World Economic and Financial Surveys

Fiscal Monitor

Debt
Use It Wisely

OCT 16

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CONTENTS

Figures

Tables

ASSUMPTIONS AND CONVENTIONS

The following symbols have been used throughout this publication:

. . . to indicate that data are not available

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

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

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

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

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

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

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

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

Further Information and Data

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The data and analysis appearing in the *Fiscal Monitor* are compiled by the IMF staff at the time of publication. Every effort is made to ensure their timeliness, accuracy, and completeness, but it cannot be guaranteed. When errors are discovered, there is a concerted effort to correct them as appropriate and feasible. Corrections and revisions made after publication are incorporated into the electronic editions available from the IMF eLibrary (www.elibrary.imf.org) and on the IMF website (www.imf.org). All substantive changes are listed in detail in the online tables of contents.

PREFACE

The projections included in this issue of the *Fiscal Monitor* are based on the same database used for the October 2016 *World Economic Outlook* and *Global Financial Stability Report* (and are referred to as "IMF staff projections"). Fiscal projections refer to the general government unless otherwise indicated. Short-term projections are based on officially announced budgets, adjusted for differences between the national authorities and the IMF staff regarding macroeconomic assumptions. The medium-term fiscal projections incorporate policy measures that are judged by the IMF staff as likely to be implemented. For countries supported by an IMF arrangement, the medium-term projections are those under the arrangement. In cases in which the IMF staff has insufficient information to assess the authorities' budget intentions and prospects for policy implementation, an unchanged cyclically adjusted primary balance is assumed, unless indicated otherwise. Details on the composition of the groups, as well as country-specific assumptions, can be found in the Methodological and Statistical Appendix.

The *Fiscal Monitor* is prepared by the IMF Fiscal Affairs Department under the general guidance of Vitor Gaspar, Director of the Department. The project was directed by Abdelhak Senhadji, Deputy Director, and Benedict Clements, Division Chief. The main authors of this issue are Marialuz Moreno Badia (team leader), Nicoletta Batini, Victor Duarte Lledo, Lorenzo Forni, Samba Mbaye, Giovanni Melina, and Rossen Rozenov. In addition, contributions were received from Marco Bernardini, Paolo Dudine, Nicolas End, Luc Eyraud, Xiangming Fang, Fabien Gonguet, Mariusz Jarmuzek, Andreas (Andy) Jobst, Constant Lonkeng Ngouana, Paolo Medas, Amanda Sayegh, and Sungwook Yoon. Agus Firmansyah, Emmanuel Hife, Marco Martinez, Christian Saborowski, and Sangeeta Srivastava advised on data issues. Excellent research assistance was provided by Kyungla Chae, Young Kim, Juna Luzi, and Tafadzwa Mahlanganise. Erin Yiu provided excellent coordination and editorial support. Michael Harrup from the Communications Department led the editorial team and managed the report's production, with assistance from Susan Graham, Lucy Scott Morales, Nancy Morrison, and EEI Communications.

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

EXECUTIVE SUMMARY

At 225 percent of world GDP, the global debt of the nonfinancial sector—comprising the general government, households, and nonfinancial firms—is currently at an all-time high. Two-thirds, amounting to about $100 trillion, consists of liabilities of the private sector which, as documented in an extensive literature, can carry great risks when they reach excessive levels. However, there is considerable heterogeneity, as not all countries are in the same phase of the debt cycle, nor do they face the same risks. Nevertheless, there are concerns that the sheer size of debt could set the stage for an unprecedented private deleveraging process that could thwart the fragile economic recovery. Resolving this "private debt overhang" problem is, however, not easy in the current global environment of low nominal output growth.

In light of these developments, this issue of the *Fiscal Monitor* examines the extent and makeup of global debt and asks what role fiscal policy can play in facilitating the adjustment. It goes beyond previous studies by drawing on an expanded data set covering emerging markets and low-income countries as well as advanced economies. Another novelty is the use of an analytical framework that explicitly models the interlinkages between private and public debt in analyzing the role of fiscal policy in the deleveraging process. Finally, country case studies provide useful insights on what fiscal policy should and should not do to facilitate deleveraging while minimizing the drag on the economy.

The chapter finds that private debt is high not only in advanced but also in a few systemically important emerging market economies. Although some advanced economies have made inroads in reducing household indebtedness—the original source of the problem—these debt ratios are still going up in some cases. In addition, easier financial conditions have led to a sharp increase in nonfinancial corporate sector debt in a few emerging markets. Historical precedents and alternative indicators of debt overhang indicate that the private deleveraging process may still take some time to play out, even more so in light of low nominal growth. The incomplete repair of banks' balance sheets creates additional headwinds to the deleveraging process by hampering the efficient flow of credit, hence contributing to lackluster growth. Weak macroeconomic conditions are also taking a toll on general government balance sheets, particularly in advanced economies, where they explain close to 50 percent of the increase in public debt since the start of the global financial crisis. Financial deepening and improved market access over the last few years have led to higher private and public debt ratios in low-income countries, although debt levels remain generally low. Advances in microfinance lending and mobile banking have also helped improve financial inclusion in many of these countries.

New empirical evidence confirms that financial crises tend to be associated with excessive private debt levels in both advanced and emerging market economies, but high public debt is not without its risks. In particular, entering a financial crisis with a weak fiscal position exacerbates the depth and duration of the ensuing recession. The reason is that the absence of fiscal buffers prior to the crisis significantly curtails the ability to conduct countercyclical fiscal policy, especially in emerging market economies. These results argue for strengthening the government balance sheet in upturns, while adequately accounting for financial cycles when assessing a country's fiscal position, and ensuring the close monitoring of private debt through adequate regulatory and supervisory frameworks.

This is particularly relevant in emerging markets where private sector leverage has increased significantly over the past few years.

It is clear that meaningful deleveraging will be very difficult without robust growth and a return to normal inflation, but what can fiscal policy do to facilitate the deleveraging process? The path toward strong growth in those countries mired in a debt overhang may require decisive and prompt action to repair the balance sheets of banks—a clear priority in some European countries—and the private sector, notably nonfinancial corporations in China. The specific policy package will depend of course on country circumstances and the available fiscal buffers. Generally, where the financial

system is under severe stress, resolving the underlying problem quickly is critical. When the problems in the nonfinancial sector have not yet migrated to the banking sector, well-designed and well-targeted fiscal interventions in the form of government-sponsored programs to restructure private debt—which can include measures such as subsidies for creditors to lengthen maturities, guarantees, direct lending, and asset management companies—can create incentives for the cleanup to take place. These measures should be supported by strong insolvency and bankruptcy procedures. As past experience shows, the design of fiscal interventions to facilitate the deleveraging process is critical for minimizing their cost, mitigating moral hazard, and ultimately ensuring their success. In particular, these measures should be targeted to specific sectors or individuals and involve burden sharing. If bank recapitalization is necessary, it should be carried out swiftly, with the private sector taking the lead. Strong governance principles should be applied in the decision-making process to safeguard public funds.

While trade-offs are difficult at the current juncture of limited fiscal room, inaction is likely to be costlier, even from a public debt sustainability perspective. However, fiscal policy cannot do it alone; it has to be supported by complementary policies within credible frameworks. More specifically, monetary policy should remain accommodative in those countries where inflation is still well below target, while financial policies should provide incentives for banks to recognize losses and facilitate balance sheet repair. Structural policies can also improve intertemporal budget constraints by increasing potential growth. If well designed and credible, these policies can in fact increase the policy space to support growth and bring inflation to target while facilitating the deleveraging process.

CHAPTER 1

DEBT: USE IT WISELY

Introduction

The global gross debt of the nonfinancial sector has more than doubled in nominal terms since the turn of the century, reaching $152 trillion in 2015.[1] About two-thirds of this debt consists of liabilities of the private sector. Although there is no consensus about how much is too much, current debt levels, at 225 percent of world GDP (Figure 1.1), are at an all-time high. The negative implications of excessive private debt (or what is often termed a "debt overhang") for growth and financial stability are well documented in the literature, underscoring the need for private sector deleveraging in some countries. The current low-nominal-growth environment, however, is making the adjustment very difficult, setting the stage for a vicious feedback loop in which lower growth hampers deleveraging and the debt overhang exacerbates the slowdown (Buttiglione and others 2014; McKinsey Global Institute 2015; Gaspar, Obstfeld, and Sahay 2016). The dynamics at play resemble that of a debt deflation episode in which falling prices increase the real burden of debt, leading to further deflation. Weak bank balance sheets in some countries have further contributed to dampening economic activity, as private credit has been curtailed beyond what would be desirable.

A key priority in those countries currently facing a private debt overhang is to identify policies that can help with the repair process while minimizing the drag on the economy. This task is particularly challenging because the room for policy maneuver has narrowed since the start of the global financial crisis and the effectiveness of some policies (notably monetary) may be more limited. These constraints put a premium on how to use the fiscal space that may still be available, including leveraging complementarities across different policy tools to get more mileage out of any fiscal intervention. Against this backdrop, this issue of the *Fiscal Monitor* addresses the following questions:

- How high is global private and public debt, and how far are we in the deleveraging process?
- Can fiscal policy help with private sector deleveraging and, if so, how?

This issue of the *Fiscal Monitor* goes beyond the existing literature, significantly expanding the country coverage of previous studies by including emerging market economies and low-income countries as well as advanced economies. It also looks at the sectoral composition of leverage by analyzing both public and private nonfinancial debt (for households and nonfinancial corporations). The analysis attempts to cover the asset side as well to arrive at broader measures of the health of private and public balance sheets. A key contribution is the use of a novel analytical framework developed by Batini, Melina, and Villa (2016), which explicitly models the interactions between private and public debt in analyzing the role of fiscal policy during the deleveraging process.

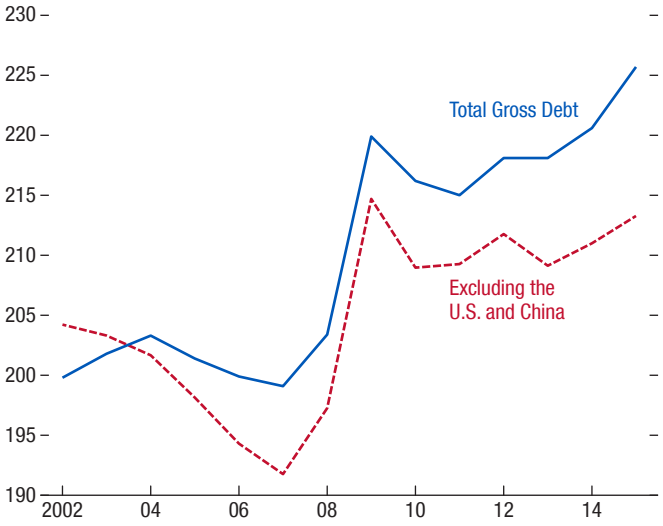
The chapter starts by giving an overview of debt trends around the world and taking stock of the deleveraging process. Next, it explains why debt levels matter for growth as well as macroeconomic and financial stability. It then examines empirically and through model simulations how fiscal policy can help a country get out of a debt overhang while drawing on country case studies to illustrate the types of measures—and key design features to enhance their effectiveness—that would support a smooth deleveraging process.

The main findings can be summarized as follows:

- Private debt is high not only among advanced economies, but also in a few systemically important emerging market economies. High private debt not only increases the likelihood of a financial crisis but can also hamper growth even in its absence, as highly indebted borrowers eventually decrease their consumption and investment.
- The chapter's analysis also suggests that the current process of private sector deleveraging in highly indebted countries will likely take some time to play out. General government balance sheets have also weakened, particularly in advanced economies,

[1]The nonfinancial sector comprises the general government, nonfinancial firms, and households. Gross debt represents the unconsolidated liabilities of the three. The statistics for the world reported throughout this chapter cover 113 countries accounting for 94 percent of global GDP.

Figure 1.1. Global Gross Debt
(Percent of GDP; weighted average)



Sources: Abbas and others 2010; Bank for International Settlements; Dealogic; IMF, *International Financial Statistics*; IMF, Standardized Reporting Forms; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: U.S. = United States.

although low interest rates have temporarily eased budget constraints.

- Empirical analysis shows that fiscal policy can significantly reduce the depth and duration of a financial recession associated with a private sector debt overhang. However, a government's ability to play such a stabilizing role depends on the health of its fiscal position prior to the crisis, especially in emerging market economies. This underscores the importance of building fiscal buffers and properly accounting for financial cycles in assessing the strength of the fiscal position in periods of expansion while ensuring the close monitoring of private debt to limit fiscal risks (IMF 2016a).
- At the current juncture, the array of growth-friendly fiscal policies should include measures that facilitate the repair of balance sheets in those countries facing a private debt overhang or where the financial system is impaired. This is particularly important in some European countries, where the weak banking system is retarding the recovery, and in China, where high corporate debt levels raise the risk of a disorderly deleveraging. Such targeted fiscal interventions may include government-sponsored programs to help restructure private debt—such as subsidies for creditors to lengthen maturities, guarantees, direct lending, and asset management companies—that can facilitate the deleveraging process. To the extent that weaknesses in a country's financial system threaten financial stability, impair the credit channel, and hamper growth, addressing the underlying problems swiftly is essential.
- The design of such fiscal interventions is critical for minimizing their cost, mitigating moral hazard, and ultimately ensuring their success. The limited policy room calls for exploiting the synergies among fiscal, monetary, and financial, as well as structural, policies to facilitate the deleveraging process, reinvigorate growth, and bring inflation to target.

How High Is Debt?

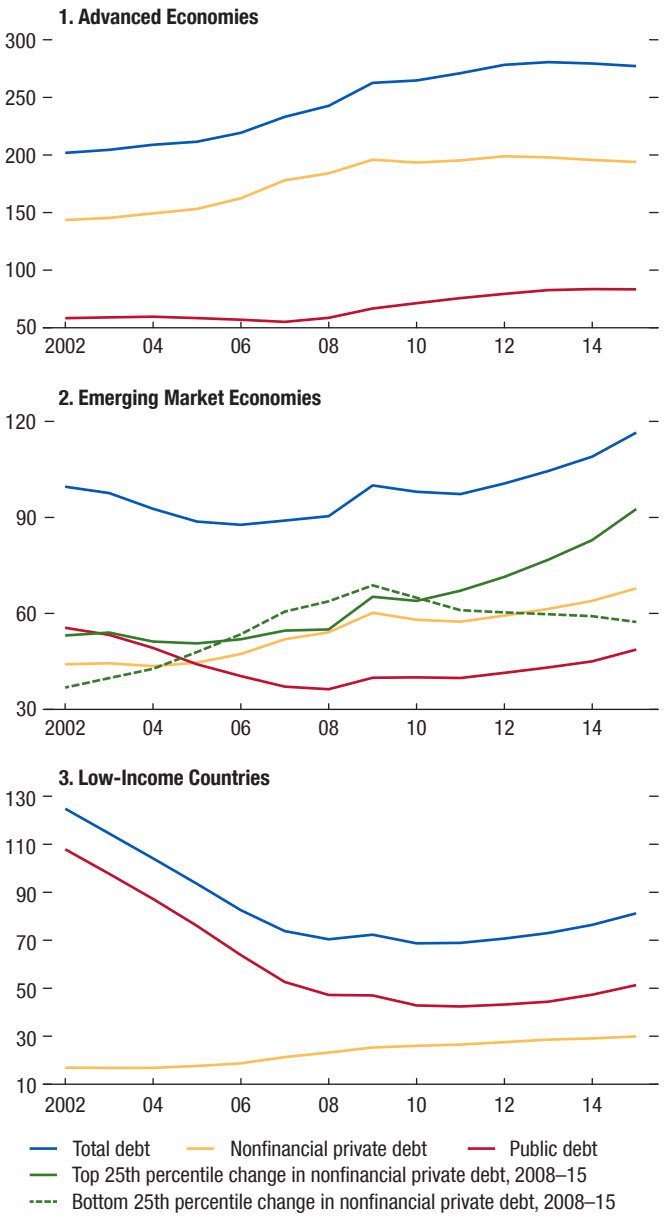
This section provides a broad perspective on global debt, expanding the country coverage of previous studies and looking at recent developments in advanced economies, emerging market economies, and low-income countries. It also explores the drivers behind recent trends and how far we are in the deleveraging process.

The Global Picture

The genesis of the global debt overhang problem resides squarely within advanced economies' private sector.[2] Enabled by the globalization of banking and a period of easy access to credit, nonfinancial private debt increased by 35 percent of GDP in advanced economies in the six years leading up to the global financial crisis (Figure 1.2). The credit boom was not limited to the U.S. mortgage sector but was broad based within this country group, with more than half of the debt coming from households (Figure 1.3). In emerging market economies, the increase in nonfinancial private debt during this period was also driven by the household sector but was generally less pronounced. Low-income countries, on the other hand, were largely shielded, as many were (and still are) in the process of financial deepening (IMF 2015a). Interestingly, public debt declined across all country groups up to 2007, particularly among low-income countries—mainly as a result of debt relief under the Heav-

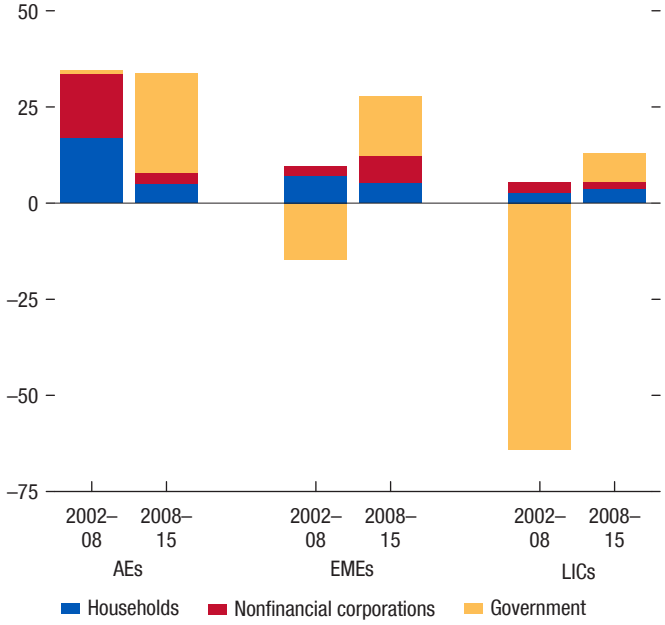
[2]The analysis in this section is based on a new data set that extends Bank of International Settlements data on private debt to a large panel of 113 advanced economies, emerging market economies, and low-income countries spanning about 40 years, on average (see Annex 1.1).

Figure 1.2. Gross Debt by Country Groups
(Percent of GDP, simple average)



Sources: Abbas and others 2010; Bank for International Settlements; Dealogic; IMF, *International Financial Statistics*; IMF, Standardized Reporting Forms; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: Countries in the top 25th percentile are Brazil, China, Colombia, Georgia, Malaysia, Oman, Paraguay, Thailand, Turkey, and Venezuela. Countries in the bottom 25th percentile are Bulgaria, El Salvador, Hungary, Jordan, Kazakhstan, Pakistan, Romania, South Africa, Sri Lanka, and Ukraine.

Figure 1.3. Sectoral Changes in Debt
(Percent of GDP)



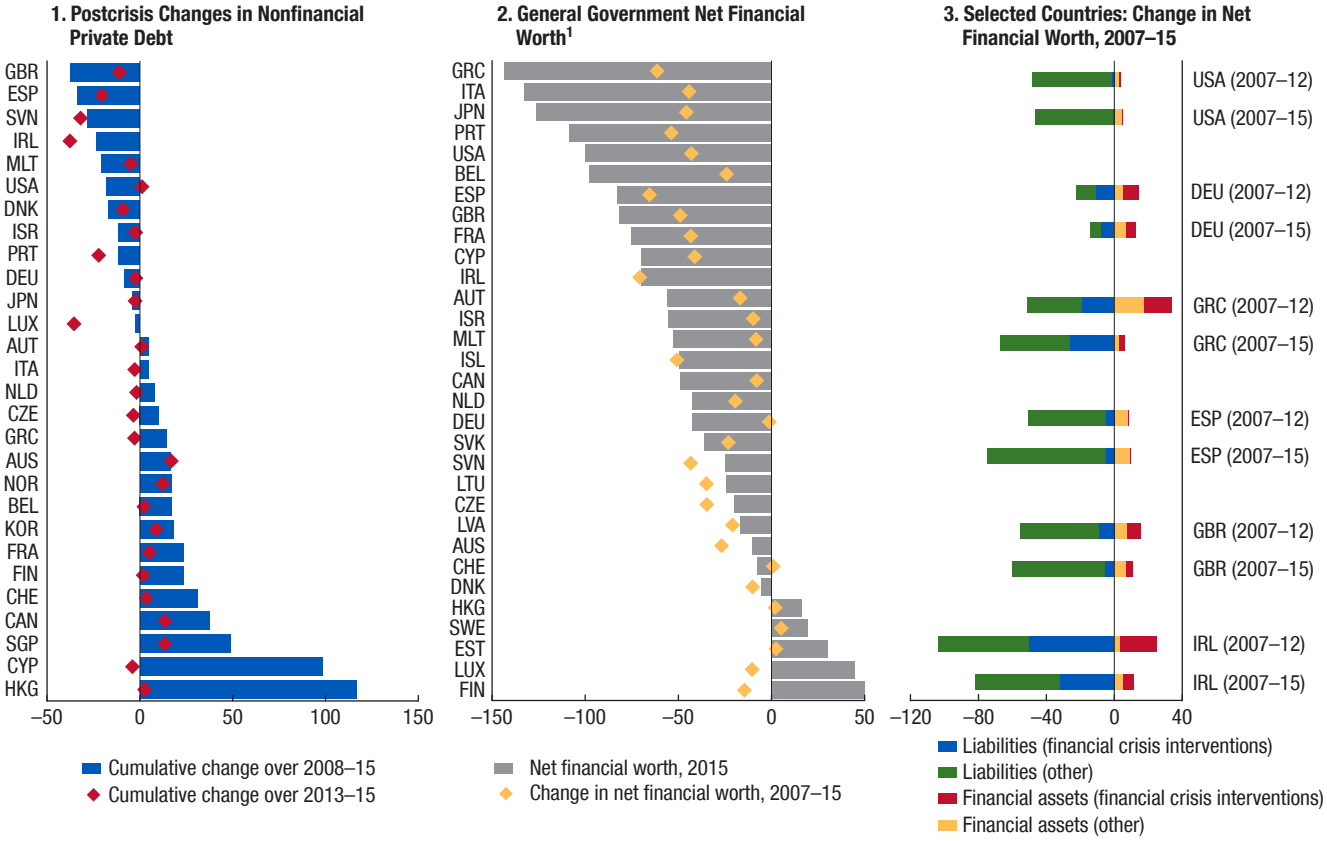
Sources: Abbas and others 2010; Bank for International Settlements; Dealogic; IMF, *International Financial Statistics*; IMF, Standardized Reporting Forms; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: Because of data constraints, this figure is based on a smaller sample of 22 advanced economies (AEs), 27 emerging market economies (EMEs), and 35 low-income countries (LICs).

ily Indebted Poor Countries and Multilateral Debt Relief Initiatives. Nevertheless, there is evidence that the financial cycle may have overstated the strength of government balance sheets in some advanced economies that experienced a real estate boom (Budina and others 2015).

