperforming assets of public corporations from the China Public Finance Yearbooks (Lam and Moreno Badia forthcoming). Data on the valuation of fixed assets, required to calculate the full government net worth, are limited. Instead, we estimate the shortfall of the returns of infrastructure asset relative to the cost of liabilities to finance such investment.

The balance sheet analysis reveals that the investment-led stimulus undertaken during 2009–12 contributed to a deterioration in the general government's financial position. Several points are worth noting. First, while the stimulus—amounting to some 10 percent of GDP—supported economic growth in the early part of the decade, estimates of potential growth declined from double-digit levels to about 6¼ percent by 2015 (Table 1.2.1). Second, the stimulus led to a decline of net financial worth from 23 percent of GDP in 2009 to 11 percent of GDP in 2017 (still above the average for emerging market economies) as the rise in general government debt outstripped the increase in the general government's financial assets (Figure 1.2.1). Third, although nonfinancial infrastructure assets have also risen, the gap between government asset returns—along with those on nonfinancial infrastructure assets—and the

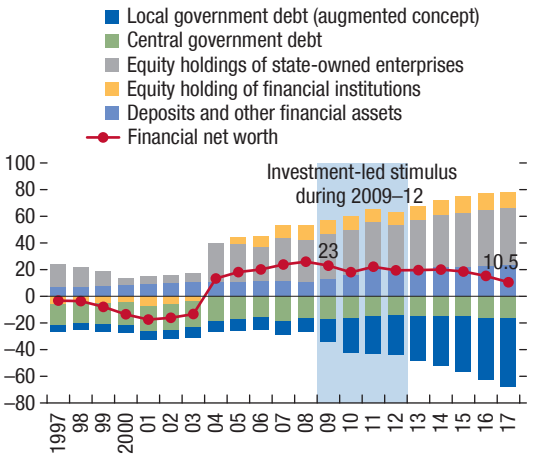
Table 1.2.1. China: Long Shadows of Investment-Led Stimulus during the Global Financial Crisis

	Fiscal Stimulus during the Great Recession (2009–12)		2017 or Latest Data Available
	2009	2015	
General government			
Debt to GDP[1]	34	57	68
Net financial worth to GDP	23	19	11
Macroeconomy			
Potential growth rate	10.4	6.3	6.3
Credit intensity ratio[2]	2.5	3.5	4.1
State-owned enterprises			
Credit[3]	51	66	74
Returns on equity	5.9	3.9	4.2

Sources: CEIC; *World Economic Outlook*; Deutsche Bank; and IMF staff estimates.
Note: Indicators are in percent unless otherwise stated.
[1] Debt is measured using the augmented concept as in IMF 2017.
[2] The credit intensity ratio is measured by the change of credit per unit change of output.
[3] State-owned enterprise credit is measured in percent of GDP based on IMF 2017.

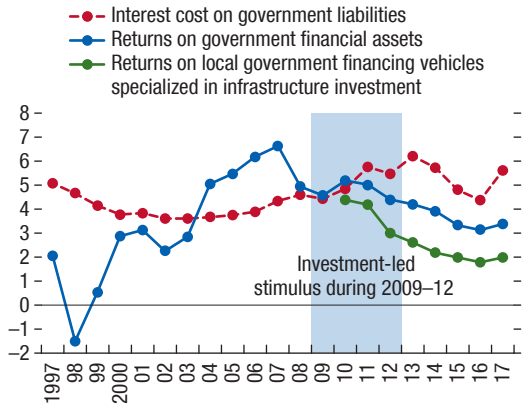
Box 1.2 *(continued)*

Figure 1.2.1. China: General Government Net Financial Worth after the Investment-Led Stimulus
(Percent of GDP)



Sources: CEIC; and IMF staff estimates.

Figure 1.2.2. China: General Government Financial Asset Returns and Liability Costs
(Percent)



Sources: CEIC; China Public Finance Statistical Yearbook; Li and Mano 2019; and IMF staff estimates.

interest rate on debt widened, with an estimated shortfall of 1½–2 percentage points during 2013–15, partly driven by low profitability among SOEs (Figure 1.2.2; Lardy 2019; Bai, Hsieh, and Song 2016).