After the start of the global financial crisis, public debt in advanced economies rose rapidly, while progress in private sector deleveraging was mixed (Figure 1.4). On average, private debt ratios in advanced economies reached a turning point in 2012, with the largest reductions since then registered in those countries that entered the crisis with high debt levels. In some cases, however, private debt has continued to accumulate at a fast pace—notably, Australia, Canada, and Singapore. As private debt started to retrench, public debt picked up, increasing by 25 percent of GDP over 2008–15. The realization of contingent liabilities with respect to the private sector played an important role (Bova and others 2016), accounting for about a quarter of the change. General government financial balance sheets also deteri-

Figure 1.4. Advanced Economies: Debt Developments

(Percent of GDP)



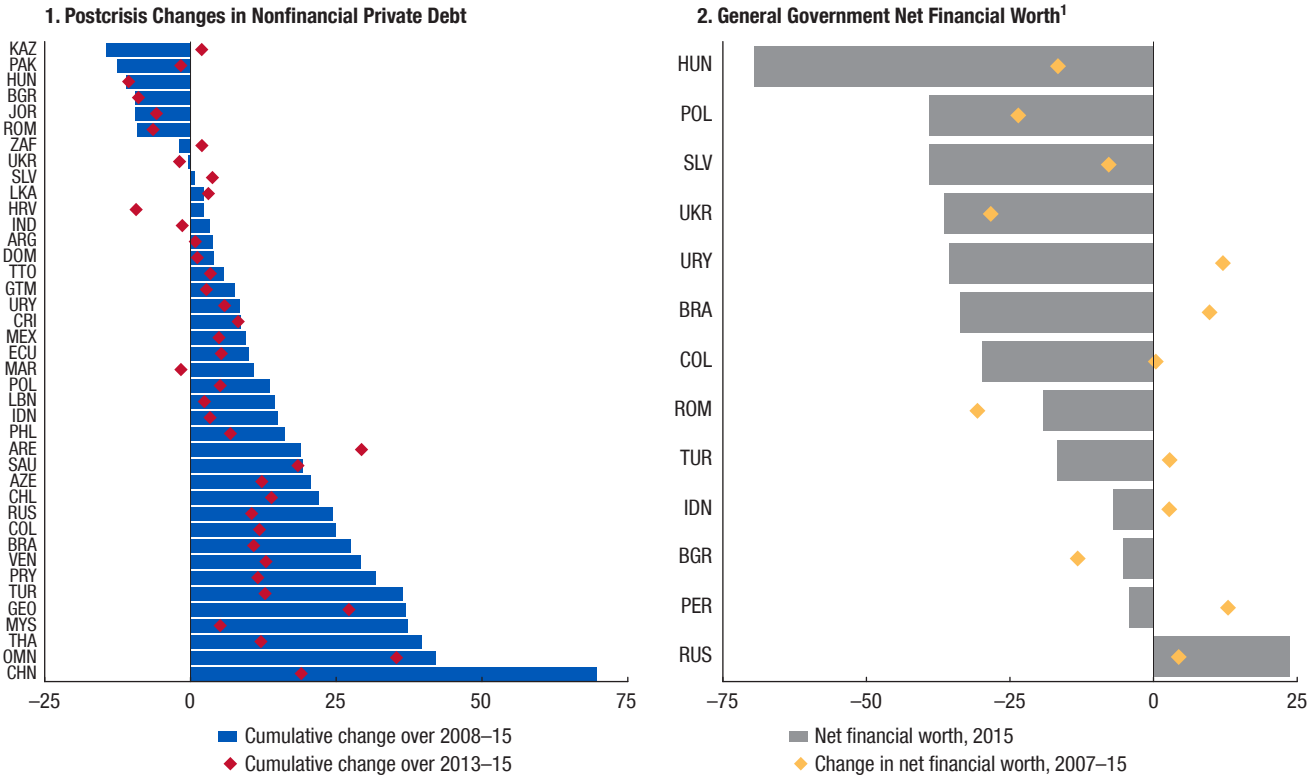
Sources: Bank for International Settlements; Dealogic; Eurostat; IMF, *Government Finance Statistics*; IMF, *International Financial Statistics*; IMF, Standardized Reporting Forms; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Data are from 2007 to latest available. For Switzerland, latest available data are for 2013. For Hong Kong Special Administrative Region, Iceland, Israel, and Japan, latest available data are for 2014. For all others, data are for 2015.

orated, in some cases significantly, in part reflecting the assumption of private sector liabilities as a result of bank bailouts (Figure 1.4, panel 3). Only about one-third of advanced economies have made inroads in improving general government net financial worth since 2012 and, on average, these inroads have been small.

Meanwhile, easier financial conditions in the aftermath of the global financial crisis have led to a private debt boom in some emerging markets, particularly in the nonfinancial corporate sector.[3] The surge was concentrated in a small number of emerging market economies in the top 25th percentile of the debt distribution (see Figure 1.2, panel 2), although this group includes large systemically important countries such as Brazil and China, accounting for 60 percent of emerging market economies' output (Figure 1.5, panel 1). The rise in private debt among these countries, at 38 percent of GDP on average, is of some concern, as it is similar in magnitude to that of advanced economies in the run-up to the crisis. At the other end of the spectrum, private debt in the rest of the emerging market economies has fallen or increased only moderately since the start of the crisis. Overall, the increase in public debt in this country group has been relatively subdued across the board, as spillovers from the private sector have been limited. Nevertheless, data constraints preclude a full assessment of the strength of general government balance sheets, an important information gap particularly in regard to systemically important countries such as China (Box 1.1). For those countries for which data are available, general government net

[3]For a detailed analysis, see the October 2015 *Global Financial Stability Report*.

Figure 1.5. Emerging Market Economies: Debt Developments
(Percent of GDP)



Sources: Bank for International Settlements; Dealogic; Eurostat; IMF, *Government Finance Statistics*; IMF, *International Financial Statistics*; IMF, Standardized Reporting Forms; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Data are from 2007 to latest available, except in the cases of Colombia, Indonesia, Turkey, and Ukraine, for which data are from 2008. For El Salvador, latest available data are for 2013. For Brazil, Colombia, Indonesia, Peru, Russia, Turkey, Ukraine, and Uruguay, latest available data are for 2014. For all others, data are for 2015.

financial worth has declined only marginally (Figure 1.5, panel 2). However, there is a risk that the resilience of general government balance sheets in those countries undergoing a financial boom may not be as great as the headline numbers may suggest, as was also the case in advanced economies prior to the crisis.

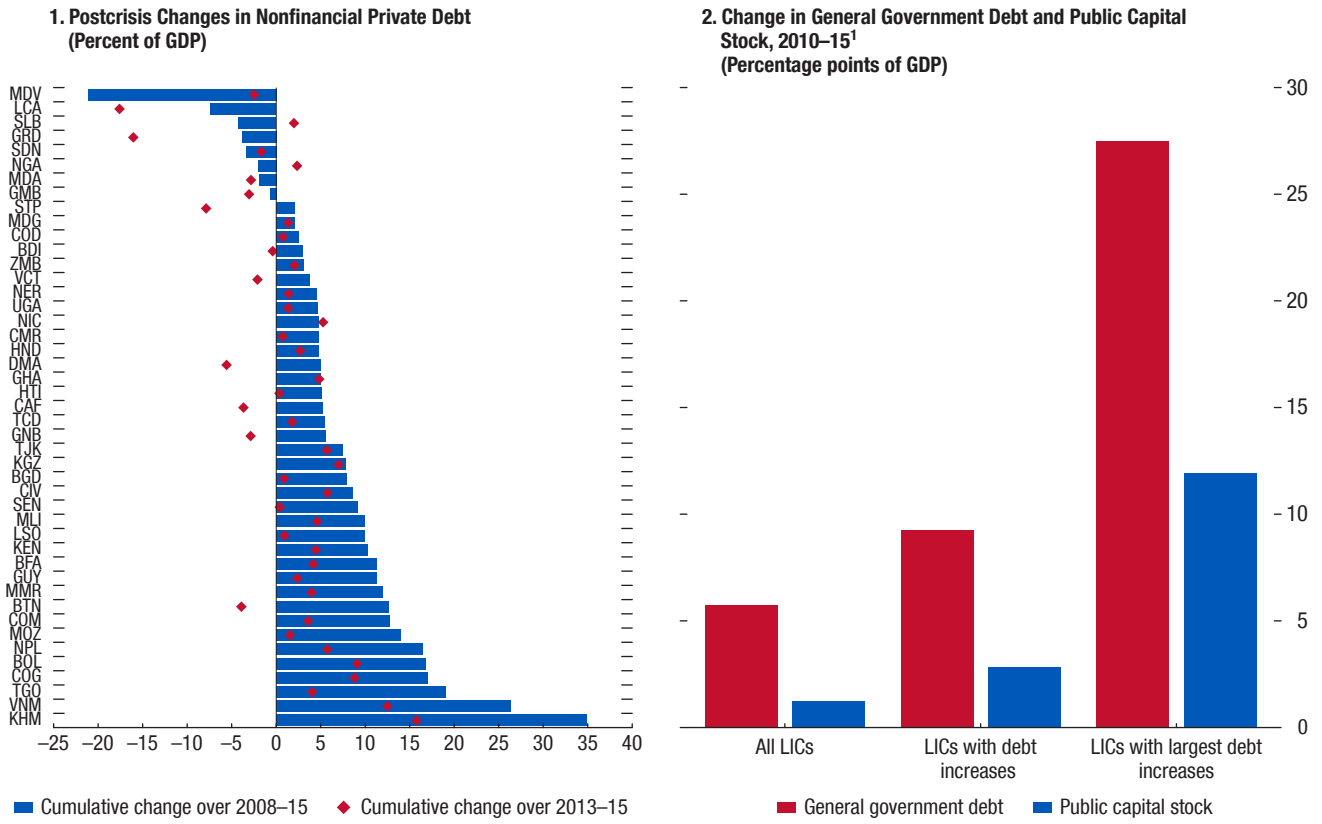
In low-income countries, improved market access over the last few years has resulted in higher private and public debt ratios, although debt levels are generally low. Financial sector development has allowed a gradual increase in private sector borrowing, while advances in microfinance lending and mobile banking have also helped improve financial inclusion in many of these countries (IMF 2016b). In general, the pace of credit growth has been measured except in a few countries, notably Cambodia and Vietnam (Figure 1.6, panel 1). General government debt has increased, in some cases by nontrivial amounts, taking advantage of the space created by debt relief. However, the increase in the liability side of general government balance sheets is matched only partially by the buildup of public infrastructure assets (Figure 1.6, panel 2).

What Is Driving These Developments?

Weak macroeconomic conditions have been the major factor impinging on deleveraging efforts in advanced economies. To analyze the drivers behind recent trends, a standard decomposition is undertaken, breaking down the change in debt ratios into "macro-related" (the *interest-growth differential*) and "non-macro-related" factors (Escolano 2010).[4] Although

[4]Changes in debt-to-GDP ratios can be due to pure inertia imposed by the need to pay interest on the existing debt stock (which increases the ratio's numerator) and nominal GDP growth (which increases its denominator). The balance of these two opposing forces

Figure 1.6. Low-Income Countries: Debt Developments



Sources: Bank for International Settlements; Dealogic; IMF, *International Financial Statistics*; IMF, Investment and Capital Stock Dataset; IMF, Standardized Reporting Forms; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.
[1]Data are for 34 low-income countries. Public debt ratios rose for 25 of these between 2010 and 2015. Those with the largest increases (top quartile) were Cameroon, Central African Republic, The Gambia, Ghana, Lesotho, Mozambique, Republic of Congo, Yemen, and Zambia.

the interest rate environment has been relatively benign—which may have arguably contributed to improvements in repayment capacity—low nominal growth in advanced economies has resulted in positive interest-growth differentials, implying a cumulative increase in total debt over 2008–15 (Figure 1.7). This is heavily weighing on general government balance sheets: low nominal growth accounts for close to 50 percent of the increase in the public debt ratio since the start of the global financial crisis. But it is also hindering deleveraging by households and nonfinancial corporations. As an illustration, even if the private sector in advanced economies had not issued any new debt since 2008 but had simply rolled over the outstanding stock of debt at that time, private sector debt ratios in those countries would have increased by 17 percent of GDP. On the other hand, the effect of nonmacro factors (reflecting, among other things, net debt repayments) has been negative on average for advanced economies, suggesting that the private sector has made genuine efforts to reduce its debt.[5]

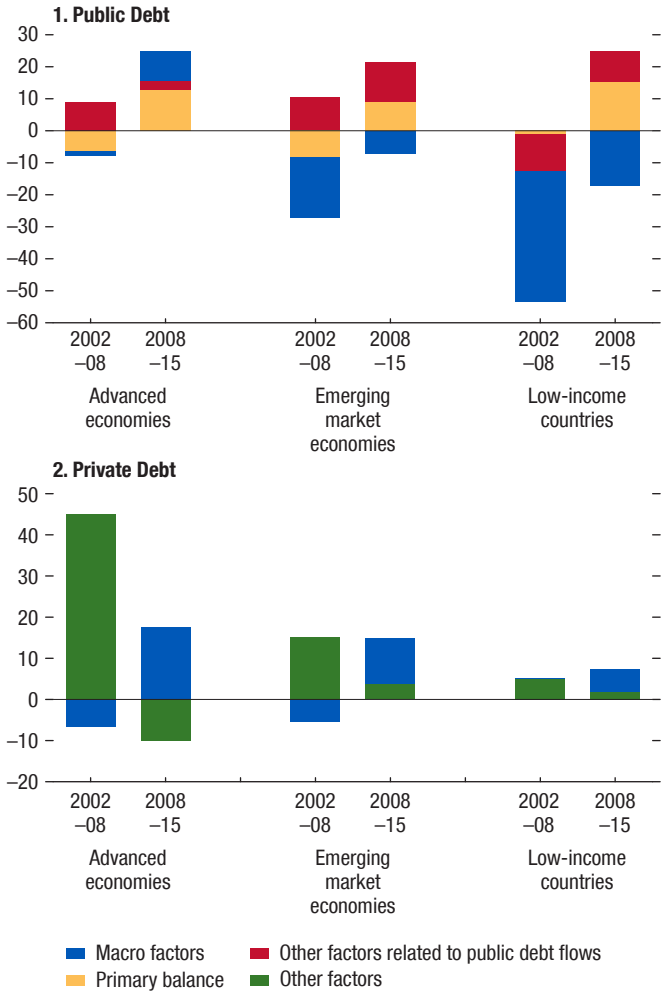
is the so-called interest-growth differential ($r–g$). Stripping the debt dynamics from $r–g$ gives a measure of the exogenous change in debt due to savings or other one-off factors ("nonmacro" factors). Effective interest rates on public debt are calculated here using the interest bill from the fiscal accounts as reported in the *World Economic Outlook*. Similarly, the effective interest rates for the private sector are calculated using interest payments from the national accounts as reported by the Organisation for Economic Co-operation and Development (OECD), complemented with national sources for OECD countries. Private sector lending rates from the IMF's *International Financial Statistics* are used as proxy in all other cases.

[5]It is difficult to disentangle how much the nonmacro factors reflect net debt repayments, debt restructurings, or constraints on the supply of credit. However, the fact that net private savings (defined as gross private savings minus gross private investment) in advanced economies have significantly increased since the start of the crisis suggests that there have indeed been some efforts toward deleveraging.

A comparison between the deleveraging experiences of the United Kingdom and United States on one hand and the euro area on the other is very instructive in regard to the importance of growth. The former two experienced a much sharper increase in private debt ratios than the euro area in the run-up to the global financial crisis but were able to reduce debt much more in its aftermath (Figure 1.8). They also enjoyed higher nominal growth—more than 10 percentage points higher in cumulative terms over the period since 2007. Although various factors may explain these differences—including market and financing conditions—it is noteworthy that public debt ratios in these two countries have increased much faster than those in the euro area. This may suggest that fiscal policy and, in particular, the early tightening in the latter may not have helped in facilitating the adjustment. In the euro area, an aggravating factor appears to have been weakness in the banking sector. In particular, there is evidence that some European banks—burdened by high levels of impaired assets and a low-growth environment—may not be in a position to extend the necessary credit flows to sustain normal economic activity, contributing to a deeper economic slump (IMF 2016c). In addition, structural challenges have worsened the outlook for bank earnings in these countries, complicating the cleanup of balance sheets (for more details, see the October 2016 *Global Financial Stability Report*).

In emerging market economies and low-income countries, the strength of growth until recently and favorable interest rates have resulted in lower debt ratios than would have been the case otherwise. This is particularly striking in the case of general government debt, as public savings (measured by the primary balance) were negative across the board over 2008–15 and hence contributed to increasing public debt, as shown in Figure 1.7. The strength of government balance sheets may, however, weaken if financing conditions continue to tighten.

Figure 1.7. Debt Decomposition
(Percent of GDP; cumulative changes)

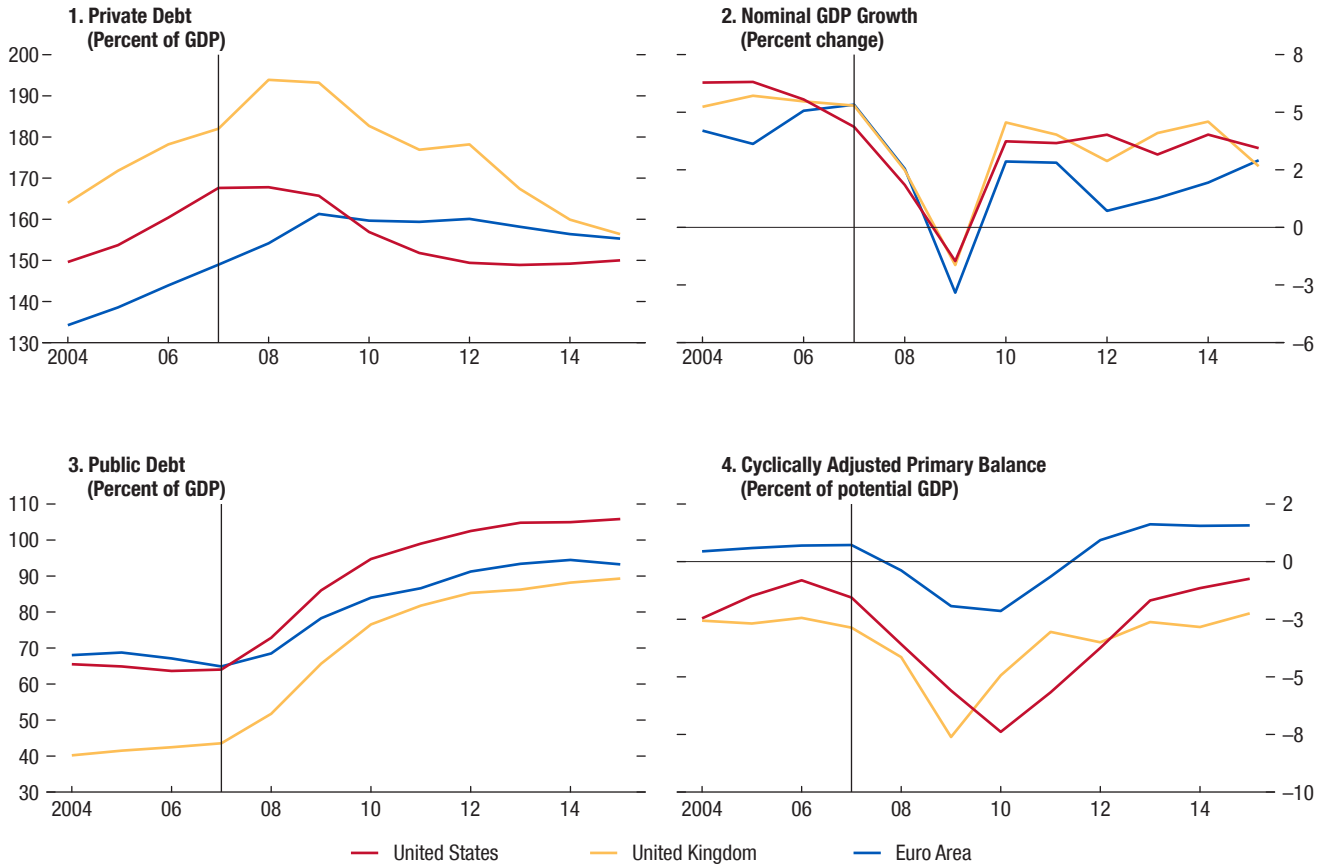


Sources: Abbas and others 2010; Bank for International Settlements; Dealogic; IMF, *International Financial Statistics* (IFS); IMF, Standardized Reporting Forms; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development (OECD); and IMF staff estimates.
Note: For OECD countries, effective private sector interest rates are calculated using OECD data on private sector interest payments from the national accounts, augmented with data from national statistics offices. For non-OECD countries, IFS lending rates are used.

Where Are We in the Deleveraging Process?

Private sector deleveraging in advanced economies thus far has been much slower than previous successful experiences, indicating that the adjustment will have to continue. In an event study including 27 deleveraging episodes in advanced economies from 1980 to 2006, the average private deleveraging episode was found to last five years, although in some countries, it took much longer. On the basis of that metric and taking 2009 as the starting point, it would be expected that at the current juncture, the deleveraging process should be well advanced. This, however, does not appear to be the case: the percentage reduction in private debt ratios so far has been only a third of historical precedents at this point in time, and private debt levels are significantly higher (Figure 1.9). Current trends are even starker when compared to those in episodes with sharp increases in private debt prior to a crisis followed by rapid reductions in private debt (dashed blue line in Figure 1.9). As outlined previously, one explanation for

Figure 1.8. Selected Advanced Economies: Current Deleveraging Episodes
(Weighted average)



Sources: Bank for International Settlements; IMF, *World Economic Outlook*; and IMF staff estimates.

the slower pace of adjustment this time around is the weak nominal output growth, which has been half the average of that in previous deleveraging experiences.

But simply looking at the past does not necessarily reveal how long it will take for the current deleveraging process to run its course. In principle, one could compare private-debt-to-GDP ratios with some theoretical threshold to make such an assessment, but there is no consensus on what that threshold should be. Also, such an approach would ignore the asset side of the balance sheet, which is important for evaluating repayment capacity. An alternative is to use the sustainability criterion based on the methodology proposed by Arrow and others (2004) whereby private debt is assessed as sustainable whenever net worth follows a nondecreasing trend.[6] Widening differences between actual and sustainable debt defined according to this methodology would signal possible deleveraging pressures in the future.

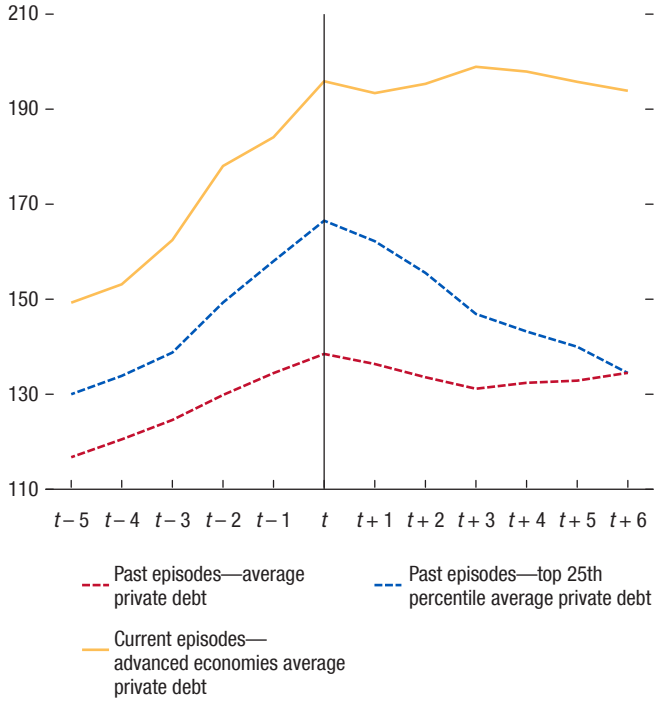
Data for a sample of advanced economies suggest that private debt is high in some cases, even after assets are accounted for, a harbinger of possible deleveraging pressures. In the period leading up to the global financial crisis, the private-debt-to-asset ratio—corrected for transitory valuation effects—displayed an upward trend. For nonfinancial corporations, that ratio has returned to the levels of the early 2000s, but for households, the

[6]The concept can be made operational by requiring debt to evolve in line with assets, corrected for transitory valuation effects. A similar approach was introduced by Cuerpo and others (2015), who assume debt to be sustainable if the debt-to-asset ratio, adjusted for valuation effects, is stationary. For the purposes of the analysis in this chapter, assets are corrected only for transitory valuation effects, as some of the increase in asset prices may reflect fundamentals. For financial assets, transitory valuation effects are computed as deviations from a linear trend that implicitly account for cyclical movements in financial asset prices, while nonfinancial assets are adjusted for real house price changes.

increase has not been completely reversed (Figure 1.10, panels 1 and 2). Moreover, the gap between actual and sustainable debt in the household sector that opened up during the boom has not yet been closed (Figure 1.10, panel 3). However, the average gaps shown in Figure 1.10 mask significant heterogeneity across countries. In particular, the accumulated gap in the household sector is large and has even grown further in a number of cases (notably Australia and Canada). In other countries, there is no gap (Germany and Japan) or it has been reduced significantly relative to the precrisis period (Spain and the United States). The results for nonfinancial corporations suggest similar gaps (Figure 1.10, panel 4). Moreover, in more than half the sample, nonfinancial corporations have increased their leverage relative to the period before the crisis. Adjustments in the nonfinancial corporate sector might also come into play in the near future in some emerging market economies, as outlined in the October 2016 *Global Financial Stability Report*.[7]

In sum, the findings in this section indicate that private debt is still high in advanced and a few systemically important emerging market economies, raising the question of what the implications are for the current recovery, an issue the chapter explores next.