This analysis suggests that, at the current juncture, a large-scale public investment stimulus, while temporarily boosting growth, would add to vulnerabilities and raise the likelihood of a sharp slowdown down the road when overall leverage is already high and credit allocation is increasingly inefficient (IMF 2016c).

Beyond the targeted and pro-rebalancing fiscal stimulus measures, efforts to deleverage, particularly among SOEs, should also continue to ensure a sustainable growth path. At the current juncture, SOEs are highly leveraged and account for a large share of corporate credit. Further deleveraging of underperforming SOEs could improve medium-term growth (IMF 2016c) and strengthen the general government balance sheet. Notwithstanding differences relative to the current environment, the restructuring of public corporations during 1999–2003—which involved SOE closures and restructuring and recapitalization of state banks—is also illustrative of the large potential payoffs of such strategy. Those reforms improved SOE profitability and the equity valuation of state-owned banks (Lardy 2014; Hsieh and Song 2015) and, in turn, raised the general government's net financial worth from –8 percent of GDP in 1999 to 18 percent of GDP in 2005 (Figure 1.2.1). In addition to continued efforts on deleveraging, advancing other fiscal structural reforms such as intergovernmental relations, improving fiscal data, and parametric reforms to the social security system to ensure the long-term sustainability will also be necessary (IMF 2017).

Box 1.3. Avoiding International Tax Wars

The International Tax System under Stress

Strains on the current system for taxing multinational enterprises have become more salient than ever. The joint project of the Group of 20 and the Organisation for Economic Co-operation and Development (OECD) project on Base Erosion and Profit Shifting (BEPS) has made significant progress in addressing some of the most egregious forms of tax avoidance. But the project has not sought to change the fundamentals of the international corporate tax system. Cracks in the century-old architecture are now in plain sight.

- *Profit-shifting* by multinationals—moving profit from high- to low-tax jurisdictions—is pervasive. Problems center on the norm that companies are liable to corporation tax only where they are physically present, as well as on the implementation of the arm's length principle (which requires that transactions between related parties within multinational groups be priced, for tax purposes, as if they took place between unrelated parties). Application of these has become increasingly complex and arbitrary, owing to the importance of hard-to-value intangible assets and the ability that digitalization creates to conduct business in a country while having little or no presence there.
- *Tax competition* has been largely unaddressed and may intensify in the future, imposing ever-larger pressures on tax revenues. This is especially problematic for low-income countries, which rely relatively more on corporate taxation as a revenue source.
- *Developing countries' interests*, reflecting their being the home of few multinational enterprises but a source of income for many, are not well reflected in current norms; and complexity and profit shifting bear disproportionately on them.
- *Fairness* concerns have sparked debate on the allocation of taxing rights, not only in the context of protecting the interests of developing economies but also more broadly.

Preserving Multilateralism under Threat

Unilateral initiatives going beyond BEPS, some of which challenge international norms, risk jeopardizing the considerable cooperation that the BEPS project has achieved. Some, for instance, see the "diverted profits taxes" adopted by the United Kingdom and Australia in 2016 (anti-avoidance provisions that recoup tax on income that is diverted to low-tax jurisdictions) as early departures from the consensual approach of the BEPS project. The 2017 US tax reform brought fundamental and novel changes in its international provisions (Chalk, Keen, and Perry 2018)—one of which, some have suggested, may violate World Trade Organization (WTO) rules. And proposals in Europe for "digital service taxes" on revenues associated with selected digital activities might be seen as attempts to circumvent the norm that firms with no physical presence are not liable to corporate tax. Talk of "tax wars" may be premature, but strains in international tax relations have become apparent.