Figure 1.9. Total Private Debt during Deleveraging Episodes
(Percent of GDP)



Sources: Bank for International Settlements; IMF, *World Economic Outlook*; and IMF staff estimates.
Note: Past deleveraging episodes have been identified following Chen and others (2015) and include 27 episodes in 21 advanced economies from 1980 to 2006. Current episodes consist of 28 advanced economies in which the deleveraging period starts in 2009. Top 25th percentile average private debt refers to the sample of episodes in which the size of deleveraging on private debt was the largest within the top 25th percentile.

Why Does the Level of Debt Matter?

This section discusses why the level of debt matters, drawing from the literature on debt overhang and new empirical results based on the role of private and public debt in past financial crises. It also examines the interlinkages between private and public debt and potential policies to help get out of a private debt overhang.

Private Debt Overhang: What Is It and Why Does It Matter?

Private debt overhang can be characterized as a situation in which a borrower's debt service exceeds its future repayment capacity. An extensive literature has established that excessive debt levels are associated with lower growth even in the absence of a crisis.[8] The reason for this is that highly indebted borrowers will sooner or later decrease their consumption and investment as they are unable to service their debt and can no longer borrow. There is no consensus on the threshold at which debt levels begin to matter for growth or trigger deleveraging. If initiated early enough, a smooth deleveraging process can eliminate the risks of a disorderly adjustment. However, if such an adjustment is postponed, debt reaches such levels that the private sector becomes very sensitive to shocks, increasing the risk of an abrupt deleveraging process.[9]

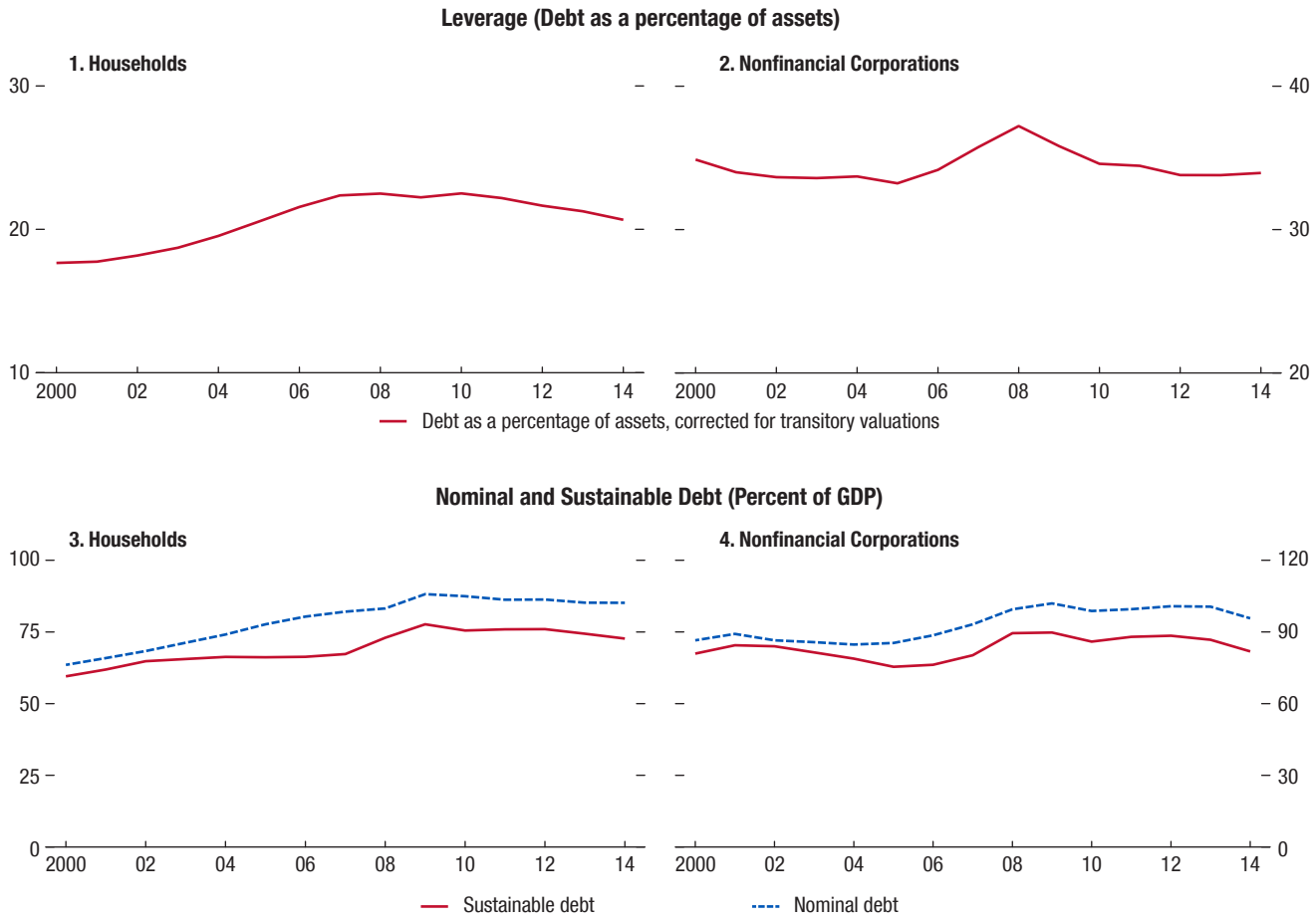
Very often, this adjustment is preceded by a financial crisis (Mian and Sufi 2010; Gourinchas and Obstfeld 2012; Jordà, Schularick, and Taylor 2013;

[7]Data limitations preclude extending the foregoing analysis to emerging market economies.

[8]Studies have identified the effect on growth not only for private, but also for public, debt (see, for example, Krugman 1988; Sachs 1989; Cecchetti, Mohanty, and Zampolli 2011; Baum, Checherita-Westphal, and Rother 2013; and Reinhart and Rogoff 2010).

[9]Those shocks may come from changes in risk appetite and market sentiment, a sudden correction in asset prices, financing problems in banks, or a recession that puts pressure on repayment capacity (Bruggeman and Van Nieuwenhuyze 2013). In the context of this chapter, deleveraging is meant to refer to a reduction in the debt-to-income ratio.

Figure 1.10. Selected Advanced Economies: Leverage



Sources: National statistical offices; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: The sample comprises 16 advanced economies in the case of households and 15 in the case of nonfinancial corporations. Assets are obtained as the sum of financial and nonfinancial assets. Financial assets corrected for transitory valuations are constructed by adding financial asset transactions and trend revaluations to the stock of financial assets in the initial year. Nonfinancial assets corrected for transitory valuations are calculated by applying real growth rates to the initial stock of nonfinancial assets. Real house prices are used as a deflator in the case of households. For nonfinancial corporations, the analysis is based on a weighted average of house prices and the investment deflator.

Borio 2014). For every percentage point the annual change in the private-credit-to-GDP ratio exceeds the average, the probability of financial crisis goes up by 0.4 percent.[10] Public debt does not appear to increase the probability of a financial crisis, although it matters of course for sovereign crises.

Financial crises associated with private debt overhangs can be very costly in terms of output. Following the empirical strategy of Jordà, Schularick, and Taylor (2016), this chapter finds that GDP falls considerably more in financial than in normal recessions and that the pace of recovery is more protracted.[11] This is particularly the case in emerging market economies, where, after five years, cumulative output losses are almost double those in advanced economies, when

[10]A financial crisis is characterized as a situation in which there are significant signs of financial distress and losses in wide parts of the financial system. The probability reported here is based on the estimation of the log odds ratio of a financial crisis following the methodology in Jordà, Schularick, and Taylor 2013. These estimates are slightly lower than in that article, but the sample employed here is different, and thus results are not fully comparable. For more details, see Bernardini and Forni, forthcoming.

[11]Recessions are defined as the period between a peak and the following trough in the level of real GDP per capita. They are classified as financial if a major banking crisis erupts at the peak (the start of the recession) or in the following year. Annex 1.2 provides further details on the estimation methodology and results.

the financial recession has been preceded by a private credit boom.

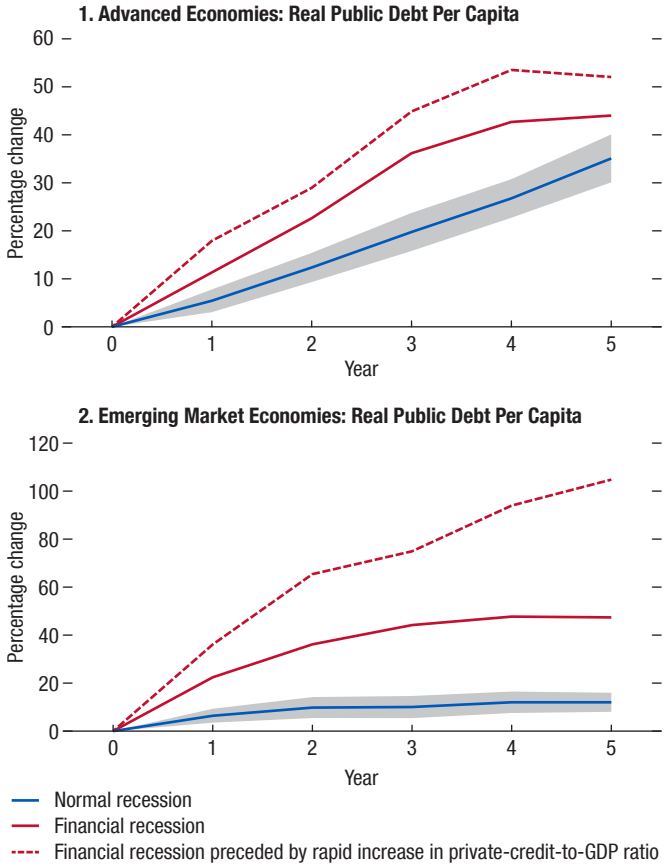
Interlinkages between Private and Public Debt

Although high public debt levels are usually not at the root of the problem, they can intensify the effects of private sector deleveraging in financial recessions (Jordà, Schularick, and Taylor 2016). Indeed, the interlinkages between public and private sector balance sheets exacerbated their weaknesses, significantly contributing to the feeble recovery following the global financial crisis (IMF 2015b; Dell'Ariccia, Martin, and Minoiu, forthcoming). These interlinkages are related to the macroeconomic impact of a financial crisis and spillovers between the public and private sectors as follows:[12]

- *From private to public debt*. The most immediate effect often comes from the use of fiscal resources to repair banks' balance sheets (bailout cost), which can increase public debt levels significantly, as illustrated by the recent cases of Ireland and Spain. In some cases, the government will also support nonfinancial corporations and households in balance sheet restructuring (see the country case studies in "Deleveraging in Practice: What Does History Teach Us?"). In addition, the collapse in output and asset prices will sap revenues and lead to higher spending through automatic stabilizers. Discretionary fiscal policy may also be used to stabilize output. Estimates obtained using the methodology of Jordà, Schularick, and Taylor (2016) show that public debt does indeed increase substantially in financial recessions preceded by a private credit boom (Figure 1.11, dashed red lines), suggesting that the protracted recovery and financial sector support may weigh on the government balance sheet. The weakening of the government balance sheet may, in turn, result in a higher sovereign risk premium, limiting the government's ability to implement macroeconomic and financial stabilization policies.
- *From public to private debt*. This interlinkage often works through the banking system. In particular, a perceived loss of sovereign creditworthiness will result in capital losses in banks, reflecting the implicit lower value of government guarantees and bond holdings. This was the case, for example, in Greece at the start of the global financial crisis, when the country's banking sector had large exposures to Greek sovereign debt. In addition, the higher sovereign risk premium may also lead to higher funding costs. If financial repression follows, margins may be compressed and banks' profitability will decline. All of this will ultimately result in inefficient credit rationing for creditworthy households and firms.

[12]See Annex 1.3 for a summary of the literature on the different channels through which private and public debt are interlinked in the deleveraging phase.

Figure 1.11. Public Debt in Normal and Financial Recessions



Source: IMF staff estimates.
Note: The figure shows the dynamics of real public debt per capita in advanced and emerging market economies, starting from the year preceding a recession (peak). The solid lines show the path in normal (blue) and financial (red) recessions. The shaded area around the blue line represents the 95 percent confidence interval. The dashed red lines show how the path deviates from its baseline when the peak before a financial recession coincides with a private credit boom. A country is considered to be in a credit boom if the annual average change in the private-credit-to-GDP ratio in the five years before the crisis is greater than the cross-country average. In particular, a scenario is simulated in which such a difference is equal to 5 percentage points (approximately equal to one standard deviation).

How to Get Out of a Debt Overhang?

Reductions in gross debt ratios can come from two sources: macroeconomic deleveraging (through growth and inflation) and balance sheet deleveraging (through debt repayment, restructuring, and write-downs) (April 2015 *Global Financial Stability Report*). Fiscal policy can help with both:

- *Macroeconomic deleveraging*. Countries with slower nominal growth will take longer to escape a debt overhang problem (Reinhart, Reinhart, and Rogoff 2012). Therefore, demand management policies and, in particular, fiscal stimuli geared toward supporting economic activity can aid in the deleveraging process.
- *Balance sheet deleveraging*. When the debt overhang is severe, balance sheets may also need to be cleaned up. Unfortunately, without government intervention, balance sheet repair often proceeds very slowly, because of coordination problems, market failures, and the inability of distressed banks to absorb losses (Laeven and Laryea 2009; Laryea 2010). However, leaving the debt overhang unaddressed can result in lower consumption and underinvestment (Olney 1999; Myers 1977), which, if compounded by banks' foregoing profitable lending opportunities (Philippon and Schnabl 2013), will weaken the recovery. This is an argument for targeted fiscal intervention to speed up the resolution of the debt overhang problem. These types of interventions are usually geared toward addressing weaknesses in the banking sector and typically include recapitalization, asset purchases, and sometimes guarantees. But they can also include measures to facilitate the repair of households' and firms' balance sheets. A government-sponsored debt-restructuring program in the latter case often includes subsidies for creditors for lengthening maturities, guarantees, or both and direct lending to companies that are viable but unable to access financial markets, as well as the creation of asset management companies.

At present, given the sheer size of the debt, particularly in some advanced economies, it is likely that a combination of macroeconomic and balance sheet deleveraging will be needed. The next section explores whether and how fiscal policy can help and the trade-offs involved.

Fiscal Policy and Private Sector Deleveraging

This section analyzes how fiscal policy can facilitate the deleveraging process that is likely to start or continue in some advanced and emerging market economies in the near future, while minimizing the associated drag on growth. First, it looks at the output stabilization role of fiscal policy in past financial crises. It then discusses what type of fiscal policy interventions can be most effective when an economy's credit channel is impaired, as is currently the case in the euro area, for example.

Does Fiscal Policy Affect the Speed of Recovery after a Financial Crisis?

Fiscal support to domestic demand can improve recovery prospects in private deleveraging episodes. In particular, econometric estimates based on the methodology of Jordà, Schularick, and Taylor (2016) suggest that fiscal policy can significantly reduce the output cost of a financial crisis, provided that fiscal buffers are available prior to the crisis (Box 1.2). The reason is that countries with fiscal buffers are able to conduct countercyclical fiscal policy, while those that start a financial crisis with a weak fiscal position have to cut government spending at a time when fiscal multipliers are likely to be high. These results are particularly strong for emerging market economies, perhaps because they face tighter financing conditions during a crisis due to the prevalence of the so-called sudden stops during periods of stress (Calvo 1998). This provides a cautionary tale for several emerging market economies, including Brazil (Box 1.3), that have recently experienced rapid private credit growth and have weak public sector balance sheets.

Can Fiscal Policy Facilitate Successful Deleveraging Today?

In addition to supporting demand, fiscal policy can facilitate the repair of balance sheets, particularly when the credit system in a country is clogged. As discussed in the previous section, such fiscal measures could take two forms: (1) *direct intervention,* which helps creditworthy households and firms to access credit at reasonable costs while introducing incentives for the restructuring of bad debt, or (2) *indirect intervention,* through the recapitalization and restructuring of banks. These types of interventions have been used successfully in recent deleveraging episodes, for example, in the United States (for more details, see the next section).[13] The objective of such measures is

[13]In the United States, both direct and indirect support was provided in the aftermath of the global financial crisis. Among other measures, the government gave loans to the auto industry, condi-

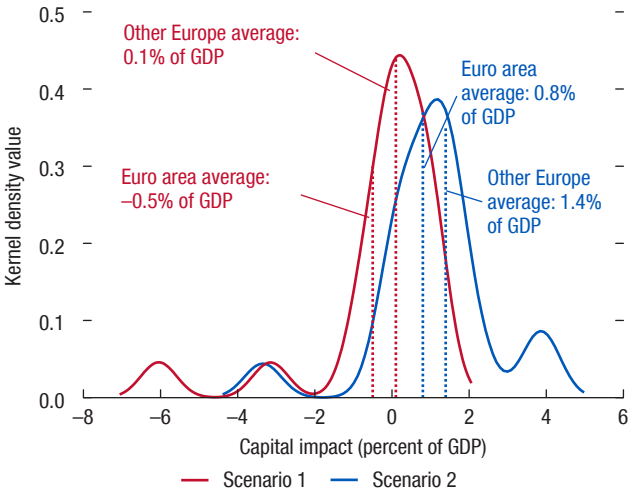
not to prevent private deleveraging from happening, but rather to ensure that the deleveraging is orderly. Whether fiscal policy should play such a role is of great relevance today, particularly for those advanced economies in which lingering banking sector weakness continues to weigh on nominal growth by disrupting the efficient allocation of credit and may reduce the efficacy of monetary policy (Figure 1.12).

To characterize the appropriate fiscal policy response in these cases in which the credit channel in an economy is impaired, three questions are examined, using the analytical framework developed by Batini, Melina, and Villa (2016): (1) What are the trade-offs between fiscal intervention and inaction? (2) What is the most effective way of using public money? and (3) To what extent does the optimal policy response depend on the size of fiscal buffers? The main novelty of the approach presented here is to account explicitly for the interlinkages between private and public debt while examining the role of fiscal policy in supporting private deleveraging (see Box 1.4). Three types of stimuli are considered: (1) *targeted intervention,* taking the form of a temporary subsidized government loan to the private sector in those cases in which an economy's credit channel is not working; (2) *government consumption*; and (3) *public investment,* which can carry either a high or a low rate of return. The targeted intervention in this framework should be interpreted as encompassing both direct and indirect support to the private sector, as the overall objective is to deal with the consequences of an impaired financial system, which could make the deleveraging process more painful than necessary.

The simulations illustrate that when an economy's credit channel is clogged, hampering investment and consumption:

- Targeted fiscal intervention is far superior to inaction, as it can alleviate the recessionary impact of private sector deleveraging and result in lower public debt, compared to a no-policy-action scenario.
- It is also more effective than other standard fiscal stimulus measures. For the same fiscal cost, the output effects are about four times larger.[14]

Figure 1.12. Europe: Estimated Capital Impact of Immediate Nonperforming Loan Disposal—Density Functions



Sources: Bloomberg L.P.; European Banking Authority; Haver Analytics; IMF, October 2016 *Global Financial Stability Report* (GFSR), Chapter 1; SNL Financial LC; and IMF staff calculations.
Note: The chart reflects the results presented in Chapter 1 of the October 2016 GFSR following the methodology of Jobst and Weber (2016); it shows the distribution of the estimated capital impact—net of losses/gains on sale—from the reduction of nonperforming loans (NPLs) to precrisis levels (June 2009) as of the end of 2015. Scenario 1 reflects the current valuation of NPLs based on common return expectations among distressed debt investors. Under Scenario 2, a hypothetical policy intervention (via state guarantees and effective structural reforms to the insolvency regime) reduces the return expectations from 15 percent to 6 percent, and the time required to recover collateral-supported impaired assets declines by up to two years. The sample comprises banks from 17 European countries: Austria, Belgium, Bulgaria, Czech Republic, France, Germany, Hungary, Ireland, Italy, Macedonia, the Netherlands, Poland, Portugal, Serbia, Slovak Republic, Slovenia, and Spain.

- The optimal level of intervention increases with the size of fiscal buffers. The lower the initial public debt, the higher the optimal level of intervention that minimizes output losses.

The fiscal space necessary to support this type of intervention can be expanded through a comprehensive and credible package of policies. Indeed, there is some evidence that the extraordinary monetary policy actions of recent years might have eased budget constraints in advanced economies (see Box 1.5). In addition, commitments to credible consolidation plans and structural reforms can create policy space by lowering financing costs and increasing potential growth (Gaspar, Obstfeld, and Sahay 2016; April 2016 *World Economic Outlook*).

The effectiveness of targeted fiscal interventions, however, depends on their design and implementation, which are quite challenging in the real world. For instance, problems can arise in the selection of benefi-

tional on the implementation of a restructuring plan, while at the same time injecting public capital into stressed financial institutions.

[14]The fiscal cost of the targeted intervention is not the full amount of the loan but the subsidy component and the losses arising from the inefficiencies associated with this type of intervention.

Table 1.1. Private Sector Deleveraging Episodes: Basic Facts

Country	Start	End	Initial Private Debt (percent of GDP)	Initial Public Debt (percent of GDP)	Duration	Size of Deleveraging (percentage points)	Sector
Finland	1992	1998	164	39	6	55	NFC
Japan	1995	2007	221	95	12	55	NFC
Korea	1997	2004	163	10	7	24	NFC
Thailand	1997	2007	182	40	10	91	NFC
Iceland	2007	2015	272	27	7	176	HH
United States	2008	2013	168	73	5	19	HH

Source: IMF staff estimates.
Note: Following Chen and others (2015), the start and end of the deleveraging episodes correspond, respectively, to peaks and troughs in the private-debt-to-GDP ratio, with the exception of that in Iceland, where deleveraging is still ongoing. HH = household sector; NFC = nonfinancial corporate sector.

ciaries, resulting in nonviable firms or financial institutions' being supported. In addition, these measures can create distortions by, for example, providing opportunities for tax avoidance. Finally, government intervention can lead to moral hazard and excessive risk taking. These considerations point to the importance of appropriately designing these measures and complementing them with other policies (such as strong insolvency frameworks and macroprudential measures) to minimize risks. The next section describes how these types of interventions have been used in practice and discusses some of the issues involved in designing them so as to enhance their effectiveness.

Deleveraging in Practice: What Does History Teach Us?

This section examines six deleveraging episodes in which fiscal policy was deployed as part of a policy package aimed at reducing private sector debt while minimizing the so-called deleveraging drag on output. It discusses what worked and did not work as well as complementarities between fiscal and other policies.

What Was the Role of Fiscal Policy?

The six deleveraging episodes considered cover a broad range of macroeconomic conditions: Finland in the early 1990s; Japan in the mid-1990s; Korea and Thailand following the Asian financial crisis; and Iceland and the United States in the aftermath of the global financial crisis. Table 1.1 and Annex 1.5 summarize some of the key features of these episodes. In virtually all cases, private debt decreased in nominal terms (Figure 1.13). Such decreases appear to have been predominant in Iceland and Japan, while macroeconomic conditions seem to have played a more important role in Finland and the United States. Korea and Thailand fall somewhat in between.[15] Government-sponsored purchases of bad loans and voluntary debt write-offs were the centerpiece of corporate debt restructuring in Japan, Korea, and Thailand. Meanwhile, restructuring of residential mortgages was an important component in Iceland and the United States.

All six countries implemented a fiscal stimulus, but the timing, size, and composition varied (Figure 1.14). Fiscal expansions were larger and more front-loaded in those cases following the global financial crisis (6 percent of GDP in the United States and 12 percent in Iceland). In other countries, the fiscal expansion was small (Finland), back-loaded (Thailand), or dispersed across the period (Japan and Korea). Fiscal tightening, when it happened, reflected concerns about rising debt and fiscal risks (Iceland, Japan, and Thailand), automatic spending cuts (the U.S. sequesters), or accession convergence criteria for participation in the euro area (Finland).

Targeted fiscal policy interventions were also a core part of the strategy to facilitate measured and orderly deleveraging in specific sectors. The overriding motivation was the need to unclog the bank lending channel, which required cleaning up bank balance sheets and creating incentives for debt restructuring and write-downs. The interventions varied depending on (1) their objectives (improve real incomes, prop up assets, and restructure liabilities), (2) the policy instrument employed (tax incentives, transfers, subsidies, direct lending, and government guarantees), (3) the targeted sector (households or corporations), (4) the recipients (households, corporations, or financial intermediaries), and (5) the conditionality attached to the intervention (that is, whether adjustments were

[15]The growth in Korea's nominal debt reflected a surge of new loans to small and medium-sized enterprises (supported by government guarantees) and households that more than outweighed deleveraging by large corporations (IMF 2004).

required on the part of the recipient as part of the deal). Table 1.2 summarizes the features of the main types of interventions, while Table 1.3 provides some quantification of the fiscal costs to the extent data are available. Overall, financial restructuring accounted for the lion's share of the fiscal cost. In the case of Iceland, fiscal costs were partially defrayed as a result of bailing-in foreign depositors (for more details, see Annex 1.5).

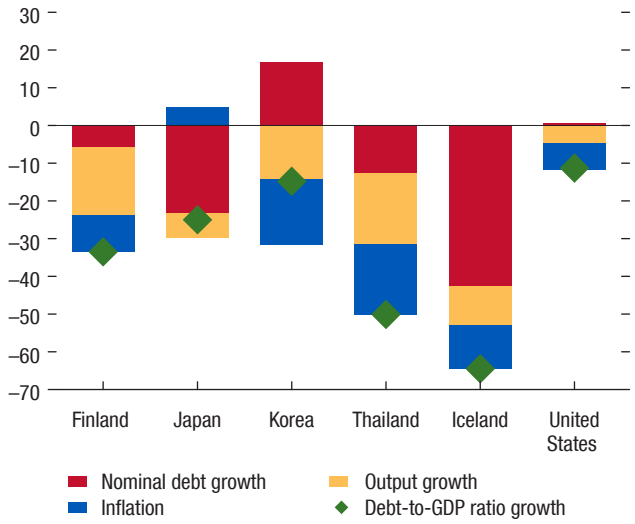
What Worked?

Expansionary macroeconomic policies and targeted fiscal interventions complemented and reinforced one another. To the extent that they did not work in sync, the recovery was frail. A case in point is Japan, where too gradual a monetary easing allowed low inflation expectations to become entrenched (Ueda 2012; Arbatli and others 2016) and the absence of a credible medium-term fiscal framework led to fiscal stimuli being short lived and quickly reversed (IMF 2009a). Generally, availability of ample fiscal space at the beginning of the crisis allowed a more powerful response. As an example, fiscal policy remained expansionary in Korea through most of the deleveraging process, thanks to low public debt prior to the crisis. This allowed an increase in social safety nets and provision of tax incentives to support corporate debt restructuring (Lane and others 1999). In many instances, fiscal tightening was introduced only gradually to avoid exacerbating the deleveraging drag. For example, in the United States fiscal consolidation came only after the repair of banks and monetary policy had restored credit flows, thereby bolstering economic activity—although it has been argued that the pace of withdrawal should have been slower (Buttiglione and others 2014; IMF 2012b).

Beyond macroeconomic policies, the design features of the targeted fiscal interventions were critical for their success. Some key aspects were

- *Timing.* In most cases, early action geared toward bank recapitalization and corporate restructuring was instrumental in unclogging the economy's credit system, encouraging write-downs, and minimizing output losses. The least successful case was that of Japan, where delays in addressing weaknesses in the banking sector and regulatory forbearance postponed the recognition of losses, adding to the final costs and ultimately contributing to the slow recovery in the 1990s (Laryea 2010; IMF 2009a; Ueda 2012). At the other end of the spectrum, the use of asset management companies in Finland and Korea contributed to accelerating the disposal of nonperforming loans and corporate debt restructuring (Klingebiel 2000; Aiyar and others 2015). Part of the success stemmed from the asset management companies' narrow objectives, which focused on resolving insolvent and nonviable financial institutions and selling off their assets. Political independence, appropriate funding, and adequate bankruptcy and foreclosure laws also contributed to their effectiveness (Klingebiel 2000).
- *Sequencing.* In cases of systemic failure, financial sector restructuring took precedence over fiscal intervention targeting firms and households. Nevertheless, incentives were provided to engage in debt restructuring as part of the package, as in Korea and Thailand, where regulatory suasion was used to require all banks to sign on to workout principles (Pomerleano 2005; Lieberman and others 2005). Still, in some instances, the systemically important nature of some corporations and potential spillovers to the industry value chain required a parallel intervention. That was the case with Chrysler and General Motors in the United States, where the government granted loans to prevent the companies'

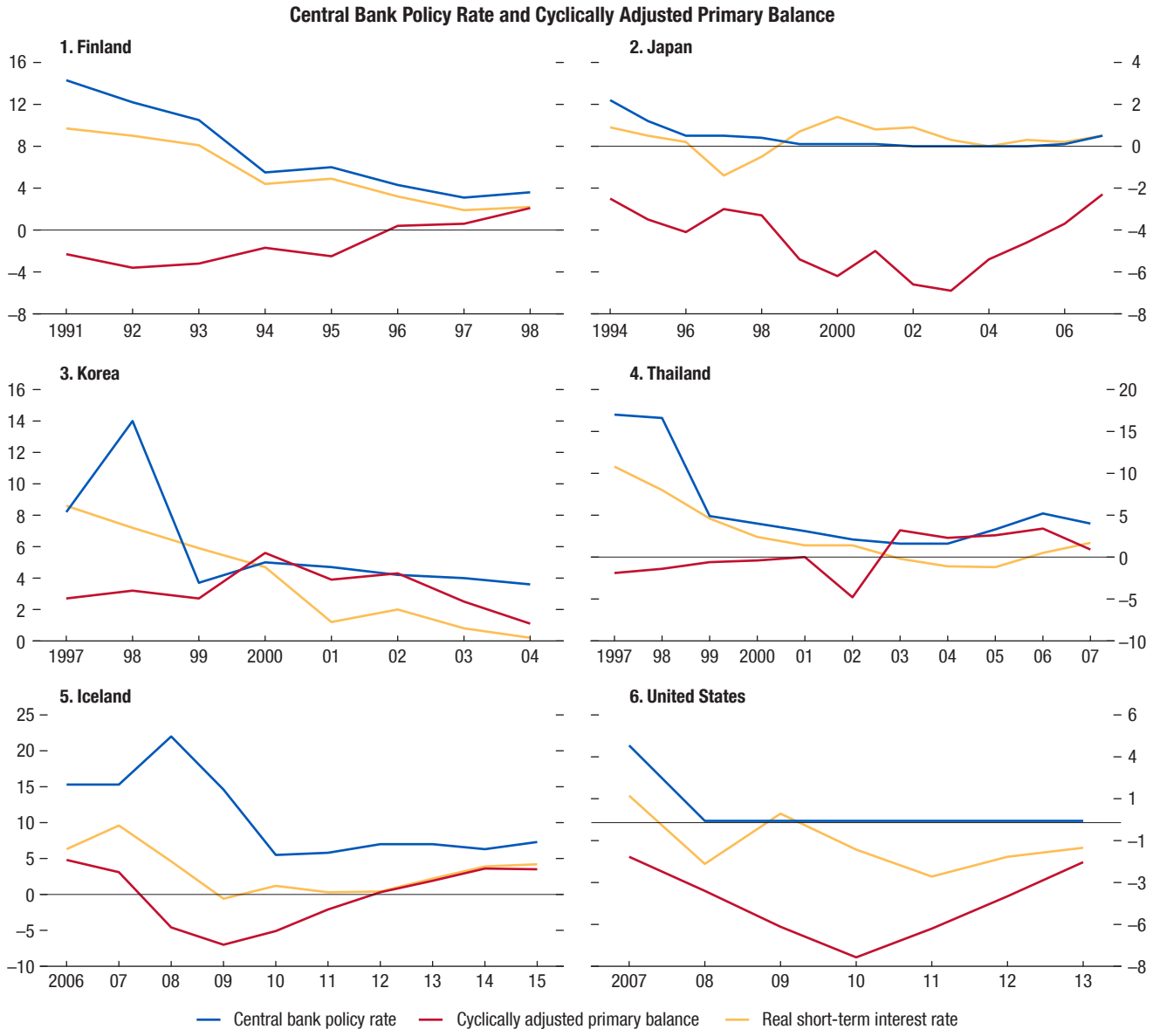
Figure 1.13. Contribution to Deleveraging
(Percent of GDP)



Sources: Bank for International Settlements; IMF, *World Economic Outlook*; and IMF staff estimates.
Note: The figure shows the percentage contribution of each variable to the growth in the debt-to-GDP ratio (the percentage change in the private sector debt ratio), using the methodology of Chen and others (2015). In the case of Iceland, the positive contribution of inflation is discounted by the share of loans indexed to the consumer price index.

Figure 1.14. Macroeconomic Policies and Deleveraging

(Percent of GDP)



Sources: IMF, *International Financial Statistics*; IMF, *World Economic Outlook*; and IMF staff estimates.
Note: For Finland and Thailand, the central bank policy rate refers to the short-term interest rate.

Table 1.2. Selected Fiscal Policy Interventions during Deleveraging Episodes

Type	Sector	Recipient	Description	Cases
1. Direct				
Transfers	Household	Household, Financial	Temporary cash payments to creditors for write-offs (principal and interest payments) and to compliant homeowners under the Home Affordable Modification Program (HAMP)	United States (2008–13)
	Household	Household	Temporary mortage interest subsidy	Iceland (2007–)
	Household	Household	Temporary transfers to write down mortgage principal	Iceland (2007–)
Tax Incentives	Household	Household	Progressive tax rebate for mortgage interest payments	Iceland (2007–)
	Household	Household	Tax exemption of early withdrawals from pillar III pension contributions to pay mortgages	Iceland (2007–)
	Household	Household, Financial	Income tax deductibility for mortgages write-offs under HAMP	United States (2008–13)
	Corporate	Corporate, Financial	Deductibility of debt write-offs for creditors and deferral of corporate income tax on written-off debt for debtors	Thailand (1997–2007)
	Corporate	Corporate	Exemption of capital gains, transaction, and income taxes on sale, transfer, or reevaluation of assets of restructured companies	Japan (1995–2007), Korea (1997–2004), Thailand (1997–2007)
	Corporate	Corporate	Exemption of capital gains, transaction, and income taxes on capital injections from shareholders, mergers, and reorganization of subsidiaries	Japan (1995–2007), Korea (1997–2004), Thailand (1997–2007)
	Corporate	Corporate	Removal of tax exemptions for debt service payments of heavily indebted firms (for example, those whose debt exceeded 500% of equity, as of 2000)	Korea (1997–2004)
Direct Lending	Corporate	Corporate	Disbursement of emergency funds to General Motors and Chrysler under Troubled Asset Relief Program (TARP) for debt restructuring	United States (2008–13)
2. Indirect				
Guarantees	Household	Financial	Government guarantees of positive net worth of government-sponsored residential mortgage insurers (Fannie Mae and Freddie Mac) to enable mortgage refinancing	United States (2008–13)
	Corporate	Financial	Government guarantees to small and medium-sized enterprises	Japan (1995–2007), Korea (1997–2004)
Financial Sector Restructuring	Corporate	Financial	Public fund injections into commercial banks to ensure deposit protection, recapitalization, and purchase of bad loans	All cases
Tax Incentives	Corporate	Financial	Tax deductibility of write-offs in the sale of bad loans to asset management companies	Japan (1995–2007)

Souce: IMF staff compilation.
Note: Dates in the "Cases" column refer to the period over which the private sector was deleveraging.

Table 1.3. Costs of Selected Fiscal Policy Interventions
(Percent of GDP)

Type	Cost	Source
Direct		
Tranfers and Direct Lending		
U.S. HAMP	0.1	U.S. Treasury
Iceland Mortgage Interest Subsidy	0.7	IMF (2011)
Iceland Write-Down of Consumer Price Indexed Mortgages	4.3	IMF (2014)
U.S. Auto Industry Bailout	0.5	U.S. Treasury
Tax Incentives		
Iceland Tax Rebate for Mortgage Service	0.3	IMF (2011)
Iceland Tax Exemption for Early Pension Withdrawals	4.3	IMF (2014)
Indirect		
Guarantees		
Japan SME Guarantees	6.0	IMF (2009a)
U.S. GSE Guarantees	1.2	Frame and others (2015)
Financial Sector Restructuring		
Finland	12.8	Laeven and Valencia (2012)
Japan	12.0	IMF (2009a)
Korea	31.2	Laeven and Valencia (2012)
Thailand	43.8	Laeven and Valencia (2012)
Iceland	44.2	Laeven and Valencia (2012)
United States	2.3	U.S. Treasury
Tax Incentives		
Japan Tax Deductibility of Bad Loans Write-Offs	9.2	Hoshi and Kashyap (2005)

Source: IMF staff estimates based on the sources listed in the table.
Note: Except for figures obtained from Laeven and Valencia 2012, for which the fiscal cost is already provided in percent of GDP, the fiscal cost is provided in local currency and divided by the average GDP over the fiscal intervention period. Iceland cost figures are estimates. Financial sector restructuring includes recapitalization. GSE = government-sponsored enterprise; HAMP = Home Affordable Modification Program; SME = small or medium-sized enterprise.

liquidation, allowing them to honor their commitments to suppliers.

- *Incentives.* For the most part, government recapitalizations tried to curb moral hazard by ensuring that only viable institutions benefited from taxpayer money and that rescued institutions repaid the recapitalization funds in full as soon as conditions permitted. That was not the case in Japan, where virtually every bank of significant size received assistance, though the amounts involved were relatively small, and the government did not require recipients to find private sources of capital. Thus, the recapitalization program did little to foster corporate restructuring or to restart bank lending.
- *Targeting*. To ensure the cost-effectiveness of intervention, measures were often targeted to specific sectors and subjected to conditionality. As an example, the Home Affordable Modification Program (HAMP) in the United States provided cash payments for loan servicers choosing to renegotiate residential mortgages and to borrowing households that remained current on their modified mortgages. Similarly, the first round of household debt restructuring in Iceland was supported via transfers and tax rebates, the amount of which depended on the household's net worth. These two cases, however, underscore the difficult trade-offs between limiting moral hazard and the effectiveness of intervention. In the United States, where great emphasis was placed on strict eligibility criteria, take-up rates under HAMP were only about 40 percent of the original target, or less than 2 percent of total mortgages (April 2012 *World Economic Outlook*). In contrast, the first debt-restructuring program in Iceland enjoyed take-up rates of more than 50 percent of all mortgages. Nevertheless, fiscal risks may have increased in Iceland, particularly as a result of the second debt-restructuring program, launched in 2014, which did not target households on the basis of their net worth (unlike the first round) and did not cap fiscal costs.
- *Tax measures*. Tax incentives, such as those employed in Japan (IMF 2000a), may have contributed to restructuring corporate debt. However, these measures are difficult to monitor and prone to be exploited for purposes of tax avoidance in light of the complexity of the taxable event. That proved to be the case in Korea, where incentives ended up

being misused through cosmetic rather than real restructuring while adding to the complexity of the tax system (Claessens, Klingebiel, and Laeven 2001), although the imposition of sunset clauses provided a way out. Nevertheless, easing or eliminating the taxation of debt relief—at least as a temporary crisis measure and accompanied by safeguards to limit its abuse—was shown to facilitate debt restructuring in the United States.

- *Spending measures*. Subsidies, transfers, and loans created fewer distortions than other measures, when appropriately targeted. Targeting was, however, difficult, since technical decisions as to who should be the beneficiaries were often made in an environment prone to strong political pressures. The successful U.S. government bailout of the automobile industry stresses the importance of ensuring that such intervention is undertaken under sound governance principles that protect public funds and fiscal authorities' independence. In this particular case, key ingredients contributing to the early repayment of loans were (1) taking a technically oriented approach to identifying viable companies, (2) requiring credible restructuring and viability plans as a condition for government loans, and (3) a government "hands off" and time-bound approach in the management of the intervened companies (Goolsbee and Krueger 2015).
- *Guarantees*. These instruments can be a less costly avenue, provided that appropriate provisions are in place. As an example, government guarantees have been provided to government-sponsored enterprises in the United States to support the housing market, with positive outcomes and little cost to the Treasury (Frame and others 2015). In contrast, while the special credit guarantee program for lending to small and medium-sized enterprises introduced in Japan mitigated the negative consequence of the systemic credit crunch (Uesugi 2008), it may have delayed necessary restructuring, because participation in the program included heavily indebted firms facing a high risk of default (Matsuura and Hori 2003; IMF 2009a).

Targeted interventions were particularly effective when accompanied by reforms of bankruptcy procedures and the introduction of out-of-court frameworks. For example, Iceland reformed its household insolvency regime (IMF 2009b); Japan and Korea did the same for the corporate sector, removing impediments to debt restructuring while improving the system's speed and efficiency (IMF 1999, 2009a). Nevertheless, the reformed insolvency regime in Korea was mainly applied to small and medium-sized enterprises, reflecting legal enforcement challenges, which allowed heavily indebted corporations to avoid bankruptcy for long periods of time (Claessens 2005). Special in-court processes for small and medium-sized enterprises in Japan and the United States also helped preserve the simplicity and efficiency of the insolvency process and avoid risks of delay (Bergthaler and others 2015). On the other hand, enhanced out-of-court frameworks in Korea and Thailand contributed to expediting restructuring while minimizing costs, thanks to regulatory suasion, agreements to arbitrate disputes, and the imposition of penalties for failure to meet deadlines (Laryea 2010).

After the crisis, ensuring a timely upgrade of prudential and supervisory frameworks was also critical to avoiding the materialization of moral hazard problems following costly government recapitalizations. This was the case in Finland; regulatory reforms were introduced in the United States and Iceland as well, although it is too early to tell whether these reforms have been effective. Failure to take this step in Korea led to a credit card lending boom—which ended in a credit bust in 2003—as the financial sector took advantage of ample liquidity, partly the result of fresh government capital, to shift lending from distressed firms to the largely unregulated consumer finance market (Kang and Ma 2007).

Conclusion

At $152 trillion, global debt is at an all-time high, but not all countries are in the same phase of the debt cycle, nor do they face the same risks. In a few systemically important emerging market economies, private credit has expanded briskly in recent years. The speed of the increase dangerously resembles that in advanced economies in the run-up to the global financial crisis. In advanced economies, progress with private sector balance sheet repair has been mixed. Moreover, the interaction between the incipient deleveraging and low nominal growth has resulted in a vicious loop that in some cases, notably in Europe, has delayed the resolution of banks' distressed assets, hampering the efficient flow of credit and further depressing output.

The empirical evidence in this chapter confirms that financial crises tend to be associated with excessive private debt levels in both advanced and emerging market economies. Nevertheless, entering a financial crisis with

a weak fiscal position exacerbates the depth and duration of the ensuing recession, as the ability to conduct countercyclical fiscal policy is significantly curtailed in that case. New analysis suggests that this effect is particularly strong for emerging markets which, in the absence of fiscal buffers, tend to cut government spending, reflecting perhaps tighter financing conditions in these countries during a crisis. The implications are important, as financial recessions in emerging market economies result in output losses that are almost double those in advanced economies after five years. These results underscore the importance of having the prudential and regulatory frameworks necessary to keep private debt in check as well as the value of prudent fiscal policy.

The resolution of the debt problem in an era of low nominal growth is likely to require growth-friendly fiscal policies with two objectives: (1) supporting economic activity and (2) creating incentives for the restructuring of private debt while facilitating the repair of banks' balance sheets. These policies are important for those advanced economies, particularly in the euro area, in which the slow progress in addressing banks' remaining weaknesses is currently impinging on growth. It is also a priority in emerging market economies, notably China, in which the corporate debt overhang is creating vulnerabilities in the banking sector, increasing the risk of a disorderly deleveraging. Specifically:

- *The fiscal stance should be carefully calibrated*. Premature tightening of fiscal policy in depressed economies with weakened financial systems should be avoided to the extent possible, as the parallel retrenchment of public and private debt could contribute to prolonging the recession.
- *Targeted fiscal interventions could be used to facilitate balance sheet repair.* Government-sponsored programs—including measures such as subsidies for creditors to lengthen maturities, guarantees, and direct lending—can expedite the voluntary restructuring of private debt. On the other hand, financial sector restructuring, including through public capital injections and the creation of asset management companies, can aid in the cleanup of banks' balance sheets. The simulations in this chapter suggest that the effect of this type of intervention, if well designed, could be more powerful than standard fiscal stimuli, particularly when an economy's credit channel is clogged.

The effectiveness of targeted fiscal interventions depends, however, on their design. Lessons from successful experiences with deleveraging highlight the following principles:

- C*leaning up private balance sheets*. Direct government support measures (such as targeted subsidies, transfers, and loans) are preferable to tax incentives, to the extent that such incentives can be exploited for tax avoidance and add complexity to a country's tax system. However, without strong insolvency and bankruptcy procedures, this type of intervention may lead to strategic behavior on the part of debtors and creditors and will not necessarily maximize asset value. To ensure cost-effectiveness and mitigate moral hazard problems, these measures should be targeted to specific sectors or individuals, subjected to conditionality (for example, continued debt servicing of modified loans), and involve burden sharing with borrowers. Strong governance principles should be applied in the decision-making process to safeguard public funds.
- *Recognizing banks' losses and addressing capital shortfalls*. In-depth diagnosis needs to be conducted, including through strict and transparent stress tests. If recapitalization or restructuring of liabilities is necessary, it should be carried out swiftly for viable institutions, with the private sector taking the lead and public capital support provided only as a last resort to limit moral hazard problems. Past experience underscores that procrastination may prolong a recession and weaken the recovery and could even increase the fiscal cost down the road. In this context, in those systemic cases in Europe in which state intervention may be warranted to facilitate the repair of banks' balance sheets, the EU state aid rules and Bank Recovery and Resolution Directive should be applied flexibly as permitted (for more details, see IMF 2016c and the October 2016 *Global Financial Stability Report*).

The specific policy package that is appropriate for a particular country will depend of course on country circumstances and in particular on the available room for fiscal policy action. Fiscal policy cannot, however, solve debt problems alone. A comprehensive approach is required to tap synergies among all available policy levers to steer a country's economy away from a low-inflation and low-growth trap, especially in the current context of limited policy space. Therefore, monetary policy should remain accommodative in those countries where inflation is still well below target. Financial policies, including asset quality reviews and supervisory

action to provide incentives for banks to recognize losses, can also facilitate balance sheet repair. Creating markets for distressed assets (for example, through the introduction of effective asset management companies) can help with this task while minimizing fiscal costs. Structural reforms can also complement growth-friendly fiscal policies by raising potential output and thereby improving intertemporal budget constraints.

In those countries not yet facing a debt overhang problem, efforts should focus on curbing excessive private debt buildup and limiting spillovers to public sector balance sheets. This is particularly relevant in emerging markets where private sector leverage has increased significantly over the past few years. Countries should conduct countercyclical fiscal policy in upturns, thereby creating fiscal buffers that could be deployed if needed in times of crisis. Recent experience suggests that the strength of government balance sheets can be easily overstated in a financial boom, advocating for integrating financial cycles in the assessment of fiscal positions. Buffers should also be complemented by regulatory and supervisory policies that ensure the close monitoring and sustainability of private debt. Over the medium term, phasing out the debt bias in taxation and penalizing debt financing in those sectors in which the negative externalities are relevant, such as the financial sector, should be considered as part of structural reforms to prevent excessive leverage from building up in the first place (De Mooij 2011; IMF, forthcoming).

Box 1.1. China: What Do We Know about the General Government's Balance Sheet?

As in other emerging market economies, incomplete information prevents a full assessment of the fiscal buffers in China. However, preliminary estimates suggest the general government's net financial worth could range between 0 and a negative 23 percent of GDP, better than that in other emerging market economies. Nonfinancial assets may provide additional buffers, but the extent of contingent liabilities and age-related spending increases are important sources of vulnerability.

With high and rising corporate debt and potential contingent liabilities from the financial sector and state-owned enterprises (IMF 2016d), it is important to assess the strength of the general government's balance sheet in China to facilitate a necessary adjustment. While it is often difficult to estimate the general government's net financial worth in emerging market economies given the dearth of information especially on the asset side, in the case of China, shortcomings in data on the fiscal accounts and an intricate network of cross-financing make this task particularly challenging:

- *Liabilities.* Until recently, a significant amount of liabilities associated with off-budget local infrastructure spending, which benefited from implicit or explicit government guarantees, was not included in debt aggregates. Under the 2015 budget law,[1] aimed at improving transparency of local government finances, about 20 percent of GDP of these liabilities have been explicitly recognized as part of China's general government debt, resulting in a doubling of the debt ratio. An additional 12 percent of GDP has been recognized as contingent government liabilities. Nevertheless, there may be other off-budget contingent liabilities incurred in 2015, estimated at 5 percent of GDP, that have yet to be acknowledged.
- *Assets.* Available estimates suggest that the general government's largest financial asset is related to its participation into state-owned enterprises (Chinese Academy of Social Science 2015; Xu and Zhang 2014; People's Bank of China), but detailed data about the government's total holding of equity in state-owned enterprises is not publicly available.