The BEPS slogan was to "tax where value is created." This was meant to guide real progress in international tax cooperation. However, differing interpretations of this principle can make it hard to agree on practical implementation. This is most clearly illustrated by the debate on the tax consequences of digitalization. For some countries, the targeted digital service taxes seem to be a political imperative, given domestic perceptions of under-taxation and pending some longer-term global solution. Indeed, the international tax framework should avoid giving highly digitalized and other companies a way to pay very little or no tax. For others, however, these digital service taxes are little more than a grab for revenue from a few prominent and largely US-owned companies. Moreover, pursuing the suggestion by some that tax be levied where the users of digital services, such as social media and search engines, are located would be akin to attributing taxing rights to destination or "market" jurisdictions—a fundamental departure from current norms (April 2018 *Fiscal Monitor*). The digitalization debate has become emblematic of the need for more ambitious reforms to the international tax system.

Evaluating Alternative Reform Directions

In January, the members of the "Inclusive Framework" on BEPS agreed to examine a wide range of policy options—with the aim to come up with a consensus on the multilateral approach by 2020 to reform the international corporate tax system (OECD 2019a). The different options are reflected in a recent consultation document by the OECD's task force on the digital economy (OECD 2019b). The options vary in several dimensions, but broadly set out three directions for reform: (1) minimum effective taxation; (2) shift in taxing rights to the country where users/consumers

Box 1.3 *(continued)*

reside; and (3) departure from the arm's-length principle in favor of apportionment by formula (that is, sharing a multinational enterprise's total profits across countries by a formula reflecting measures of its presence in each), perhaps only for some residual profit (left after something like a normal profit is allocated to countries in which the multinational enterprise's functions take place). While not evaluating the precise proposals or endorsing any of these broad approaches, IMF (2019b) offers an assessment of these broad directions for reform, based on various criteria: their economic properties (how they address profit shifting and tax competition), impact on developing economies, ease of enforcement, departure from current norms (and thus legal feasibility), and required degree of cooperation. The impact of such proposals will also differ depending on whether adoption is by one country, a few, or all. For the case of global adoption, these are the main conclusions:

- *Minimum tax proposals* can relate to either outbound or inbound investment or both. On outbound investment, they ensure some minimum amount of tax is paid wherever in the world its income arises. This can offer significant (though incomplete) protection against profit shifting and tax competition; it also generates positive spillovers for other jurisdictions, except those with very low tax rates. A minimum tax on inbound investment (for example, limiting deduction for some payments often used to shift profits) can be especially appealing for developing economies to protect against tax avoidance, because it can be simple to administer. It can, however, also risk jeopardizing inward investment.
- *Allocating taxing rights to destination countries:* In its pure form, a destination-based system could rely on "border-adjusted" taxes, which combine value-added tax (VAT)–like treatment of trade (that is, exempting exports and taxing imports) with a wage subsidy (or payroll tax relief). While global tax competition is already spontaneously leading to increased reliance on the VAT instead of corporate and labor taxes, conscious movement in this direction can be more appealing. Examples of such border adjustment include the destination-based cash flow tax (see the April 2017 *Fiscal Monitor*) and a destination-based allowance for corporate equity system. These are the most complete solutions to tax competition and profit shifting because consumers are less mobile than corporate source or residence. Tax calculation would also be simplified, and distortions in investment and corporate finance would disappear. Yet they are also the furthest from current practice and face potential WTO issues. Moreover, a destination-based cash flow tax may amplify refund problems that arise under the VAT, and unilateral adoption could have significant adverse spillover effects (Hebous, Klemm, and Strausholm 2019).
- *Unitary taxation with formula apportionment*—proposed by the European Commission for EU member states and common practice in subnational corporate taxation in Canada, Germany, Japan, and the United States. All affiliates of a company consolidate their accounts, generating a unitary tax base apportioned across participating jurisdictions based on a formula, according, for example, for the shares of assets, payroll, employees, and/or sales located in each. Jurisdictions then apply their own tax rate to the apportioned base. Formula apportionment reduces scope for profit shifting, because prices on intragroup transactions become immaterial; this can also simplify tax calculation. The ultimate economic effects depend on the way in which the unitary base is allocated: tax competition is more limited the greater the weight placed on allocation by the destination of sales (or similar criterion), given the relative immobility of final consumers. Agreeing on a common base might be difficult, however, because the redistribution of tax revenues can be large. Developing economies would most likely gain if employment receives a large weight in the allocation formula.
- *"Residual profit allocation"* schemes split a multinational enterprise's income into a "routine" return on investment and a "residual" return that exceeds normal returns. The schemes then allocate a "normal" return to source countries, potentially by pricing routine activities on the basis of the current arm's-length principle. They differ from the current system by sharing the residual profit according to a formula—which avoids problems with arm's-length pricing where they are often most severe. Residual profit allocation is further from current practice than minimum taxation, but closer to it than formula apportionment. It also addresses the weaknesses of the current system more fully than minimum taxes by substantially