A first attempt to estimate the general government's net financial worth suggests that it is between a positive 3 percent and a negative 23 percent of GDP, better than the negative 24 percent on average in other emerging market economies (Figure 1.1.1). In particular, at the end of 2015, financial liabilities amounted to 38–55 percent of GDP (depending on whether off-budget and contingent liabilities are included). Financial assets (comprising deposits in financial institutions—5 percent of GDP—and equity holdings in state-owned enterprises) are estimated at between 32 and 41 percent of GDP. This wide range is related to significant uncertainties regarding the valuation of state-owned enterprises, as many of them are not traded. On the basis of these enterprises' net asset positions, the government's equity holdings could be worth around 36 percent of GDP.[2] A more conservative assumption based on their profitability would reduce this estimate to 27 percent of GDP.

The general government's net financial worth may not, however, give a full picture of the available buffers. Ideally one would like to look at the public sector (including the central bank), but limitations of available data on public corporations, including estimates of the value of implicit government guarantees, preclude a full assessment. In addition, other nonfinancial assets and other contingent liabilities of the general government should be accounted for. For example, the value of land ownership (a nonfinancial asset) estimated by computing the net present value of net use right fees for the next 25 years could be up to 51 percent of GDP. On the other hand, under current policies, estimated increases in age-related spending (following the methodology in Clements and others 2015) would amount to 128 percent of GDP in net present value terms. Also, contingent liabilities such as potential losses on corporate loans from rapid and inefficient credit expansion may put further pressure on the fiscal accounts (April 2016 *Global Financial Stability Report*). Additional losses can be expected in other parts of the financial system, especially in shadow credit products.

Limited information makes it difficult to manage risks and can lead to markets' overreaction to policy

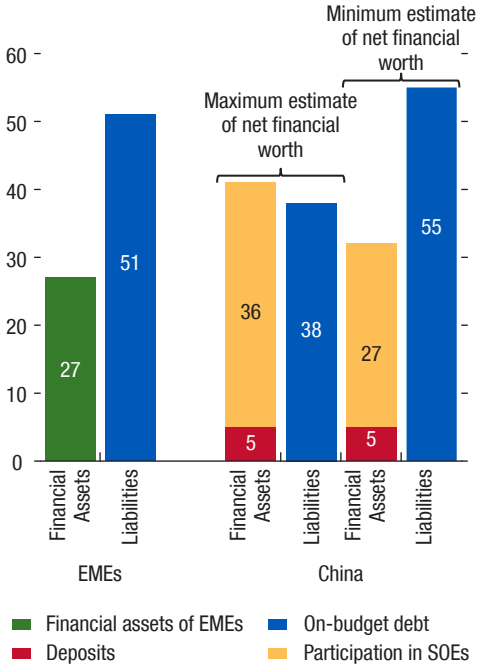
[1]The January 2015 budget law establishes that all local government activities and borrowing should be on-budget. The implementation of the new budget law is largely on track, although some local governments continued to guarantee borrowing by local government financing vehicles.

[2]Government ownership is assumed to be 60 percent on average.

Box 1.1 *(continued)*

changes. From that perspective, a priority for China should be to strengthen its fiscal risk analysis and management framework, starting with a clear and transparent identification of assets, liabilities, and exposures. Full implementation of the 2015 budget law would be a step in this direction. Once risks are identified and quantified, tools to mitigate risks (including limits on exposures, regulations, and a mechanism to transfer risks) could be considered, along with decisions about risk provisions, contingency budgeting, and buffer funds.

Figure 1.1.1. China and Other Emerging Market Economies: Estimates of Net Financial Worth at the End of 2015
(Percent of GDP)



Source: IMF staff estimates.
Note: Estimates for emerging market economies (EMEs) are based on the average for Brazil, Bulgaria, Colombia, El Salvador, Hungary, Indonesia, Peru, Poland, Romania, Russia, Turkey, Ukraine, and Uruguay, for which data are available. SOEs = state-owned enterprises.

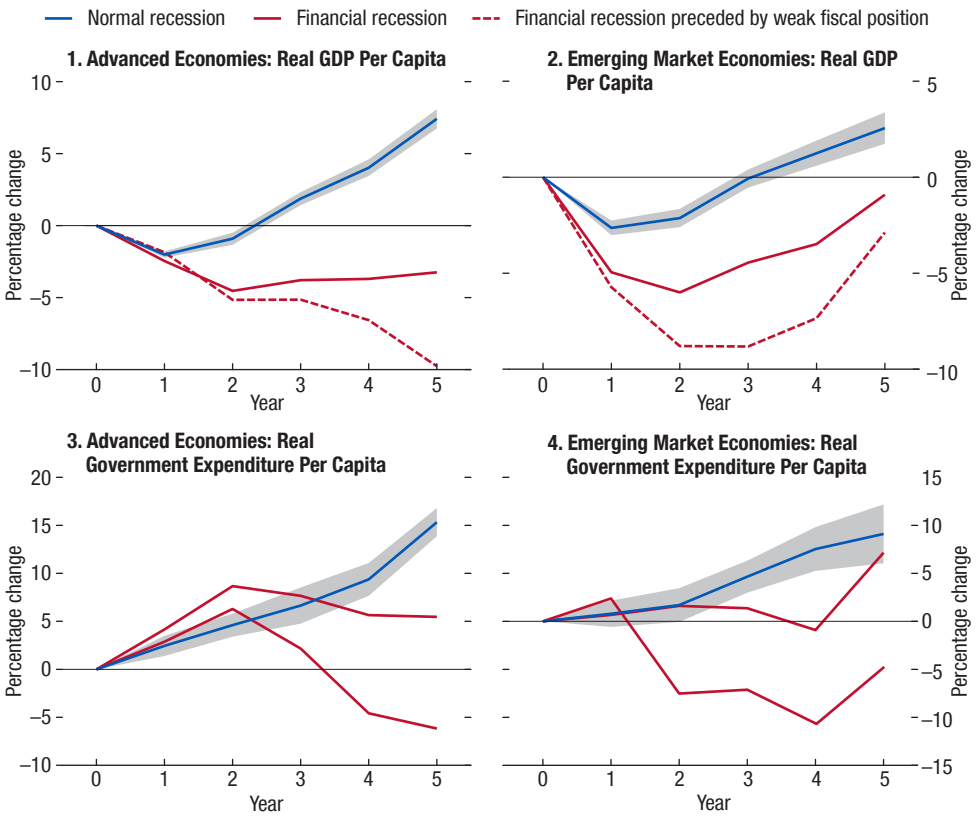
Box 1.2. The Role of Fiscal Policy during Financial Recessions

Empirical estimates suggest that entering a financial crisis with a weak fiscal position exacerbates the depth and duration of the ensuing recession, particularly in emerging market economies. This is because fiscal policy tends to be procyclical in these cases.

Financial crises preceded by rapid private credit surges are usually followed by deep and long recessions. But does public debt have similar implications? And to what extent is this related to the response of fiscal policy in the aftermath of a crisis? Following Jordà, Schularick, and Taylor's (2016) local projection method, this box estimates the response of real per capita GDP and real government spending in normal and financial recessions (see Annex 1.2). Figure 1.2.1 presents the conditional cumulated changes in both variables from the start of recessions for advanced and emerging market economies. The solid lines show the dynamics in normal (blue) and financial (red) recessions. The dashed red lines refer to the path in a financial recession when it has been preceded by a weak fiscal position (proxied by high or rapidly increasing public debt).

Overall, the findings confirm that output falls considerably more in financial than in normal recessions,

Figure 1.2.1. Fiscal Policy and the Nature of the Recovery after Financial Crises



Source: IMF staff calculations.
Note: The figure shows the dynamics of real GDP per capita (panels 1 and 2) and real total government expenditure per capita (panels 3 and 4) in advanced economies and emerging market economies, starting from the year preceding a recession (peak). The solid lines show the path in normal (blue) and financial (red) recessions. The shaded area around the blue line represents the 95 percent confidence interval. The dashed red lines show how the path deviates from its baseline if debt as a percentage of GDP at the peak is 25 percentage points greater than the cross-country average for advanced economies and if the change in debt as a percentage of GDP in the five years before a crisis is on average 5 percentage points higher than the mean for emerging market economies.

Box 1.2 *(continued)*

but with a larger effect in emerging market economies (panels 1 and 2, red versus blue lines). The recovery path is also found to be consistently worse when a country enters a crisis with a weak fiscal position (dashed red lines). A key question is whether the response of fiscal policy in the aftermath of the crisis can explain this negative effect. In other words, does the weak fiscal position lead to a procyclical fiscal tightening that magnifies the recession's severity?

To assess the response of fiscal policy, the behavior of real per capita government spending for countries entering a financial recession with relatively strong and weak fiscal positions is compared (panels 3 and 4, solid red versus dashed red lines). In advanced economies, government spending increases initially, suggesting some accommodative role of fiscal policy, but the response is more muted and fades out if the initial fiscal position is weak. In emerging market economies, on the other hand, government spending falls rapidly. These results suggest that fiscal policy tends to be procyclical when fiscal buffers are limited prior to the crisis, especially in emerging market economies.

Box 1.3. Brazil: Private Debt and the Strength of the Public Sector Balance Sheet

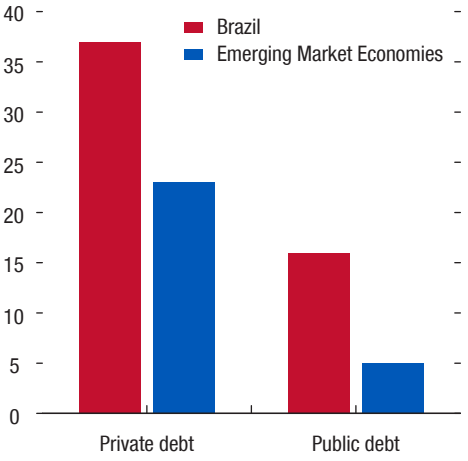
Private and public debt in Brazil have increased since the mid-2000s, fueled by a credit boom and procyclical fiscal policy. The sharp deceleration in credit growth in 2015 has exacerbated the country's economic recession, but weaknesses in the public sector balance sheet limit the country's ability to cushion the impact of private deleveraging.

Although levels of private debt (including that of nonfinancial firms and households) in Brazil are comparable to those of other emerging market economies, their pace of increase over the last decade has been double that of its peers (Figure 1.3.1). This is a source of significant vulnerabilities, as documented by extensive empirical evidence. About 70 percent of the country's debt comes from the nonfinancial corporate sector, which has used the leverage to build cash cushions instead of augmenting its capital stock. Moreover, a recent analysis suggests that Brazilian firms are particularly vulnerable to a worsening in the growth outlook, especially when coupled with tighter financial conditions (IMF 2015c). Indeed, the economic downturn in the country in 2015–16 has put pressure on the private sector, and credit growth has decelerated and turned negative in 2016 (Figure 1.3.2), but debt ratios have continued rising as a result of low growth.

In this context, an important question is whether public finances are sufficiently strong to cope with the macroeconomic consequences of a possible retrenchment in private debt. For much of the past decade, fiscal policy in Brazil has been expansionary, with cyclically adjusted primary balances declining most years from 2007 to 2014. This has resulted in general government debt that, at 73 percent of GDP, is 30 percentage points higher than that of the average emerging market economy. Nevertheless, an assessment of the strength of the country's government should go beyond liabilities and include the asset side while covering the broader public sector.

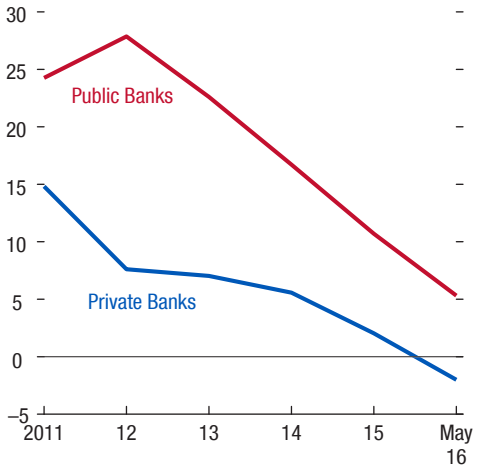
In Brazil, extensive information on the public sector balance sheet is publicly available, which allows for a more comprehensive analysis than is possible for most emerging market economies. The high level of public gross debt in Brazil partly explains the country's general government negative financial net worth in 2014 (Table 1.3.1). Accrued pension entitlements for public sector employees and retirees (including at the

Figure 1.3.1. Change in Debt, 2005–15: Brazil versus Other Emerging Market Economies
(Percent of GDP)



Source: IMF staff estimates.

Figure 1.3.2. Brazil: Change in Stock of Bank Credit
(Percent, year over year)



Source: Central Bank of Brazil.
Note: Calculations for 2011–15 are based on end-of-year data.

Box 1.3 *(continued)*

Table 1.3.1. Brazil: Public Sector Balance Sheet, 2014
(Percent of GDP)

	Consolidated General Government	Public Corporations			Public Sector
		Nonfinancial	Financial	Central Bank	
Stocks					
Assets	166	19	62	38	216
Nonfinancial	117	13	0	0	131
Financial	49	6	62	38	86
Liabilities	168	17	62	38	217
Liabilities, Other Than Equity	168	12	58	38	217
Of which: Pension Liabilities to Civil Servants	88				88
Equity	0	6	4	0	0
Net worth	–3	2	0	0	–1
Net financial worth	*–120*	*–11*	*–1*	*0*	*–131*

Sources: Brazilian authorities; and IMF staff estimates.

subnational level) represent by far the largest liability. Nonfinancial assets, including nonrenewable natural resources, are also substantial (more than 100 percent of GDP), although the valuation of these assets is uncertain.

The expansion of some state-owned enterprises, partly owing to large investments in the oil and gas sector, has further worsened the financial position of the public sector. The main contributor has been Petrobras, which has quadrupled its debt since 2011 to fulfill public policy objectives. Its financial position has also weakened with the fall in oil prices and allegations of corruption.

In addition, the sharp increase in the size of state-owned banks prior to the recession limits their capacity to compensate for the retrenchment in credit of private banks. The increase in state-owned banks' credit portfolios, at more than 450 percent since 2007, has been four times faster than the increase in credit of private banks. Some of the loans of the public banks have been made to other public entities, and some of the liabilities of the public banks consist of debt owed to the federal government. Nevertheless, after all cross-holdings are netted out, the public sector's net financial worth is a negative 131 percent of GDP.[1]

In summary, current vulnerabilities in Brazil's public sector balance sheet limit the government's capacity to help soften the macroeconomic impact of private sector deleveraging. This underscores the importance of the government's efforts to strengthen the public sector with a view to providing greater room for fiscal policy. Toward this end, the government has prepared measures to contain the growth of government spending (to put the country's deficit and debt on a more sustainable trend) and is preparing a proposal on pension reform. There are also ongoing efforts to strengthen the management and financial health of state-owned enterprises and public banks.

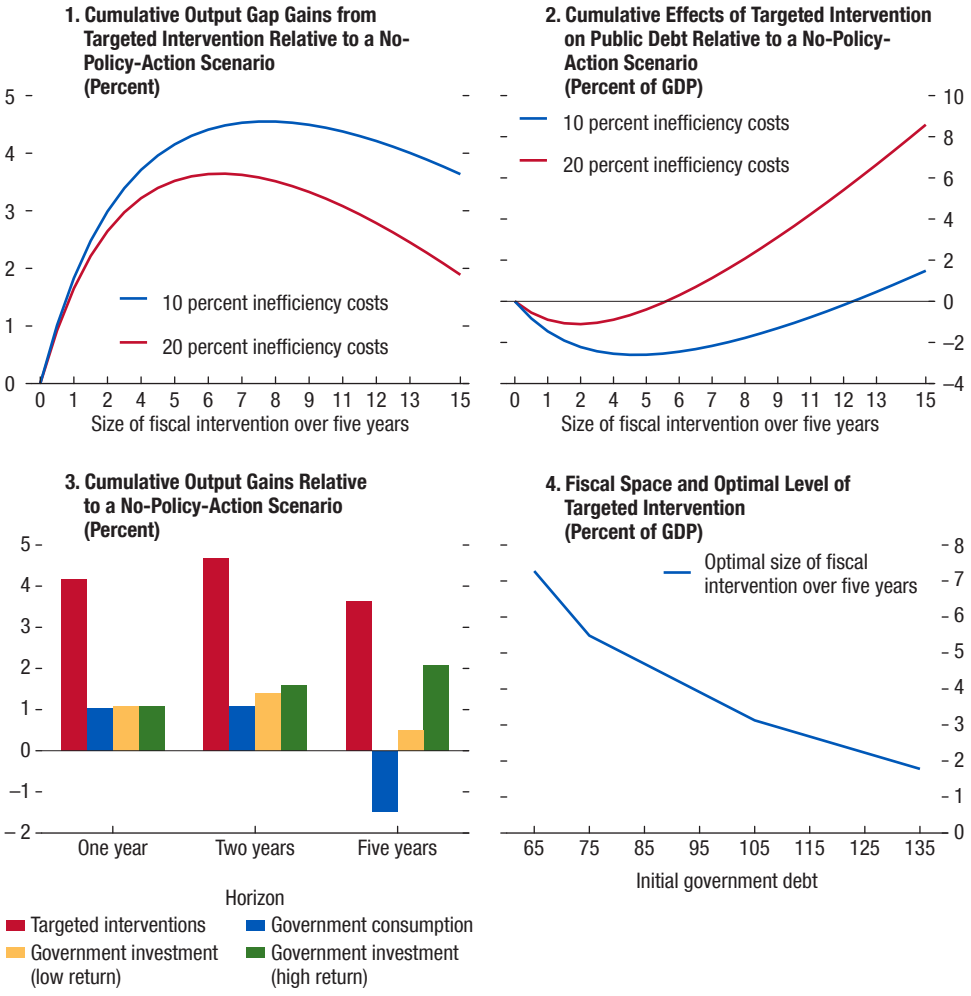
[1]By way of comparison, Brazil's net financial worth is generally lower than that of other emerging market economies such as Peru (–34 percent of GDP), the Philippines (–22 percent), and Russia (–18 percent) but is higher than that of some European countries such as Ireland (–157 percent of GDP) and Portugal (–232 percent of GDP). The latter two countries also have high pension liabilities (73 and 134 percent of GDP, respectively).

Box 1.4. Benefits of Targeted Fiscal Intervention during Times of Private Deleveraging

Model simulations suggest that during private deleveraging, targeted fiscal interventions should be used to help unclog an economy's credit system, as the cost of inaction is much higher including from a public debt sustainability perspective. However, the optimal size of the intervention depends on the available fiscal space and the efficiency of intervention, underscoring the importance of carefully designing these measures.

In the current global environment of low growth and private sector deleveraging—and with a strained financial system in some countries diminishing the effectiveness of monetary policy—there is a question of whether fiscal policy can play a role in facilitating the ongoing adjustment. The dynamic general equilibrium model developed by Batini, Melina, and Villa (2016) is used in this box to assess the benefits of alternative fiscal policy measures (for more details on the model, see Annex 1.4). The simulations assume that there is a shock in house prices similar in size to that observed in the United States during the

Figure 1.4.1. Impact of Targeted Interventions in a Deleveraging Phase



Sources: Batini, Melina, and Villa 2016; and IMF staff calculations.
Note: The inefficiency costs refer to losses associated with this type of intervention in percent of the value of the loans. In the context of U.S. unconventional monetary policy, Gertler and Karadi (2011) assume an inefficiency cost of 10 percent, which they consider to be large. Simulations in panels 3 and 4 assume high inefficiency costs. The output elasticity to public capital is assumed at 0.05 and 0.10, for the low- and high-return scenarios, respectively, as in Baxter and King 1993 and Leeper, Walker, and Yang 2010.

Box 1.4 *(continued)*

global financial crisis, pushing the private sector into deleveraging. Three types of stimuli are considered: (1) a targeted intervention in the form of a subsidized government loan to the private sector when the credit channel is not working, (2) government consumption, and (3) public investment. Figure 1.4.1 shows the relative benefits of these measures compared to a no-policy-action scenario.

Overall, targeted fiscal intervention can alleviate the recessionary impact of private sector deleveraging, with the output gap up to 4½ percentage points higher relative to no action (panel 1). By relaxing the private sector's borrowing constraints, this type of measure allows households and firms to spend while deleveraging, supporting aggregate demand. In addition, public debt is slightly lower than under no intervention, despite the up-front fiscal cost as a result of the boost to growth (panel 2). The benefits of intervention (in terms of minimizing output losses) for a given size of stimulus decrease with the inefficiency costs associated with poor targeting (red versus blue lines in panels 1 and 2).

The output benefits of targeted intervention are four times larger than those of more standard stimulus measures (panel 3). The main reason for this powerful result is that, by lending to credit-constrained households and firms, the government can leverage a much larger amount of spending than through other policy stimuli of equal cost. That is because the fiscal cost of targeted intervention is only a fraction of the total government loan.

The higher the initial public debt (a proxy of the available fiscal buffers), the lower the optimal level of intervention that minimizes output losses (panel 4). With higher public debt, the sovereign risk premium goes up, increasing the fiscal cost of intervention and thereby limiting the optimal amount of credit that the government can intermediate. Still, intervening pays off as long as there are some buffers, suggesting that multipliers are very high.

Box 1.5. How Much Do Financial Markets Value Government Balance Sheets?

The sovereign net worth implied by market prices tends to be on average about 20 percent of GDP higher than its accounting value for a sample of 31 advanced economies and emerging market economies. Differences between market and accounting values are more positive for countries with weaker fiscal fundamentals and have increased disproportionately for euro area countries over the past two years.

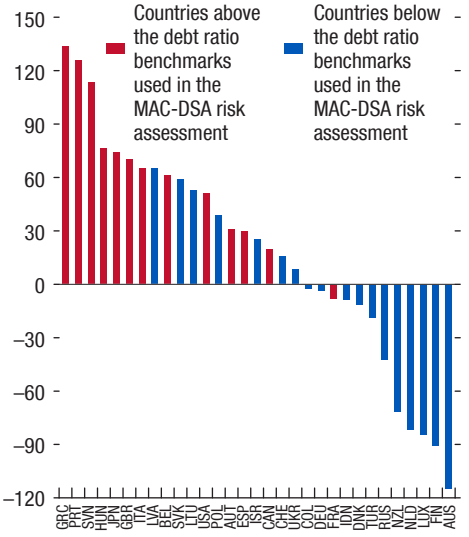
Sovereign credit indicators (such as credit default swap spreads and bond yields) offer valuable information about the size and riskiness of government balance sheets, as perceived by the market. Higher credit spreads, which measure the default risk borne by public bond holders, indicate that a government's financial solvency has deteriorated. This occurs when the government net worth declines and eventually becomes negative—at which point government assets become insufficient to fully cover outstanding liabilities.

This box relies on a finance model that builds on the contingent claim analysis framework of Jobst and Gray (2013). The model's purpose is to infer a market-implied estimate of government assets, which are mostly unobservable, from the (observed) amount and maturity structure of outstanding debt securities and their prevailing market valuation, under the assumption that available credit indicators imply an accurate assessment of sovereign risk.[1] The market-implied sovereign net worth is then computed and compared with the accounting data reported by statistical agencies. The framework is applied to monthly observations between April 2012 and the end of 2015 from 31 advanced and emerging market economies for which comprehensive accounting balance sheets are available.

Overall, the analysis shows a significant gap between market- and accounting-based assessments. Results for 2014 suggest that market-implied sovereign net worth exceeds its accounting equivalent by about 20 percent of GDP on average, with considerable cross-country variation (Figure 1.5.1). The market assessment is forward looking and thus may reflect various factors, including valuation effects and the acknowledgment of unobserved or unmeasured effects that have an impact on debt sustainability but are not recorded by statistical offices (such as future primary balances and implicit guarantees received or granted by the government).

Moreover, the gap between the market and accounting measures of sovereign net worth is positive and widens for countries with weaker fiscal positions (in Figure 1.5.1, fiscal stress is defined as debt ratios exceeding debt sustainability analysis thresholds, but the result is consistent with broader measures of fiscal soundness). Because the model controls for changes in sovereign risk, this means that for these countries, market prices would justify a significantly higher net worth than measured by accounting data. Conversely, accounting balance

Figure 1.5.1. Difference Between Maket-Implied and Accounting-Valued Net Worth, 2014
(Percentage points of GDP)

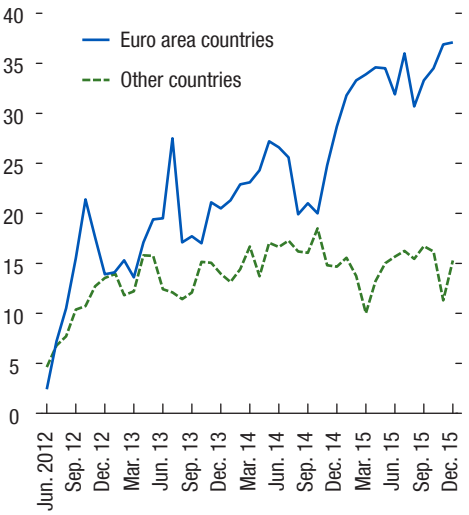


Sources: Bloomberg L.P.; IMF, *Government Finance Statistics*; IMF, *International Financial Statistics*; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: The benchmark for the debt ratio in the Debt Sustainability Analysis for Market Access Countries (MAC-DSA) is 70 percent of GDP for emerging market economies and 85 percent of GDP for advanced economies. These benchmarks should not be construed as levels beyond which debt distress is likely or inevitable, but rather as an indication that risks increase with the level of indebtedness. Data for 2013 are used for Japan and Switzerland and data for 2012 for New Zealand. Data labels in the figure use International Organization for Standardization (ISO) country codes.

[1]The analysis assumes that among all available market indicators, credit default swap spreads most accurately reflect sovereign default risk. For some specific countries, the lack of liquidity of the credit default swap market represents a caveat acknowledged by the literature.

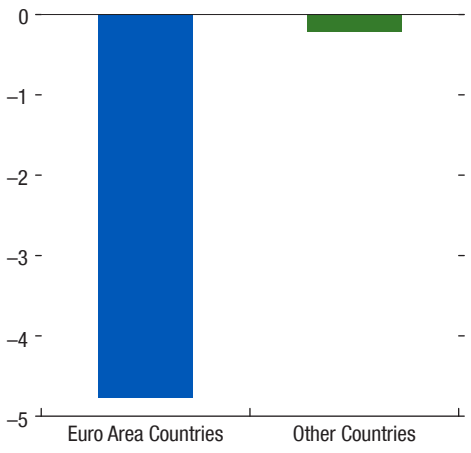
Box 1.5 *(continued)*

Figure 1.5.2. Median Evolution of Market-Implied Net Worth, 2012–15
(Percentage points of 2012 GDP)



Sources: Bloomberg L.P.; IMF, *Government Finance Statistics*; IMF, *International Financial Statistics*; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; SDM; and IMF staff estimates.
Note: Medians are based on 15 euro area members (EA-19 excluding Cyprus, Ireland, Malta, and Slovenia) and 16 other advanced (Australia, Canada, Denmark, Israel, Japan, New Zealand, United Kingdom, United States, Switzerland) and emerging market (Colombia, Hungary, Indonesia, Poland, Russia, Turkey, Ukraine) economies.

Figure 1.5.3. Change in Market-Implied Expected Losses on Sovereign Debt, 2012–15
(Percentage points of GDP)



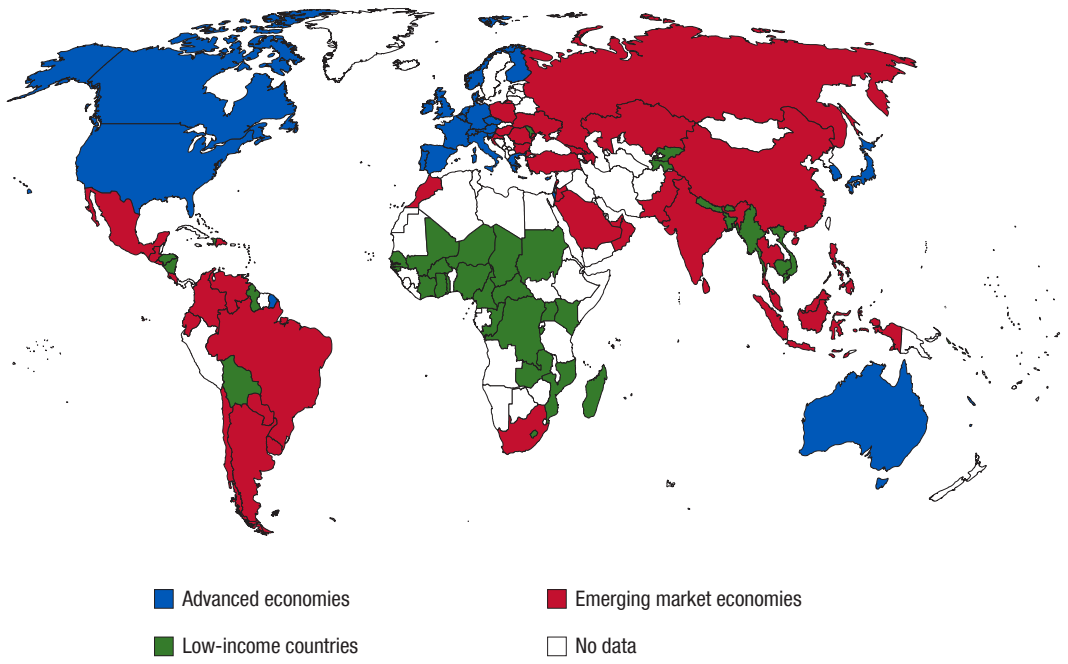
Sources: Bloomberg L.P.; IMF, *Government Finance Statistics*; IMF, *International Financial Statistics*; IMF, *World Economic Outlook*; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: The expected loss is calculated as the product of the default probability and the loss given default. For country classifications, see Figure 1.5.2.

sheets would be consistent with sovereign credit spreads above those currently observed.

Interestingly, euro area countries have experienced a much higher increase in market-implied net worth than other countries in the sample since mid-2012. In these countries, net worth rose by more than 30 percent of GDP on average between mid-2012 and the end of 2015, with half of the surge occurring in the months following European Central Bank President Mario Draghi's July 2012 pledge to do "whatever it takes to preserve the euro" (Figure 1.5.2). Over the same time period, expected losses on public debt, which underpin the estimation of market-implied net worth, declined sharply (Figure 1.5.3).[2] Fiscal consolidation efforts and overall financial conditions are certainly part of the story, but they are not sufficient to explain such a sharp increase in a short period of time. Other factors are also at play, most likely monetary policy actions and perceptions about future monetary stance, suggesting benefits from coordinated policy measures (IMF 2016c).

[2]In the model, the expected losses from holding a claim on the government decline as implied sovereign assets increase.

Annex Figure 1.1.1. Nonfinancial Private Sector Debt: Country Coverage



Source: IMF staff compilation.

Annex 1.1. Debt Data Set

This annex provides a short description of the debt data compiled for the analysis presented in this issue of the *Fiscal Monitor*.

Private Debt

The private debt data set builds on the methodology developed by the Bank for International Settlements (BIS) (Dembiermont, Drehmann, and Muksakunratana 2013), extending the BIS's original sample of 42 countries to a large panel of 113 advanced economies, emerging market economies, and low-income countries, spanning 40 years on average (Annex Figure 1.1.1).

Definition

Private nonfinancial debt is defined as the total stock of loans and debt securities issued by households and nonfinancial corporations, irrespective of the lender. This excludes debt issued by financial institutions, as well as equities, investment fund shares, financial derivatives, trade credit and advances, and accounts payable or receivable. For nonfinancial corporations in emerging market economies, the methodology follows Chapter 3 of the October 2015 *Global Financial Stability Report*. World debt figures are calculated as the sum of total debt of the nonfinancial sector, expressed in U.S. dollars, for those countries in the chapter's sample. World GDP is calculated as the sum of the nominal GDP in U.S. dollars for the same countries.

Source of Data

As a first-best approach, national accounts data, which provide the most comprehensive coverage of private debt, have been used. Harmonized series come from the BIS for a sample of 27 advanced economies and emerging market economies, with adjustments for breaks due to differences in borrower, lender, or instrument coverage (Dembiermont, Drehmann, and Muksakunratana 2013).

In the absence of national accounts data, private debt is estimated as the sum of three components: (1) bank loans to domestic households and nonfinancial corporations, drawn from the IMF's Standardized Reporting Forms (SRFs) and *International Financial Statistics* (IFS);[16] (2) outstanding stock of debt securities issued by nonfinancial corporations, calculated from Dealogic; and (3) cross-border bank loans, from the BIS. This follows closely the BIS's approach for estimating private debt, but improves upon it by using debt securities from Dealogic, which should capture securities held by all entities; in contrast, the BIS data capture only securities held by banks. For low-income countries, private debt estimates cover only loans by domestic banks, because of data limitations. In the case of China, private debt is captured by total social financing adjusted for local government bond swaps, excluding equity financing and local government financing vehicle (LGFV) borrowings that have been recognized, or are likely to be recognized, as explicit local government debt (see IMF 2016d).

Constructing Long Series for Total Private Debt

Given the heterogeneity of data sources, coverage across instruments, lenders, and borrowers is not always homogeneous over time, leading to breaks in the series. To adjust for breaks (particularly when some components of debt are missing), the BIS's methodology is followed:

$$Adjustedprivatedebt_t = \begin{cases} d_t + c_t if t \geq t_0 \\ d_t * \left(\frac{d_{t_0} + c_{t_0}}{d_{t_0}} \right) if t < t_0 \end{cases}, \quad \text{(A.1.1.1)}$$

in which c_t is, for example, the stock of cross-border debt flows available starting only at t_0 and d_t is the stock of domestic debt available throughout the period.

Debt of Households and Nonfinancial Corporations

Separate debt series are calculated for households and nonfinancial corporations, based on flow-of-funds data from the BIS, whenever available. Otherwise, sectoral bank loan series are drawn from the SRFs, while all debt securities and cross-border flows are assumed to be related to nonfinancial corporations.

Public Debt

The public debt data are a version of the IMF historical debt data set (Abbas and others 2010), updated for the latest years with *World Economic Outlook* data (as of April 2016) up to 2015. The data cover general government debt for 37 advanced economies, 90 emerging market economies, and 60 low-income countries, spanning 103, 47, and 37 years on average, respectively.

Annex 1.2. Private and Public Debt and the Pace of the Recovery

This annex summarizes the econometric approach used in this chapter to estimate the impact of private and public debt on the pace of recovery after a financial crisis.[17] The analysis extends results of previous studies to a larger sample of 32 advanced economies and presents new results for a sample of 50 emerging market economies using the Local Projection Method (LPM) developed by Jordà (2005) and Jordà, Schularick, and Taylor (2016).[18] The baseline model regresses changes in the variables of interest y (real GDP per capita, real public debt per capita, and real total government expenditure per capita), from the peak before the crisis until five years into the recession, on a set of controls as follows:

$$\begin{aligned} y_{i,p+h} - y_{i,p} = {} & \theta_N d_{i,p}^N + \theta_F d_{i,p}^F + \beta_h^{NPR}\left(d_{i,p}^N x_{i,p}^{PR}\right) \\ & + \beta_h^{FPR}\left(d_{i,p}^F x_{i,p}^{PR}\right) + \beta_h^{NPU}\left(d_{i,p}^N x_{i,p}^{PU}\right) \\ & + \beta_h^{FPU}\left(d_{i,p}^F x_{i,p}^{PU}\right) \\ & + \beta_h^{NPRPU}\left(d_{i,p}^N x_{i,p}^{PR} x_{i,p}^{PU}\right) \\ & + \beta_h^{FPRPU}\left(d_{i,p}^F x_{i,p}^{PR} x_{i,p}^{PU}\right) \\ & + \sum_{l=0}^{L} \gamma_{h,l} Y_{i,p-l} + \alpha_i + u_{i,p+h}, \end{aligned} \quad \text{(A1.2.1)}$$

in which $y_{i,p+h} - y_{i,p}$ is the log difference (cumulated change) in y, h years after the peak; $d_{i,p}^N$ and $d_{i,p}^F$ are dummy variables that take value 1 in the peaks

[16]Because of data limitations, bank claims on the private sector have been used in lieu of bank loans for 18 countries in the sample. This assumption is likely to have only a limited impact, as loans accounted on average for 98 percent of bank claims in countries' reporting in the SRFs in 2015.

[17]This annex draws from a forthcoming paper by Bernardini and Forni.

[18]Countries have been selected on the basis of data availability.

Annex Table 1.2.1. Advanced Economies: Local Projection Results from Equation (A1.2.1)

	Real GDP Per Capita					Real Public Debt Per Capita					Real Government Expenditure Per Capita				
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
θ_N	–2.01***	–0.91***	1.87***	4.02***	7.42***	5.43***	12.37***	19.77***	26.76***	35.09***	2.44***	4.60***	6.64***	9.37***	15.33***
	–0.11	–0.22	–0.23	–0.29	–0.34	–1.21	–1.55	–2.02	–2.05	–2.54	–0.53	–0.61	–0.96	–0.87	–0.75
θ_F	–2.46***	–4.53***	–3.79***	–3.70***	–3.24***	11.33***	22.62***	36.18***	42.68***	44.02***	4.15**	8.67***	7.66**	5.65*	5.46*
	–0.35	–0.53	–0.58	–0.8	–1.16	–3.24	–4.35	–5.61	–6.05	–6.82	–1.64	–1.64	–3.19	–3.19	–3.41
β_h^{NPR}	0.09**	0	–0.11	–0.10	–0.18*	–0.05	0.12	0.11	–0.02	–0.45	0.12	0.09	–0.14	0.08	0.42
	–0.03	–0.09	–0.13	–0.13	–0.15	–0.38	–0.58	–0.83	–1.06	–1.08	–0.24	–0.31	–0.39	–0.48	–0.54
β_h^{FPR}	0.14*	–0.17*	–0.50***	–0.78***	–1.30***	1.34***	1.26*	1.74*	2.17***	1.60*	0.07	–0.13	–0.40	–1.22**	–1.66**
	–0.12	–0.11	–0.12	–0.19	–0.3	–0.45	–0.67	–0.91	–0.78	–0.92	–0.24	–0.17	–0.49	–0.45	–0.69
β_h^{NPU}	0.01*	0.01	–0.01	–0.03*	–0.06*	0.12*	0.01	–0.13*	–0.33**	–0.52***	–0.00	–0.06*	–0.10*	–0.14*	–0.11*
	–0.01	–0.01	–0.02	–0.02	–0.03	–0.08	–0.1	–0.12	–0.12	–0.17	–0.03	–0.05	–0.06	–0.09	–0.09
β_h^{FPU}	0.02*	–0.03	–0.05*	–0.11*	–0.26***	–0.23*	–0.30*	–0.39*	–0.51**	–0.42*	–0.05	–0.09*	–0.22**	–0.41***	–0.47**
	–0.01	–0.03	–0.04	–0.06	–0.08	–0.13	–0.16	–0.21	–0.21	–0.24	–0.06	–0.06	–0.08	–0.1	–0.18
β_h^{NPRPU}	–0.01**	–0.01*	–0.01*	–0.01	–0.00	0	0.01	0.02	0.03	0.06*	–0.00	0	0.01	–0.01	–0.01
	0	0	–0.01	–0.01	–0.01	–0.02	–0.03	–0.04	–0.05	–0.06	–0.01	–0.01	–0.02	–0.02	–0.02
β_h^{FPRPU}	0.01*	–0.00	–0.01*	–0.02*	–0.04**	–0.05**	–0.07*	–0.04	–0.04	–0.05	–0.03**	–0.01	–0.03*	–0.03*	–0.03
	–0.01	–0.01	–0.01	–0.01	–0.02	–0.02	–0.04	–0.06	–0.05	–0.06	–0.01	–0.01	–0.03	–0.02	–0.03
R^2	0.74	0.62	0.64	0.69	0.78	0.66	0.71	0.75	0.79	0.82	0.52	0.6	0.64	0.59	0.66
Peaks	128	127	126	125	111	128	127	126	125	111	128	127	125	124	110

Source: IMF staff calculations.
Note: Each column reports the output related to the estimation of the local projections. The variables are the cumulative percentage changes in real per capita GDP, real per capita public debt, and real per capita total government expenditure at years 1 to 5, starting from the peak before a recession. The local projections are conditional on a set of fixed country dummies and lagged controls (not reported). Robust standard errors, clustered by country, are reported in parentheses. *$p < .32$ (1 standard deviation); **$p < .05$ (2 standard deviations); ***$p < .01$ (3 standard deviations).

before normal and financial recessions, respectively, and 0 in the remaining years; $x_{i,p}^{PR}$ measures the average annual change in the five years before the peak of private debt; $x_{i,p}^{PU}$ measures the level of public debt as a percentage of GDP at the peak for advanced economies and the annual change in the five years before the peak for emerging market economies; $Y_{i,p-l}$ and α_i are a set of lagged control variables and fixed country effects; and $u_{i,p+h}$ is the model's residual. Controls include fixed country effects and lags of the growth (in real per capita terms) of GDP, private debt, public debt, and government expenditures. Robustness checks were conducted using different model specifications and sets of controls, windows to compute the precrisis buildup in debt, and selection criteria for crisis episodes, without significant changes.

Banking crises episodes are taken from studies by Jordà, Schularick, and Taylor (2016), Laeven and Valencia (2012), and Reinhart and Rogoff (2011). In total there are 50 episodes in advanced economies and 93 in emerging market economies. Data on public debt and private credit come from a newly compiled data set (see Annex 1.1), while data on real GDP per capita are from the *World Economic Outlook,* complemented with data from the Penn Word Table (release 9.0). Data on total government spending are taken from work by Mauro and others (2015).

The results for real GDP per capita show that financial recessions are much deeper than normal recessions in both advanced economies and emerging market economies, with output levels 10 and 4 percent lower by year 5, respectively (see Annex Tables 1.2.1 and 1.2.2). They are even deeper when pre-

Annex Table 1.2.2. Emerging Market Economies: Local Projection Results from Equation (A1.2.1)

	Real GDP Per Capita					Real Public Debt Per Capita					Real Government Expenditure Per Capita				
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5	Year 1	Year 2	Year 3	Year 4	Year 5
θ_N	–2.64***	–2.13***	–0.07	1.25***	2.56***	6.43***	9.82***	10.04***	12.03***	12.03***	0.79*	1.69*	4.65***	7.53***	9.11***
	–0.19	–0.24	–0.24	–0.33	–0.42	–1.47	–2.23	–2.36	–2.28	–2.02	–0.7	–0.9	–0.85	–1.16	–1.56
θ_F	–4.95***	–6.00***	–4.45**	–3.48*	–0.91	22.45***	36.14***	44.20***	47.71***	47.40***	0.67	1.61	1.37	–0.91	7.15*
	–0.94	–1.13	–1.74	–2.37	–2.31	–7.28	–10.62	–14.43	–12.88	–13.32	–3.25	–3.94	–5.54	–7.79	–7.07
β_h^{NPR}	–0.12	0.01	0.17	–0.34	–0.89	–2.22	–3.67	–2.44	1.99	3.2	0.38	0.01	0.07	–0.37	–0.45
	–0.16	–0.34	–0.56	–0.72	–0.9	–3.29	–3.92	–4.36	–4.17	–4.96	–0.79	–1.09	–1.15	–1.56	–2.04
β_h^{FPR}	–0.71*	–0.90*	–1.13***	–1.18***	–1.05*	2.75*	5.86*	6.14*	9.27*	11.47**	–0.42	–0.59	–2.07*	–1.29	–2.41*
	–0.37	–0.46	–0.4	–0.42	–0.53	–2.17	–4.31	–4.78	–5.45	–4.27	–1.2	–1.81	–1.35	–2.09	–1.48
β_h^{NPU}	–0.13*	–0.35**	–0.61***	–0.85***	–1.01***	0.05	0.23	1.10*	0.71	0.39	0.1	0.17	–0.09	–0.68*	–0.68
	–0.08	–0.16	–0.21	–0.22	–0.26	–0.41	–0.76	–0.97	–1.32	–1.53	–0.37	–0.49	–0.62	–0.61	–0.75
β_h^{FPU}	–0.16	–0.56*	–0.87**	–0.77*	–0.39	0.84	2.46	3.03	3.41	7.63*	0.34	–1.82*	–1.69	–1.95	–2.38
	–0.3	–0.32	–0.4	–0.5	–0.66	–2.28	–3.14	–3.91	–4.46	–4.11	–0.84	–1.71	–1.98	–2.08	–2.44
β_h^{NPRPU}	–0.00	–0.01	0.03*	0.03*	0.05*	0.29*	0.54**	0.65***	0.17	0.1	0.05	0.23**	0.29**	0.22*	0.19*
	–0.01	–0.02	–0.03	–0.03	–0.04	–0.19	–0.24	–0.21	–0.33	–0.38	–0.06	–0.11	–0.11	–0.11	–0.15
β_h^{FPRPU}	–0.06	–0.09*	–0.09	–0.02	–0.02	0.16	0.43	0.24	0.58	1.69*	0.02	–0.44*	0.05	0.16	–0.01
	–0.07	–0.08	–0.1	–0.11	–0.14	–0.57	–0.79	–0.98	–1.1	–1.04	–0.22	–0.41	–0.41	–0.48	–0.58
R^2	0.74	0.51	0.42	0.43	0.48	0.33	0.44	0.48	0.64	0.64	0.37	0.44	0.49	0.46	0.45
Peaks	168	162	152	149	134	168	161	151	148	133	168	162	151	148	133

Source: IMF staff calculations.

Note: Each column reports the output related to the estimation of the local projections. The variables are the cumulative percentage changes in real per capita GDP, real per capita public debt, and real per capita total government expenditure at years 1 to 5, starting from the peak before a recession. The local projections are conditional on a set of fixed country dummies and lagged controls (not reported). Robust standard errors, clustered by country, are reported in parentheses. *$p < .32$ (1 standard deviation); **$p < .05$ (2 standard deviations); ***$p < .01$ (3 standard deviations).

ceded by a private credit buildup. Both higher public debt levels and faster increases in public debt make the pace of recovery in advanced economies consistently worse in the aftermath of a financial crisis. By contrast, a rapidly increasing public-debt-to-GDP ratio prior to the crisis is what puts a drag on the postcrisis recovery in emerging market economies.[19] The response of real per capital total government spending during financial recessions points to a countercyclical stance in advanced economies (consistently positive coefficients), but a muted response in emerging market economies (smaller coefficients that are not always positive).[20] Moreover, in the case of emerging market economies, starting with rapidly increasing public debt leads to a negative cumulative effect on real government spending.

[19]This result is consistent with recent studies looking at both advanced economies and emerging market economies that show that public debt buildups are particularly damaging for growth and that countries with a high but declining level of debt fare similarly to countries with lower levels of debt (Chudik and others 2016; Pescatori, Sandri, and Simon 2014). Moreover, for advanced economies, most of the episodes of banking crisis pertain to the 2008–09 crisis (when countries had, on average, relatively high levels of public debt), while for emerging market economies, a number of episodes refer to the 1980s and 1990s, when countries had low levels of public debt.

[20]Ideally, the change in the cyclically adjusted primary balance would be better placed to capture the discretionary response of fiscal policy, but data constraints prevent the inclusion of that variable in the analysis. Following Kaminsky, Reinhart, and Végh (2005), real public spending, for which longer time series are available, is used here instead.