Box 1.3 *(continued)*

reducing profit-shifting opportunities and simplifying the system.

Urgent Need for Coordination

The ultimate assessment of alternatives will depend on the specific details of reform proposals and on one's preferred weighting of the various criteria—and no reform direction outlined here scores best on all accounts. Agreement on potential international tax reforms would require overcoming several fundamental obstacles, not least the differing views and interests of countries of different size and level of development. For example, tax cooperation has thus far been driven by the most advanced economies—causing some unease because their circumstances differ from those of developing economies. Finding agreement might thus be hard. Yet putting international corporate tax on a sound basis requires a cooperative multilateral approach—and if international tax order is to be maintained, urgent action is called for. The current deliberations in the OECD's Inclusive Framework will be critical to the future of the international tax system, with the 2020 deadline providing the necessary impetus.

References

Abdallah, C., D. Coady, N. Le, and B. Shang. 2018. "Reforming Energy Subsidies in the Middle East and North Africa: How to Succeed?" IMF Departmental Paper, International Monetary Fund, Washington, DC.

Abdychev, A., C. Alonso, E. Alper, D. Desruelle, S. Kothari, Y. Liu, M. Perinet, S. Rehman, A. Schimmelpfennig, and P. Sharma. 2018. "The Future of Work in Sub-Saharan Africa." IMF Departmental Paper, International Monetary Fund, Washington, DC.

Agénor, P. 2013. *Public Capital, Growth, and Welfare: Analytical Foundations for Public Policy.* Princeton, NJ: Princeton University Press.

Aiyar, S., B. Barkbu, N Batini, H. Berger, E. Detragiache, A. Dizioli, C. Ebeke, H. Lin, L. Kaltani, S. Sosa, A. Spilimbergo, and P. Topalova. 2016. "The Refugee Surge in Europe: Economic Challenges." IMF Staff Discussion Note 16/02, International Monetary Fund, Washington, DC.

Andrle, M., J. Bluedorn, L. Eyraud, T. Kinda, P. Koeva Brooks, G. Schwartz, and A. Weber. 2015. "Reforming Fiscal Governance in the European Union." IMF Staff Discussion Note 15/09, International Monetary Fund, Washington, DC.

Arnold, N., B. Barkbu, E. Ture, H. Wang, and J. Yao. 2018. "A Central Fiscal Stabilization Capacity for the Euro Area." IMF Staff Discussion Note 18/03, International Monetary Fund, Washington, DC.

Aslam, A., and A. Shah. 2017. "Taxation and the Peer-to-Peer Economy." IMF Working Paper 17/187, International Monetary Fund, Washington, DC.

Bai, C. E., C. T. Hsieh, and Z. M. Song. 2016. "The Long Shadow of a Fiscal Expansion." *Brookings Papers on Economic Activity* (Fall).

Baker, S., N. Bloom, and S. Davis. 2016. "Measuring Economic Policy Uncertainty." *Quarterly Journal of Economics* 131 (4): 1593–1636.

Baldacci, E., S. Gupta, and C. Mulas-Granados. 2015. "Debt Reduction, Fiscal Adjustment, and Growth in Credit-Constrained Economies." *Journal of Applied Economics* 18 (1): 71–98.