Annex 1.3. Interlinkages between Public and Private Debt: Selected Summary of the Literature

Channel	References	Description
Macroeconomic	Cipriani, Fostel, and Houser 2012; Gârleanu and Pedersen 2011; Fostel and Geanakoplos 2008; Lettau and Ludvigson 2004; Ludwig and Slok 2004; Eschenbach and Schuknecht 2004; Bernanke, Gertler, and Gilchrist 1999; Kiyotaki and Moore 1997	Private sector leverage is positively associated with asset prices in a collateralized-borrowing environment that can lead to changes in public debt through direct and indirect channels. The direct impact works through revenues related to asset prices (capital gains and wealth-related consumption taxes), amplified by transaction volumes. The indirect impact works through output, with asset prices feeding into the economy via a financial accelerator affecting consumption and investment, and consequently fiscal revenues and public debt.
	Cimadomo, Hauptmeier, and Zimmermann 2014; Bassett and others 2014; Elekdag and Wu 2013; Kaminsky, Reinhart, and Végh 2005; Andres, Arce, and Thomas 2016	Public debt can also lead to changes in private debt. A fiscal tightening may exert a negative impact on output, reducing bank capital bases and therefore weakening standard measures of capital adequacy. The resulting tightening in credit supply may hamper output and businesses' and households' capacity to borrow from banks, in addition to widening credit spreads. As a consequence, private debt may decrease. The government, through procyclical fiscal policy, may fuel credit booms, so fiscal policy acts as an amplifier of business cycles.
Spillover	Bruggeman and Van Nieuwenhuyze 2013	Public and private debt are intertwined through price and quantity effects.
	Espinoza and Segoviano 2016; Altavilla, Pagano, and Simonelli 2016; Erce 2015; Acharya, Drechsler, and Schnabl 2014; Corsetti and others 2013	The *price effect* encompasses a bidirectional relationship between the public and private sectors. When vulnerabilities build up in the financial sector, including in the form of high leverage, and markets expect eventual government bailouts, the sovereign risk premium may go up. There may also be some pass-through from sovereign risk to interest rates faced by banks through benchmarking and contagion effects, in part directly through banks' holding of governments bonds. This may lead to tighter prudential ratios, lower bank leverage, and consequently reduced private credit.
	Bocola 2016; Altavilla, Pagano, and Simonelli 2016; Cimadomo, Hauptmeier, and Zimmermann 2014	The *quantity effect* captures how public debt affects private debt through liquidity and risk channels. The liquidity channel works through the exposure of banks to risky government bonds, which in turn limit the banks' ability to borrow from capital markets, constraining their funding and hampering lending to the private sector. The risk channel works through an increase in sovereign risk that raises the chance of large balance sheet losses and tight funding, generating a precautionary motive for banks to deleverage and reduce credit to firms.
Contingent Liability	Hoggarth, Reis, and Saporta 2002; Honohan and Klingebiel 2003; Laeven and Valencia 2013	Excessive borrowing from the banking sector by nonfinancial corporations and households could weaken the banking sector's balance sheets. This could in turn trigger a systemic failure of the banking sector and require government intervention, hence contaminating the sovereign's balance sheet. These interventions typically include bank recapitalization, asset purchases, and in some cases, guarantees.
	Stone 2000; Claessens, Klingebiel, and Laeven 2005; Grigorian and Raei 2010; Laeven and Laryea 2009	Private nonfinancial debt may also migrate to the sovereign through government-sponsored debt-restructuring programs for firms and households. These may include (1) incentives or subsidies for borrowers and creditors, (2) direct lending to companies that are viable but unable to access markets, and (3) creation of asset management companies.

Annex 1.4. Private Deleveraging and the Role of Fiscal Policy

This annex summarizes the main features of the dynamic stochastic general equilibrium (DSGE) model used in this issue of the *Fiscal Monitor* to analyze the role of fiscal policy in supporting private deleveraging. The model is that of Batini, Melina, and Villa (2016), which explicitly considers the government's fiscal limit and private-public debt interlinkages. Its backbone presents financial frictions in the Kiyotaki and Moore (1997) and Iacoviello (2005) closed-economy tradition. This basic structure has been extended to account for fiscal policy, government indebtedness, and the sovereign risk premium. The economy is populated by patient households, impatient households, entrepreneurs, the government, and the central bank. To keep the model simple, but without loss of generality, it does not include banks.[21]

Private Agents

Patient households work, consume, buy housing, and invest in riskless private bonds and in government bond holdings. Holding government debt is subject to sovereign default risk. *Impatient households* work, consume, and borrow subject to collateral constraints. *Entrepreneurs* also borrow subject to collateral constraints and invest and produce in monopolistic competition.

Government

The government has the role of lender of last resort and is tasked not just with providing public goods and smoothing the economic cycle, but also with providing financial assistance in the form of loans to constrained agents borrowing in the aftermath of financial shocks.[22] This targeted fiscal intervention bears a budgetary cost, which is given by (1) the inefficiency costs arising from nonperforming loans[23] and (2) a subsidy, as the government lends at a market-risk-free rate but has to pay a sovereign risk premium—which is a function of its debt level.

The government finances its expenditures by raising a mix of lump sum and distortionary taxes and by issuing government bonds. Fiscal rules imply that government expenditures and taxes react to stabilize public debt compatibly with the government's fiscal limit. Following Corsetti and others (2013), the fiscal limit is calibrated on real-world default cases. This feature delivers dynamics similar to more complicated open-economy setups in which the fiscal limit reflects the fact that government debt is mainly external or denominated in foreign currency (original sin/sudden-stop-type fiscal limit).[24]

Central Bank

The central bank conducts monetary policy following a Taylor-type rule, according to which the official interest rate is set to close inflation deviations from a prespecified target and the output gap.

Annex 1.5. Policies during Deleveraging Episodes

This annex summarizes the key features and main policies (including targeted fiscal interventions) implemented in the six deleveraging episodes studied in the chapter.

Key Features

In all cases, deleveraging was triggered by the bursting of a credit-fueled asset bubble. In Finland,[25] Iceland, and the United States, the rapid expansion associated with financial innovation and declining lending standards led to a real estate boom (April 2012

[21]Including banks would add further financial frictions, and under certain modeling assumptions, could magnify leverage cycles by allowing a greater mismatch between debt maturities and risk between ultimate borrowers and lenders. Nevertheless, this would just reinforce the economic forces driving the model's results.

[22]This type of intervention captures real-world policy measures taken during the crisis to facilitate mortgage payments by agents in distress, government credit for home renovation, or other initiatives to spur spending on consumer durables.

[23]Inefficiency costs arise because the government is not in the business of intermediation, risk is not priced correctly, and there is some probability that a percentage of the loans will not perform. In the context of U.S. unconventional monetary policy, Gertler and Karadi (2011) consider a cost equal to 10 percent of the value of loans to be large. Therefore, high inefficiency costs are assumed here to amount to 20 percent of the value of loans. In the simulations, the fiscal cost at the optimal level of intervention amounts to about 4 percent of GDP over four years (assuming high inefficiency).

[24]While the model captures a convex increase in the risk premium as the level of government debt approaches the fiscal limit, it is solved within a region of fiscal solvency, with possibly a very small fiscal space. In the real world, when the fiscal limit is reached and a situation of sudden stop in capital flows materializes, the government clearly has no fiscal space for targeted intervention.

[25]In the case of Finland, the economic collapse and subsequent disintegration of the former Soviet Union was a factor contributing to the bursting of the credit bubble.

Annex Table 1.5.1. Private Sector Deleveraging Case Studies: Macroeconomic Conditions

Country	Average Growth (percent)	Average Inflation (percent)	Change in NEER (percent change)	Average Global Growth over the First Five Years of Deleveraging (percent)	Output Gap Trough (percent)	Output Gap Trough to 0	
						Number of Years	Change in Private Demand (percent of GDP)
Finland	2.8	1.5	–1.8	3.0	–7.9	5	–1.8
Japan	1.2	0.0	–16.5	3.5	–1.9	8	0.7
Korea	5.1	3.6	–21.9	3.5	–8.3	2	9.4
Thailand	3.3	3.1	–7.7	3.5	–5.8	5	11.2
Iceland	2.0	5.9	–43.5	3.7	–3.4	3	3.2
United States	0.8	2.0	–10.3	3.2	–5.0	4	2.9

Sources: Haver Analytics; IMF, International Financial Statistics; IMF, World Economic Outlook; and IMF staff estimates.
Note: The deleveraging process in Iceland is ongoing. Average growth, average inflation, changes in nominal effective exchange rate (NEER), and output gap trough over the deleveraging period are displayed in Table 1.1. A negative change in NEER refers to depreciation. Change in private demand refers to the change during the period over which output gap moves from trough to 0. For the United States, number of years reflects the time period from the output gap trough to the end of the deleveraging period, as the U.S. output gap has yet to close.

World Economic Outlook). In Japan, Korea, and Thailand, the liberalization of capital markets, along with expansionary monetary policy in Japan and preferential credit lines to large conglomerates in Korea, were associated with an unprecedented boom in commercial real estate and equity markets.

The macroeconomic environment varied widely across countries during the deleveraging process (Annex Table 1.5.1). Conditions were particularly adverse in Japan (deflation) and the United States (weak growth). On the other hand, positive growth and inflation rates contributed to eroding the real value of private debt in Korea and Thailand, although this erosion was partly offset by exchange rate depreciations that increased the burden of foreign-currency-denominated debt. In Iceland, a large depreciation of the krona leading to massive inflation during 2008–09 undermined deleveraging prospects since most mortgage loans were indexed to the exchange rate and consumer prices. Nevertheless, all deleveraging episodes, except for those in Japan and the United States, took place amidst V-shaped recoveries, with rapid rebounds in private demand in Korea and Thailand.

Main Policies

Finland in the Early 1990s

Macroeconomic Policies

Monetary policy was expansionary through most of the deleveraging period—except for an initial tightening to preserve exchange rate stability. The fiscal stance was expansionary in the first two years and thereafter gradually consolidated to meet Economic and Monetary Union (EMU) accession convergence criteria.

Targeted Fiscal Interventions

Actions were swift and focused mainly on indirect types of interventions. In March 1992, the government increased capital and provided liquidity to nearly all banks in the form of preferred capital certificates. The Government Guarantee Fund was also established in April 1992 as a crisis management institution funded by the state budget. The fund provided direct and conditional support mainly to savings banks through share capital, capital notes, and guarantees. In addition, the equivalent of a blanket guarantee to all Finnish banks was announced in August 1992 and maintained until 1998. All these measures amounted to about 13 percent of GDP (Sandal 2004; Laeven and Valencia 2012).

Japan in the Mid-1990s

Macroeconomic Policies

Monetary policy was eased only gradually before the deleveraging episode (six times between mid-1991 and mid-1995) and had already approached the zero lower bound by the start of the episode. A two-year fiscal stimulus of about 8 percent of GDP was implemented only in 1998 (IMF 1999). Fiscal consolidation resumed in the mid-2000s to contain rapidly rising public debts.

Targeted Fiscal Interventions

- *Indirect*. A tax-deductible write-off scheme was implemented in the early 1990s at a cost of about 9.2 percent of GDP (IMF 1995; Hoshi and Kashyap 2005). Comprehensive measures totaling about 12 percent of GDP for the pool of funds earmarked for recapitalizing solvent banks,

resolving failing banks, and supporting deposit insurance were taken only in 1998, three years into the deleveraging episode (IMF 2009a). Delays in rescuing troubled banks added to the final costs and contributed to the slow recovery (Laryea 2010; IMF 2009a; Ueda 2012). Japan also introduced a special credit guarantee program on lending to small and medium-sized enterprises that by 2001 fully covered nearly ¥30 trillion in bank loans (IMF 2009a). Although this measure was aimed at mitigating the credit crunch, it may have delayed necessary restructuring, based on evidence that participation was dominated by heavily indebted firms (Matsuura and Hori 2003).

- *Direct*. Following an overhaul of the insolvency system that began in 1996, several temporary tax incentives were implemented in 1999 to promote corporate reorganization (IMF 1999; Levy 2000). They included a deferral of the taxation of capital gains realized in the transfer or reorganization of subsidiaries and divisions. The number of government-approved restructuring plans doubled in the first year after these incentives were announced (IMF 2000a).

Korea after the Asian Financial Crisis

Macroeconomic Policies

Monetary policy was tightened from the start of the deleveraging episode through early 1998 to stabilize the exchange rate and avoid a depreciation-inflation spiral. Thereafter, it was progressively eased (Lane and others 1999). Low levels of public debt allowed fiscal policy to be loosened by the second half of 1998 and to remain expansionary throughout most of the deleveraging period. Fiscal expansions helped finance an increase in social safety nets, temporary tax incentives, and corporate debt restructuring. Fiscal consolidation ensued in a later stage when the economy was already recovering.

Targeted Fiscal Interventions

- *Indirect*. A three-year financial restructuring program initiated in 1997 provided fiscal support to financial intermediaries at the very early stages of the deleveraging process. At a cost of about 31.2 percent of GDP—mainly financed through the issuance of government-guaranteed bonds—the program recapitalized financial institutions, purchased nonperforming loans through a government-sponsored asset management company, and protected depositors (Laeven and Valencia 2012).
- *Direct*. Korea implemented a number of tax measures to encourage corporate debt restructuring and reduce the debt bias in 1998 and 1999. Most of the measures were temporary, with up to five-year sunset clauses. Main measures included (1) the exemption or deferral of capital gains, transaction, and income taxes on the sale, transfer, and reevaluation of assets of restructured companies and capital injection from shareholders and (2) removal of preferential tax treatment for firms with a debt-to-equity ratio above 500 percent (Dalsgaard 2000). Tax incentives were accompanied by insolvency reforms to remove impediments to corporate debt restructuring early in 1998, which provided a better balance between the rights of debtors and creditors and improved the speed and efficiency of the system (Claessens 2005).

Thailand after the Asia Financial Crisis

Macroeconomic Policies

Monetary policy was tightened to deter depreciation until August 1998 and loosened thereafter. Except for a small fiscal stimulus in 2001, the fiscal stance was kept tight during the deleveraging period, reflecting concerns about rapidly growing public debt (IMF 2001).

Targeted Fiscal Interventions

- *Indirect*. Between 1998 and 2002, the government implemented two consecutive bank recapitalization programs at a cost of about 44 percent of GDP (Laeven and Valencia 2012).
- *Direct*. The government implemented temporary and permanent measures in 1998–99 to facilitate corporate restructuring. The temporary measures included (1) tax deductions of written-off debt for creditors and elimination or deferral of corporate income tax on written-off debt for debtors, (2) elimination of all taxes on asset transfers from debtors to creditors, (3) elimination of taxes on accrued but unpaid interest, and (4) limitation of taxes on restructurings that involved interest rate reductions by creditors. Permanent measures designed to support corporate restructuring included (1) provision for tax-free mergers and noncash acquisition of assets in the case of full mergers and (2) elimination of the value-added tax and specific business tax on the transfer of assets to a special-purpose vehicle providing tax incentives to speed up debt restruc-

turing by debtors and creditors (Pomerleano 2005). A wide range of legal reforms was also introduced to facilitate corporate debt restructuring: (1) the bankruptcy law was amended in 1998 and 1999 to improve the prospects for the rehabilitation of companies and (2) the foreclosure law was revamped to strengthen the rights of creditors and increase the incentive for debtors to negotiate (IMF 2000b).

Iceland since the Great Recession

Macroeconomic Policies

A large (about 12 percent of GDP) front-loaded fiscal expansion was implemented through 2008 to counter the crisis but was followed by a consolidation starting in mid-2009. Monetary policy, which initially focused on stabilizing the exchange rate, gradually became accommodative as depreciation pressures eased.

Targeted Fiscal Interventions

- *Indirect*. Starting at the end of 2008, the Icelandic government assumed control of, recapitalized, and restructured three failed large banks to avoid a credit crunch. Failed banks were too big to be rescued and were partially bailed-in by foreign depositors, while domestic depositors were protected. Icelandic deposits and assets were carved out of the failing banks and transferred to new state-owned banks, while most of the foreign-owned assets and liabilities were allocated to the existing banks, which were declared insolvent (IMF 2012a). Creditors of the existing banks became the shareholders of two of the new banks through a debt-to-equity swap operation (IMF 2012a). Subsequently, the government also recapitalized savings banks and nonbank financial institutions. The recapitalization of the core financial system was completed in 2011 and cost about 44.2 percent of GDP (Laeven and Valencia 2012).[26]
- *Direct*. Fiscal interventions targeted households for the most part. Targeted fiscal interventions took the form of a tax rebate (announced in 2008 and extended in 2010) and subsidy (two-year subsidy introduced in 2010) on mortgage interest payments to support government-sponsored household-debt-restructuring initiatives (IMF 2011).[27]

[26]Fiscal costs encompass the costs associated with the recapitalization of banks, the recapitalization of the central bank, and the called guarantees of the State Guarantee Fund.

[27]See the April 2012 *World Economic Outlook* for a detailed review of these initiatives.

Annex Table 1.5.2. Costs of Selected U.S. Fiscal Interventions

	US$ Billion	Percent of GDP
TARP Programs	476	3.1
Financial Sector Restructuring	347	2.3
Auto Industry	83	0.5
Residential Mortgages	46	0.3
Of which: HAMP	23	0.1
GSE Guarantees	188	1.2
Total	663	4.3

Sources: Frame and others 2015; U.S. Treasury; and IMF staff estimates.
Note: The Troubled Asset Relief Program's (TARP's) initially approved budget of US$700 billion was reduced to about US$475 billion by the Dodd-Frank Act. Financial sector restructuring costs account for programs for banking investment, credit markets, and the insurer AIG. Residential mortgages include all fiscal interventions under the Making Home Affordable (MHA) and Hardest Hit Fund (HHF). The Home Affordable Modification Program (HAMP) is part of the MHA program. Government-sponsored enterprise (GSE) guarantees correspond to the amount called between 2008 and 2011.

New household debt relief measures were launched in 2014, envisaging across-the-board reductions in household mortgages over 2014–17 financed in equal shares by a tax on banks capped at 4½ percent of GDP and tax-free early withdrawals from Pillar III pension accounts, with costs uncapped and estimated at about 4½ percent of GDP (IMF 2014).

United States during the Great Recession

Macroeconomic Policies

Monetary easing preceded the start of the deleveraging period and was sustained through unconventional monetary policies in the form of liquidity provision and purchases of assets, including mortgage-backed securities, through the deleveraging episode. Fiscal expansion was front-loaded with the implementation of two large fiscal stimulus packages in 2008–09 of about 6 percent of GDP (IMF 2009c). Fiscal consolidation started in 2011, reflecting debt sustainability concerns and the application of automatic spending cuts later in 2013.

Targeted Fiscal Interventions

Implemented mainly as part of the Troubled Asset Relief Program (TARP) in 2008, fiscal interventions cost 4½ percent of GDP (Annex Table 1.5.2). The main measures were

- *Indirect*. In September 2008, the U.S. Treasury issued guarantees in the form of senior preferred stock purchase agreements and Treasury liquidity facilities to maintain the positive net worth of

government-sponsored enterprises, allowing them to continue the securitization of residential mortgages. This intervention helped support the supply of conforming mortgages and enabled fixed-rate mortgages to be refinanced and was critical to stabilizing housing prices (Frame and others 2015). In addition, in October 2008, the government implemented several programs under TARP aimed at restructuring the financial sector through public capital injections to stressed financial institutions, government purchases of non-government-sponsored-enterprise mortgage-backed securities and small business loans, and government guarantees of banks and money market fund assets.

- *Direct*. Support was provided to households and firms as follows:
  - *Loan modifications.* To restructure household debt, prevent foreclosures, and stabilize house prices, the government launched the Home Affordable Modification Program (HAMP) in early 2009.[28] HAMP reduced mortgage payments of qualifying distressed homeowners through modifications of first-lien loans.[29] Loan modifications were encouraged through cash payments to loan servicers that chose to renegotiate residential mortgages and to borrowers that demonstrated compliance with modified mortgages.[30] The effectiveness of HAMP has been mixed, with take-up rates falling below original targets, despite some evidence of housing price stabilization in regions with greater exposure to the program (Agarwal and others 2013).[31] The lower-than-expected take-up rates have been attributed to tight eligibility criteria, including a six-month trial period, and the inability to provide proper incentives for large loan servicers to engage in costly renegotiation (IMF 2012b; Agarwal and others 2013).
  - *Automobile industry bailout*. Direct government financial support was provided in 2008 to the holding companies for Chrysler and General Motors, their financial arms (Chrysler Financial and General Motors Acceptance Corporation, or GMAC), and automotive suppliers and to guarantee customer warranties. Loans were conditional on the submission and strict implementation of restructuring plans. Initial plans were rejected and revised plans submitted. The government decided to sell stakes acquired in the companies as a result of the bailout as soon as conditions permitted, in 2014.

[28]For an overview of current and previous U.S. household debt-restructuring programs, see "Making Home Affordable" (https://www.treasury.gov/initiatives/financial-stability/TARP-Programs/housing/mha/Pages/Programs-Under-Making-Home-Affordable.aspx) and the April 2012 *World Economic Outlook*.

[29]The program was amended in October 2010 to allow principal write-downs and was expanded in June 2012 to broaden eligibility and increase incentives. It is set to expire in December 2016.

[30]Loan servicers were already partially compensated for legal costs related to foreclosures.

[31]HAMP was envisaged to reach 4 million homeowners at a cost of about US$75 billion (0.5 percent of GDP). As of the first quarter of 2016, about 2.4 million homeowners had been assisted at about one-fifth of the initially projected cost (U.S. Treasury 2016).

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COUNTRY ABBREVIATIONS

Code	Country name
AFG	Afghanistan
AGO	Angola
ALB	Albania
ARE	United Arab Emirates
ARG	Argentina
ARM	Armenia
ATG	Antigua and Barbuda
AUS	Australia
AUT	Austria
AZE	Azerbaijan
BDI	Burundi
BEL	Belgium
BEN	Benin
BFA	Burkina Faso
BGD	Bangladesh
BGR	Bulgaria
BHR	Bahrain
BHS	Bahamas, The
BIH	Bosnia and Herzegovina
BLR	Belarus
BLZ	Belize
BOL	Bolivia
BRA	Brazil
BRB	Barbados
BRN	Brunei Darussalam
BTN	Bhutan
BWA	Botswana
CAF	Central African Republic
CAN	Canada
CHE	Switzerland
CHL	Chile
CHN	China
CIV	Côte d'Ivoire
CMR	Cameroon
COD	Congo, Democratic Republic of the
COG	Congo, Republic of
COL	Colombia
COM	Comoros
CPV	Cabo Verde
CRI	Costa Rica
CYP	Cyprus
CZE	Czech Republic
DEU	Germany
DJI	Djibouti
DMA	Dominica
DNK	Denmark

Code	Country name
DOM	Dominican Republic
DZA	Algeria
ECU	Ecuador
EGY	Egypt
ERI	Eritrea
ESP	Spain
EST	Estonia
ETH	Ethiopia
FIN	Finland
FJI	Fiji
FRA	France
FSM	Micronesia, Federated States of
GAB	Gabon
GBR	United Kingdom
GEO	Georgia
GHA	Ghana
GIN	Guinea
GMB	Gambia, The
GNB	Guinea-Bissau
GNQ	Equatorial Guinea
GRC	Greece
GRD	Grenada
GTM	Guatemala
GUY	Guyana
HKG	Hong Kong SAR
HND	Honduras
HRV	Croatia
HTI	Haiti
HUN	Hungary
IDN	Indonesia
IND	India
IRL	Ireland
IRN	Iran
IRQ	Iraq
ISL	Iceland
ISR	Israel
ITA	Italy
JAM	Jamaica
JOR	Jordan
JPN	Japan
KAZ	Kazakhstan
KEN	Kenya
KGZ	Kyrgyz Republic
KHM	Cambodia
KIR	Kiribati
KNA	St. Kitts and Nevis

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

GLOSSARY

Cyclical balance Cyclical component of the overall fiscal balance, computed as the difference between cyclical revenues and cyclical expenditures. The latter are typically computed using country-specific elasticities of aggregate revenue and expenditure series with respect to the output gap. Where unavailable, standard elasticities (0,1) are assumed for expenditure and revenue, respectively.

Cyclically adjusted balance (CAB) Difference between the overall balance and the automatic stabilizers; equivalently, an estimate of the fiscal balance that would apply under current policies if output were equal to potential.

Cyclically adjusted primary balance (CAPB) Cyclically adjusted balance excluding net interest payments.

Fiscal buffer Fiscal space created by saving budgetary resources and reducing public debt in good times.

Fiscal space Extent to which a government can generate and allocate resources for a given purpose without prejudicing liquidity or long-term public debt sustainability.

Fiscal stabilization Contribution of fiscal policy to output stability through its impact on aggregate demand.

General government All government units and all nonmarket, nonprofit institutions that are controlled and mainly financed by government units comprising the central, state, and local governments; includes social security funds, and does not include public corporations or quasi-corporations.

Gross debt All liabilities that require future payment of interest and/or principal by the debtor to the creditor. This includes debt liabilities in the form of special drawing rights, currency, and deposits; debt securities; loans; insurance, pension, and standardized guarantee programs; and other accounts payable. (See the IMF's 2001 *Government Finance Statistics Manual* and *Public Sector Debt Statistics Manual*.) The term "public debt" is used in the *Fiscal Monitor*, for simplicity, as synonymous with gross debt of the general government, unless specified otherwise. (Strictly speaking, public debt refers to the debt of the public sector as a whole, which includes financial and nonfinancial public enterprises and the central bank.)

Net debt Gross debt minus financial assets corresponding to debt instruments. These financial assets are monetary gold and special drawing rights; currency and deposits; debt securities; loans; insurance, pension, and standardized guarantee programs; and other accounts receivable. In some countries, the reported net debt can deviate from this definition based on available information and national fiscal accounting practices.

Nonfinancial public sector General government plus nonfinancial public corporations.

Output gap Deviation of actual from potential GDP, in percent of potential GDP.