Best, T., O. Bush, L. Eyraud, and B. Sbrancia. 2019. "Reducing Debt Short of Default." IMF Conference Paper, International Monetary Fund, Washington, DC.

Blanchard, O. 2019. "Public Debt and Low Interest Rates." Presidential Address in the Annual Meeting of American Economic Association, Atlanta.

Blanchard, O., and D. Leigh. 2013. "Fiscal Consolidation: At What Speed?" VOX, CEPR Policy Portal. https://voxeu.org/article/fiscal-consolidation-what-speed/.

Blanchard, O., G. Dell'Ariccia, and P. Mauro. 2010. "Rethinking Macroeconomic Policy." *Journal of Money, Credit and Banking* 42 (6 supplement).

Bloch, D., and J. Fournier. 2018. "The Deterioration of the Public Spending Mix during the Global Financial Crisis: Insights from New Indicators." OECD Economics Department Working Paper 1465, OECD Publishing, Paris.

Bloom, N., M. Floetotto, N. Jaimovich, I. Saporta Eksten, and S. J. Terry. 2018. "Really Uncertain Business Cycles." *Econometrica* 86 (3): 1031–65. https://onlinelibrary.wiley.com/doi/abs /10.3982 /ECTA10927/.

Bussière, M., L. Ferrara, M. Juillard, and D. Siena. 2017. "Can Fiscal Budget-Neutral Reforms Stimulate Growth? Model-Based Results." Banque de France Working Paper 625, Paris. https://ideas.repec.org/p/bfr/banfra/625.html/.

Cashin, P., K. Mohaddes, and M. Raissi. 2016. "The Global Impact of the Systemic Economies and MENA Business Cycles." In Understanding *and Avoiding the Oil Curse in Resource-Rich Arab Economies*, edited by Ibrahim Ahmed Elbadawi and Hoda Selim. Cambridge: Cambridge University Press, 16–43.

———. 2017a. "Fair Weather or Foul? The Macroeconomic Effects of El Niño." *Journal of International Economics* 106: 37–54.

———. 2017b. "China's Slowdown and Global Financial Market Volatility: Is World Growth Losing Out?" *Emerging Markets Review* 31: 164–75.

Cashin, P., K. Mohaddes, M. Raissi, and M. Raissi. 2014. "The Differential Effects of Oil Demand and Supply Shocks on the Global Economy." *Energy Economics* 44: 113–34.

Chalk, N., M. Keen, and V. Perry. 2018. "The Tax Cuts and Jobs Act: An Appraisal." IMF Working Paper 18/185, International Monetary Fund, Washington, DC.

Clements, B., K. Dybczak, V. Gaspar, S. Gupta, and M. Soto. 2015. "The Fiscal Consequences of Shrinking Populations." IMF Staff Discussion Note 15/21, International Monetary Fund, Washington, DC.

Coady, D., I. Parry, N. Le, and B. Shang. Forthcoming. "Global and Regional Fossil Fuel Subsidies: An Update." IMF Working Paper, International Monetary Fund, Washington, DC.

Corsetti, G., K. Kuester, A. Meier, and G. J. Muller. 2013. "Sovereign Risk Fiscal Policy, and Macroeconomic Stability." *Economic Journal* 123 (566): F1–F197.

Cottarelli, C., and L. Jaramillo. 2013. "Walking Hand in Hand: Fiscal Policy and Growth in Advanced Economies." *Review of Economics and Institutions* 4 (2): 1–25.

Dabla-Norris, E., K. Kochhar, N. Suphaphiphat, F. Ricka, E. Tsounta. 2015. "Causes and Consequences of Income Inequality: A Global Perspective." IMF Staff Discussion Note 15/13, International Monetary Fund, Washington, DC.

Dabla-Norris, E., and F. Lima. 2018. "Macroeconomic Effects of Tax Rate and Base Changes: Evidence from Fiscal Consolidations." IMF Working Paper 18/220, International Monetary Fund, Washington, DC.

Damgaard, J., and T. Elkjaer. 2017. "The Global FDI Network: Searching for Ultimate Investors." IMF Working Paper 17/258, International Monetary Fund, Washington, DC.

Delong, J. B., and L. Summers. 2012. "Fiscal Policy in a Depressed Economy." *Brookings Papers on Economic Activity* 43 (1): 233–97.

Diamond, P. A. 1998. "Optimal Income Taxation: An Example with a U-Shaped Pattern of Optimal Marginal Tax Rates." *American Economic Review* 88 (1): 83–95.

European Commission. 2019. "Fiscal Outcomes in the EU in a Rules-Based Framework—New Evidence." In *Report on Public Finances in EMU 2018*, Part V. https://ec.europa.eu/info /publications/economy-finance/report-public-finances-emu-2018_en.

Eyraud, L., X. Debrun, A. Hodge, V. Lledó, and C. Pattillo. 2018. "Second Generation Fiscal Rules: Balancing Simplicity, Flexibility, and Enforceability." IMF Staff Discussion Note 18/04, International Monetary Fund, Washington, DC.

Garcia-Herrero, A., S. Gavila, and D. Santabarbara. 2006. "China's Banking Reform: An Assessment of Its Evolution and Possible Impact." *CESifo Economic Studies* 52 (2) 304–63.

Gaspar, V., D. Amaglobeli, M. Garcia-Escribano, D. Prady, and M. Soto. 2019. "Fiscal Policy and Development: Human, Social, and Physical Investment for the SDGs." IMF Staff Discussion Note 19/03, International Monetary Fund, Washington, DC.

Gaspar, V., M. Obstfeld, and R. Sahay. 2016. "Macroeconomic Management When Policy Space is Constrained: A Comprehensive, Consistent, and Coordinated Approach to Economic Policy." IMF Staff Discussion Note 16/09, International Monetary Fund, Washington, DC.

Grigoli, F., and J. Kapsoli. 2018. "Waste Not, Want Not: The Efficiency of Health Expenditure in Emerging and Developing Economies." *Review of Development Economics* 22 (1): 384–403. https://doi.org/10.1111/rode.12346/.

Hebous, S., A. Klemm, and S. Strausholm. 2019. "Revenue Implications of Destination-Based Cash-Flow Taxation." IMF Working Paper 19/07, International Monetary Fund, Washington, DC.

Hellebrandt, T., and P. Mauro. 2016. *World on the Move: Consumption Patterns in a More Equal Global Economy*. Washington, DC: Peterson Institute for International Economics.

Hsieh, C.T., and Z.M. Song. 2015. "Grasp the Large, Let Go of the Small: The Transformation of the State Sector in China." NBER Working Paper 21006, National Bureau of Economic Research, Cambridge, MA.

International Monetary Fund (IMF). 2013. "Energy Subsidy Reform: Lessons and Implications." IMF Board Paper, Washington, DC.

———. 2015a. "Fiscal Policy and Long-Term Growth." IMF Policy Paper, Washington, DC. https://www.imf.org/en/Publications/Policy-Papers/Issues/2016/12/31/Fiscal-Policy-and-Long-Term-Growth-PP4964.

———. 2015b. "Current Challenges in Revenue Mobilization—Improving Tax Compliance." IMF Policy Paper, Washington, DC. https://www.imf.org/en/Publications/Policy-Papers/Issues/2016/12/31/Current-Challenges-in-Revenue-Mobilization-Improving-Tax-Compliance-PP4944.

———. 2016a. "Managing Government Compensation and Employment—Institutions, Policies, and Reform Challenges." IMF Board Paper, Washington, DC.

———. 2016b. "Tax Policy, Leverage and Macroeconomic Stability." IMF Board Paper, Washington, DC.

———. 2016c. "The People's Republic of China: 2016 Article IV Consultation Staff Report." IMF Country Report 16/270, International Monetary Fund, Washington, DC.

———. 2017. "People's Republic of China: 2017 Article IV Consultation Staff Report." IMF Country Report 17/247, International Monetary Fund, Washington, DC.

———. 2018. "Staff Note for the Group of Twenty (G20): Technology and the Future of Work." Washington, DC.

———. 2019a. "Staff Note for the Group of Twenty (G20): Macroeconomics of Aging and Policy Implications." Washington, DC.

———. 2019b. "Corporate Taxation in the Global Economy." IMF Board Paper, Washington, DC.

———. 2019c. "Fiscal Policies for Paris Climate Strategies: From Principle to Practice." IMF Board Paper, Washington, DC.

Irwin, T., S. Mazraani, and S. Saxena. 2018. "How to Control the Fiscal Costs of Public-Private Partnerships." IMF Fiscal Affairs Department How to Note 18/04, International Monetary Fund, Washington, DC.

Krogstrup, S., and M. Obstfeld. 2018. A Planet at Risk Requires Multilateral Action, IMF Blog, https://blogs.imf.org/2018/12/03/a-planet-at-risk-requires-multilateral-action/.

Lam, R. W., and M. Moreno Badia. Forthcoming. "China's General Government Balance Sheet" IMF Working Paper, International Monetary Fund, Washington DC.

Lardy, N. 2014. *Markets over Mao: The Rise of Private Business in China*. Washington, DC: Peterson Institute for International Economics.

———. 2019. *The State Strikes Back: The End of Economic Reform in China?* Washington, DC: Peterson Institute for International Economics.

Li, G., and R. Mano. 2019. "The Debt of Local Government Financing Vehicles: New Findings Using Firm-Level Analysis." IMF Working Paper, International Monetary Fund, Washington DC.

Lipton, D. 2018. "Why a New Multilateralism Now?" Speech at the Bloomberg Global Regulatory Forum, London, December 11. https://www.imf.org/en/News/Articles/2018/12/10/sp121118-why-a-new-multilateralism-now/.

Ma, G. 2006. "Sharing China's Bank Restructuring Bill." *China and World Economy* 14 (3): 19–37.

Mineshima, A., M. Poplawski-Ribeiro, and A. Weber. 2014. "Size of Fiscal Multipliers." In *Post-Crisis Fiscal Policy*, edited by C. Cottarelli, P. Gerson, and A. Senhadji. Cambridge, MA: MIT Press and the IMF.

Mohaddes, K., and M. Raissi. 2018. "The U.S. Oil Supply Revolution and the Global Economy." *Empirical Economics* 1–32.

Organisation for Economic Co-operation and Development (OECD). 2019a. "Addressing the Tax Challenges of the Digitalisation of the Economy—Policy Note." Paris, OECD.

———. 2019b. "Public Consultation Document on Addressing the Tax Challenges of the Digitalisation of the Economy." Paris, OECD.

Saez, E. 2001. "Using Elasticities to Derive Optimal Income Tax Rates." *Review of Economic Studies* 68 (1): 205–29.

Tørsløv, T., L. Wier, and G. Zucman. 2018. "The Missing Profits of Nations." NBER Working Paper 24701, National Bureau of Economic Research, Cambridge, MA.

United Nations. 2017. *World Population Prospects: The 2017 Revision, Key Findings and Advance Tables*. New York , United Nations.

———. 2018. *World Urbanization Prospects: The 2018 Revision, Key Facts.* New York, United Nations.

World Bank. 2019. *World Development Report 2019: The Changing Nature of Work.* Washington, DC: World Bank.

Wu, J. C., and F. D. Xia. 2016. "Measuring the Macroeconomic Impact of Monetary Policy at the Zero Lower Bound." *Journal of Money, Credit and Banking* 48: 253–91.

Yang, Z. Y., B. Zhang, and L. M. Tang. 2017. *Chinese Government Balance Sheet*. Beijing: Social Sciences Academics Press.

Zoli, E. 2013. "Italian Sovereign Spreads: Their Determinants and Pass-Through to Bank Funding Costs and Lending Conditions." IMF Working Paper 13/84, International Monetary Fund, Washington, DC.

Zucman, G. 2015. *The Hidden Wealth of Nations: The Scourge of Tax Havens*, trans. Teresa Lavender Fagan. Chicago: University of Chicago Press.