Overall fiscal balance (also "headline" fiscal balance) Net lending and borrowing, defined as the difference between revenue and total expenditure, using the IMF's 2001 *Government Finance Statistics Manual* (GFSM 2001). Does not include policy lending. For some countries, the overall balance is still based on the GFSM 1986, which defines it as total revenue and grants minus total expenditure and net lending.

Potential output Estimate of the level of GDP that can be reached if the economy's resources are fully employed.

Primary balance Overall balance excluding net interest payment (interest expenditure minus interest revenue).

Public debt See *gross debt*.

Public sector The general government sector plus government-controlled entities, known as public corporations, whose primary activity is to engage in commercial activities.

Structural fiscal balance Difference between the cyclically adjusted balance and other nonrecurrent effects that go beyond the cycle, such as one-off operations and other factors whose cyclical fluctuations do not coincide with the output cycle (for instance, asset and commodity prices and output composition effects).

METHODOLOGICAL AND STATISTICAL APPENDIX

This appendix comprises four sections. Data and Conventions provides a general description of the data and conventions used to calculate economy group composites. Fiscal Policy Assumptions summarizes the country-specific assumptions underlying the estimates and projections for 2016–17 and the medium-term scenario for 2018–21. Definition and Coverage of Fiscal Data summarizes the classification of countries in the various groups presented in the *Fiscal Monitor* and provides details on the coverage and accounting practices underlying each country's *Fiscal Monitor* data. Statistical tables on key fiscal variables complete the appendix. Data in these tables have been compiled on the basis of information available through September 20, 2016.

Data and Conventions

Country-specific data and projections for key fiscal variables are based on the October 2016 World Economic Outlook database, unless indicated otherwise, and compiled by the IMF staff. Historical data and projections are based on information gathered by IMF country desk officers in the context of their missions and through their ongoing analysis of the evolving situation in each country; they are updated on a continual basis as more information becomes available. Structural breaks in data may be adjusted to produce smooth series through splicing and other techniques. IMF staff estimates serve as proxies when complete information is unavailable. As a result, *Fiscal Monitor* data can differ from official data in other sources, including the IMF's *International Financial Statistics*.

Sources for fiscal data and projections not covered by the World Economic Outlook database are listed in the respective tables and figures.

The country classification in the *Fiscal Monitor* divides the world into three major groups: 35 advanced economies, 40 emerging market and middle-income economies, and 40 low-income developing countries. The seven largest advanced economies as measured by GDP (Canada, France, Germany, Italy, Japan, United Kingdom, United States) constitute the subgroup of major advanced economies, often referred to as the Group of Seven (G7). The members of the euro area are also distinguished as a subgroup. Composite data shown in the tables for the euro area cover the current members for all years, even though the membership has increased over time. Data for most European Union member countries have been revised following the adoption of the new European System of National and Regional Accounts (ESA 2010). The low-income developing countries are those designated eligible for the Poverty Reduction and Growth Trust (PRGT) in the 2013 PRGT eligibility review and whose per capita gross national income was less than the PRGT income graduation threshold for "non-small" states—that is, twice the operational threshold of the International Development Association, or $2,390 in 2011, as measured by the World Bank's Atlas method. Zimbabwe is included in the group. Emerging market and middle-income economies include those not classified as advanced economies or low-income developing countries. See Table A, "Economy Groupings," for more details.

All fiscal data refer to the general government, where available, and to calendar years, except in the cases of Bangladesh, Egypt, Ethiopia, Haiti, Hong Kong Special Administrative Region, India, the Islamic Republic of Iran, Lao People's Democratic Republic, Myanmar, Nepal, Pakistan, Singapore, and Thailand, for which they refer to the fiscal year.

Composite data for country groups are weighted averages of individual-country data, unless specified otherwise. Data are weighted by annual nominal GDP converted to U.S. dollars at average market exchange rates as a share of the group GDP.

For the purpose of data reporting in the *Fiscal Monitor*, the Group of 20 (G20) member aggregate refers to the 19 country members and does not include the European Union.

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

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

Argentina: Total expenditure and the overall balance account for cash interest only. The primary balance excludes profit transfers from the central bank of Argentina. Interest expenditure is net of interest income from the social security administration. For GDP and consumer price index (CPI) data, see the "Country Notes" section in the Statistical Appendix of the October 2016 *World Economic Outlook*.

Australia: 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 (2008 SNA) (Canada, Hong Kong Special Administrative Region, United States) are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.

Bangladesh: Data are on a fiscal year basis.

Brazil: General government data refer to the nonfinancial public sector—which includes the federal, state, and local governments, as well as public enterprises (excluding Petrobras and Eletrobras)—and are consolidated with those for the sovereign wealth fund. Revenue and expenditures of federal public enterprises are added in full to the respective aggregates. Transfers and withdrawals from the sovereign wealth fund do not affect the primary balance. Disaggregated data on gross interest payments and interest receipts are available from 2003 only. Before 2003, total revenue of the general government excludes interest receipts; total expenditure of the general government includes net interest payments. Gross public debt includes the Treasury bills on the central bank's balance sheet, including those not used under repurchase agreements. Net public debt consolidates general government and central bank debt. The national definition of nonfinancial public sector gross debt excludes government securities held by the central bank, except the stock of Treasury securities used for monetary policy purposes by the central bank (those pledged as security reverse repurchase agreement operations). According to this national definition, gross debt amounted to 66.5 percent of GDP at the end of 2015.

Canada: For cross-country comparability, gross and net debt levels reported by national statistical agencies for countries that have adopted the 2008 SNA (Australia, Hong Kong Special Administrative Region, United States) are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.

Chile: Cyclically adjusted balances include adjustments for commodity price developments.

China: Public debt data include central government debt as reported by the Ministry of Finance, explicit local government debt, and shares—less than 19 percent, according to the National Audit Office estimate—of contingent liabilities the government may incur. IMF staff estimates exclude central government debt issued for the China Railway Corporation. Relative to the authorities' definition, the consolidated general government net borrowing includes (1) transfers to and from stabilization funds, (2) state-administered state-owned enterprise funds and social security contributions and expenses, and (3) off-budget spending by local governments. Deficit numbers do not include some expenditure items, mostly infrastructure investment financed off budget through land sales and local government financing vehicles. Fiscal balances are not consistent with reported debt because no time series of data in line with the National Audit Office debt definition is published officially.

Colombia: Gross public debt refers to the combined public sector, including Ecopetrol and excluding Banco de la República's outstanding external debt.

Egypt: Data are on a fiscal year basis.

Greece: General government gross debt includes short-term debt and loans of state-owned enterprises.

Haiti: Data are on a fiscal year basis.

Hong Kong Special Administrative Region: Data are on a fiscal year basis. Cyclically adjusted balances include adjustments for land revenue and investment income. For cross-country comparability, gross and net debt levels reported by national statistical agencies for countries that have adopted the 2008 SNA (Australia, Canada, United States) are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.

India: Data are on a fiscal year basis.

Ireland: General government balances between 2010 and 2015 reflect the impact of banking sector support and other one-off measures. Fiscal balance estimates excluding these measures are –10.9 percent of GDP for 2010, –8.7 percent of GDP for 2011, –8.0 percent of GDP for 2012, –6.1 percent of

GDP for 2013, –3.9 percent of GDP for 2014, and –1.1 percent of GDP for 2015. Cyclically adjusted balances reported in Tables A3 and A4 exclude financial sector support and other one-off measures and correct for real output, equity, house prices, and unemployment cycles. Ireland's 2015 national accounts were recently revised as a result of restructuring and relocation of multinational companies, which resulted in a level shift of nominal and real GDP. For more information, see "National Income and Expenditure Annual Results, 2015," at http://www.cso.ie/en/releasesandpublications/er/nie/nationalincomeandexpenditureannualresults2015/.

Japan: Gross debt is equal to total unconsolidated financial liabilities for the general government. Net debt is calculated by subtracting financial assets from financial liabilities for the general government.

Lao People's Democratic Republic: Data are on a fiscal year basis.

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

Mexico: General government refers to the central government, social security, public enterprises, development banks, the national insurance corporation, and the National Infrastructure Fund, but excludes subnational governments.

Norway: Cyclically adjusted balances correspond to the cyclically adjusted non-oil overall or primary balance. These variables are in percent of non-oil potential GDP.

Pakistan: Data are on a fiscal year basis.

Peru: Cyclically adjusted balances include adjustments for commodity price developments.

Singapore: Data are on a fiscal year basis. Historical fiscal data have been revised to reflect the migration to GFSM 2001, which entailed some classification changes.

Spain: Overall and primary balances include financial sector support measures estimated to be –0.07 percent of GDP for 2010, 0.3 percent of GDP for 2011, 3.7 percent of GDP for 2012, 0.3 percent of GDP for 2013, 0.1 percent of GDP for 2014, and 0.1 percent of GDP for 2015.

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

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

Thailand: Data are on a fiscal year basis.

Turkey: Information on the general government balance, primary balance, and cyclically adjusted primary balance differs from that in the authorities' official statistics or country reports, which include net lending and privatization receipts.

United States: Cyclically adjusted balances exclude financial sector support estimated at 2.4 percent of potential GDP for 2009, 0.3 percent of potential GDP for 2010, 0.2 percent of potential GDP for 2011, 0.1 percent of potential GDP for 2012, and 0.0 percent for 2013. 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 expenditure under the 2008 SNA adopted by the United States, but this is not true for countries that have not yet adopted the 2008 SNA. Data for the United States may thus differ from data published by the U.S. Bureau of Economic Analysis (BEA). In addition, gross and net debt levels reported by the BEA and national statistical agencies for other countries that have adopted the 2008 SNA (Australia, Canada, Hong Kong Special Administrative Region) are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.

Uruguay: Data are for the consolidated public sector, which includes the nonfinancial public sector (as presented in the authorities' budget documentation), local governments, Banco Central del Uruguay, and Banco de Seguros del Estado. In particular, Uruguay is one of the few countries in the sample for which public debt includes the debt of the central bank, which increases recorded public sector gross debt.

Fiscal Policy Assumptions

Historical data and projections of key fiscal aggregates are in line with those of the October 2016 *World Economic Outlook*, unless noted otherwise. For underlying assumptions other than on fiscal policy, see the October 2016 *World Economic Outlook*.

Short-term fiscal policy assumptions are based on officially announced budgets, adjusted for differences between the national authorities and the IMF staff regarding macroeconomic assumptions and projected fiscal outturns. Medium-term fiscal projections

incorporate policy measures that are judged likely to be implemented. When the IMF staff has insufficient information to assess the authorities' budget intentions and prospects for policy implementation, an unchanged structural primary balance is assumed, unless indicated otherwise.

Argentina: Fiscal projections are based on the available information regarding budget outturn for the federal government, fiscal measures announced by the authorities, and budget plans for provinces, and on IMF staff macroeconomic projections.

Australia: Fiscal projections are based on Australian Bureau of Statistics data, the 2016–17 budget, and IMF staff estimates.

Austria: For 2014, the creation of a defeasance structure for Hypo Alpe Adria is assumed to have increased the general government debt-to-GDP ratio by 4.2 percentage points, and the deficit effect arising from Hypo is assumed to be 1.4 percentage points.

Belgium: Projections reflect the IMF staff's assessment of policies and measures laid out in the 2016 budget and 2016–19 Stability Programme, incorporated into the IMF staff's macroeconomic framework.

Brazil: For 2015, outturn estimates are based on the information available as of April 2016. Fiscal projections for the end of 2016 take into account budget performance through June 30, 2016, and the deficit target revision announced by the authorities in May 2016.

Cambodia: Historical fiscal and monetary data are from the Cambodian authorities. Projections are based on the IMF staff's assumptions following discussions with the authorities.

Canada: Projections use the baseline forecasts in the Update of Economic and Fiscal Projections (November 2015), Backgrounder Canadian Economic Outlook (February 2016), 2015 provincial budget updates, and 2016 provincial budgets as available. The IMF staff makes some adjustments to this forecast for differences in macroeconomic projections. The IMF staff forecast also incorporates the most recent data releases from Statistics Canada's Canadian System of National Economic Accounts, including federal, provincial, and territorial budgetary outturns through the second quarter of 2016.

Chile: Projections are based on the authorities' budget projections, adjusted to reflect the IMF staff's projections for GDP and copper prices.

China: The pace of fiscal consolidation is likely to be gradual, reflecting reforms to strengthen social safety nets and the social security system announced at the Third Plenum reform agenda.

Croatia: Projections are based on the macroeconomic framework and the authorities' medium-term fiscal guidelines.

Cyprus: Projections are on a cash basis based on the latest information on the budget, fiscal measures, and the IMF staff's macroeconomic assumptions.

Czech Republic: Projections are based on the authorities' budget forecast for 2015–16 with adjustments for macroeconomic projections of the IMF staff. Projections for 2017 onward are based on the country's EU Convergence Programme.

Denmark: Estimates for 2015 are aligned with the latest official budget estimates and the underlying economic projections, adjusted where appropriate for the IMF staff's macroeconomic assumptions. For 2016–20, the projections incorporate key features of the medium-term fiscal plan as embodied in the authorities' Convergence Programme 2016 submitted to the European Union (EU).

Egypt: The fiscal projections are mainly based on budget sector operations (with trends of main variables discussed with the Ministry of Finance during the November 2014 Article IV consultation).

Estonia: The forecast, which is cash based, not accrual based, incorporates the authorities' 2014 budget, adjusted for newly available information and for the IMF staff's macroeconomic scenario.

Finland: Projections are based on the authorities' announced policies, adjusted for the IMF staff's macroeconomic scenario.

France: Projections for 2016 reflect the budget law. For 2017–19, they are based on the multiyear budget and the April 2016 Stability Programme, adjusted for differences in assumptions on macro and financial variables, and revenue projections. Historical fiscal data reflect the September 2016 revision and update of the fiscal accounts and national accounts.

Germany: The IMF staff's projections for 2016 and beyond reflect the authorities' adopted core federal government budget plan, the 2016 German Stability Programme, and the German Ministry of Finance's fiscal projections published in its July 2016 Monthly Report, adjusted for the differences in the IMF staff's macroeconomic framework. The estimate of gross debt includes portfolios of impaired assets and noncore

business transferred to institutions that are winding up, as well as other financial sector and EU support operations.

Greece: The fiscal projections reflect the IMF staff's assessment assuming full implementation of the authorities' fiscal policy package under the European Stability Mechanism–supported program.

Hong Kong Special Administrative Region: Projections are based on the authorities' medium-term fiscal projections on expenditure.

Hungary: Fiscal projections include IMF staff projections of the macroeconomic framework and of the impact of recent legislative measures, as well as fiscal policy plans announced in the 2016 budget.

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

Indonesia: IMF projections are based on moderate tax policy and administration reforms, fuel subsidy pricing reforms introduced in January 2015, and a gradual increase in social and capital spending over the medium term in line with fiscal space.

Ireland: Fiscal projections are based on the 2016 Summer Economic Statement. The fiscal projections are adjusted for differences between the IMF staff's macroeconomic projections and those of the Irish authorities.

Israel: Historical data are based on *Government Finance Statistics* data submitted by the Central Bureau of Statistics. Projections for 2017 and 2018 are based on the 2017–18 budget. In the absence of measures to reduce the fiscal deficit, it is assumed to be constant in subsequent years.

Italy: IMF staff estimates and projections are based on the fiscal plans included in the government's 2016 budget and the April 2016 Economic and Financial Document. Estimates of the cyclically adjusted balance include the expenditures to clear capital arrears in 2013, which are excluded from the structural balance. After 2016, the IMF staff projects convergence to a structural balance in line with the authorities' declared policy intentions, which implies corrective measures in some years, as yet unidentified.

Japan: The projections include fiscal measures already announced by the government, including the fiscal year 2016 supplementary budget, the upcoming fiscal stimulus package for 2017, and the consumption tax hike in October 2019.

Kazakhstan: Fiscal projections are based on the Budget Code and IMF staff projections.

Korea: The medium-term forecast incorporates the government's announced medium-term consolidation path.

Malaysia: Data for fiscal year 2015 are based on actual outturn. Data for fiscal year 2016 are based on the IMF staff's projections taking into account the current budget.

Malta: Projections are based on the latest Stability Programme Update by the authorities and budget documents, adjusted for the IMF staff's macroeconomic and other assumptions.

Mexico: Fiscal projections for 2016 are broadly in line with the approved budget; projections for 2017 onward assume compliance with rules established in the Fiscal Responsibility Law.

Moldova: Fiscal projections are based on various bases and growth rates for GDP, consumption, imports, wages, and energy prices and on demographic changes.

Myanmar: Fiscal projections are based on budget numbers, discussions with the authorities, and IMF staff adjustments.

Netherlands: Fiscal projections for the period 2016–21 are based on the authorities' Bureau for Economic Policy Analysis budget projections, after adjustments for differences in macroeconomic assumptions. Historical data were revised following the June 2014 Central Bureau of Statistics release of revised macro data because of the adoption of the European System of National and Regional Accounts (ESA 2010) and the revisions of data sources.

New Zealand: Fiscal projections are based on the authorities' 2016–17 budget and on IMF staff estimates.

Norway: Fiscal projections are based on the authorities' revised 2016 budget.

Philippines: Fiscal projections assume that the authorities' fiscal deficit target will be achieved in 2016 and beyond. Revenue projections reflect the IMF staff's macroeconomic assumptions and incorporate

anticipated improvements in tax administration. Expenditure projections are based on budgeted figures, institutional arrangements, current data, and fiscal space in each year.

Poland: Data are on an ESA 2010 basis beginning in 2010. Data before 2010 are on the basis of ESA 95. Projections are based on the 2016 budget. The projections also take into account the effects of the 2014 pension changes.

Portugal: The projection for 2016 is based on the authorities' approved budget, adjusted to reflect the IMF staff's macroeconomic forecast and the first half cash outturn. Projections thereafter are based on the assumption of unchanged policies.

Romania: Fiscal projections for 2016 reflect the legislated budget as of December 2015. Fiscal projections for 2017 reflect planned changes to the fiscal code as of the end of 2015. Projections for the years beyond 2017 assume no additional policy changes.

Russia: Projections for 2016–18 are IMF staff estimates. Projections for 2019–21 are based on the oil-price-based fiscal rule introduced in December 2012, with adjustments by the IMF staff.

Saudi Arabia: IMF staff projections of oil revenues are based on *World Economic Outlook* baseline oil prices. On the expenditure side, wage bill estimates incorporate 13th-month pay awards every three years in accordance with the lunar calendar. Expenditure projections take the 2016 budget as a starting point and assume that, to adjust to lower oil prices, capital spending continues to fall as a percentage of GDP over the medium term.

Singapore: For fiscal year 2015/16 and 2016/17, projections are based on budget numbers. For the remainder of the projection period, the IMF staff assumes unchanged policies.

Slovak Republic: Projections for 2015 take into account developments in the first three quarters of the year and the authorities' new projections presented in the budget for 2016. Projections for 2016 consider the authorities' 2016 budget. Projections for 2017 and beyond reflect a no-policy-change scenario.

Spain: For 2016 and beyond, fiscal estimates and projections are based on the measures specified in the Stability Programme Update 2016–19 and the IMF staff's macroeconomic projections.

Sri Lanka: Projections are based on the authorities' medium-term fiscal framework and the revenue measures proposed.

Sweden: Fiscal projections take into account the authorities' projections based on the 2016 Spring Budget. The impact of cyclical developments on the fiscal accounts is calculated using the Organisation for Economic Co-operation and Development's 2005 elasticity to take into account output and employment gaps.

Switzerland: The projections assume that fiscal policy is adjusted as necessary to keep fiscal balances in line with the requirements of Switzerland's fiscal rules.

Thailand: For the projection period, the IMF staff assumes an implementation rate of 50 percent for the planned infrastructure investment programs.

Turkey: Fiscal projections assume that both current and capital spending will be in line with the authorities' 2016–18 Medium-Term Programme based on current trends and policies.

United Kingdom: Fiscal projections are based on the 2016 budget, published in March 2016, with revenue projections adjusted for the actual fiscal year 2015/16 outturn and with revenue and expenditure projections adjusted for differences between IMF staff forecasts of macroeconomic variables (such as GDP growth and inflation) and the forecasts of these variables assumed in the authorities' fiscal projections. IMF staff data exclude public sector banks and the effect of transferring assets from the Royal Mail Pension Plan to the public sector in April 2012. Real government consumption and investment are part of the real GDP path, which, according to the IMF staff, may or may not be the same as projected by the U.K. Office for Budget Responsibility.

United States: Fiscal projections are based on the March 2016 Congressional Budget Office baseline adjusted for the IMF staff's policy and macroeconomic assumptions. The baseline incorporates key provisions of the Bipartisan Budget Act of 2015, including a partial rollback of the sequester spending cuts in fiscal year 2016. In fiscal years 2017 through 2021, the IMF staff assumes that the sequester cuts will continue to be partially replaced, in proportions similar to those agreed upon under the Bipartisan Budget Act for fiscal years 2014 and 2015, with back-loaded measures generating savings in mandatory programs and additional revenues. Projections also incorporate the Protecting Americans From Tax Hikes Act of 2015, which extended some existing tax cuts for the short term and some permanently. Finally, fiscal projections are adjusted to reflect the IMF staff's forecasts of key

macroeconomic and financial variables and different accounting treatment of financial sector support and of defined-benefit pension plans and are converted to a general government basis. Historical data start at 2001 for most series because data compiled according to GFSM 2001 may not be available for earlier years.

Venezuela: Projecting the economic outlook in Venezuela is complicated by the absence of Article IV consultations since 2004 and delays in the publication of key economic data. General government revenue (1) includes the IMF staff's estimated foreign exchange profits transferred from the central bank to the government (buying U.S. dollars at the most appreciated rate and selling at more depreciated rates in a multitier exchange rate system) and (2) excludes the IMF staff's estimated revenue from Petróleos de Venezuela, S.A.'s sale of PetroCaribe assets to the central bank.

Vietnam: Expenditure for 2015 is based on the authorities' budget; 2015 projections for oil revenues are based on *World Economic Outlook* assumptions for oil and gas prices. For projections from 2016 onward, the IMF staff uses the information and measures in its macro-framework assumptions.

Yemen: Hydrocarbon revenue projections are based on *World Economic Outlook* assumptions for oil and gas prices (authorities use $55 a barrel) and authorities' projections of production of oil and gas. Nonhydrocarbon revenues largely reflect authorities' projections, as do most of the expenditure categories, with the exception of fuel subsidies, which are projected based on the *World Economic Outlook* price consistent with revenues. Monetary projections are based on key macroeconomic assumptions about the growth rate of broad money, credit to the private sector, and deposit growth.

Definition and Coverage of Fiscal Data

Table A. Economy Groupings

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

Advanced Economies	Emerging Market and Middle-Income Economies	Low-Income Developing Countries	G7	G20[1]	Advanced G20[1]	Emerging G20
Australia	Algeria	Bangladesh	Canada	Argentina	Australia	Argentina
Austria	Angola	Benin	France	Australia	Canada	Brazil
Belgium	Argentina	Bolivia	Germany	Brazil	France	China
Canada	Azerbaijan	Burkina Faso	Italy	Canada	Germany	India
Cyprus	Belarus	Cambodia	Japan	China	Italy	Indonesia
Czech Republic	Brazil	Cameroon	United Kingdom	France	Japan	Mexico
Denmark	Chile	Chad	United States	Germany	Korea	Russia
Estonia	China	Democratic Republic of the Congo		India	United Kingdom	Saudi Arabia
Finland	Colombia	Republic of Congo		Indonesia	United States	South Africa
France	Croatia	Côte d'Ivoire		Italy		Turkey
Germany	Dominican Republic	Ethiopia		Japan		
Greece	Ecuador	Ghana		Korea		
Hong Kong SAR	Egypt	Guinea		Mexico		
Iceland	Hungary	Haiti		Russia		
Ireland	India	Honduras		Saudi Arabia		
Israel	Indonesia	Kenya		South Africa		
Italy	Iran	Kyrgyz Republic		Turkey		
Japan	Kazakhstan	Lao P.D.R.		United Kingdom		
Korea	Kuwait	Madagascar		United States		
Latvia	Libya	Mali				
Lithuania	Malaysia	Moldova				
Luxembourg	Mexico	Mongolia				
Malta	Morocco	Mozambique				
Netherlands	Oman	Myanmar				
New Zealand	Pakistan	Nepal				
Norway	Peru	Nicaragua				
Portugal	Philippines	Niger				
Singapore	Poland	Nigeria				
Slovak Republic	Qatar	Papua New Guinea				
Slovenia	Romania	Rwanda				
Spain	Russia	Senegal				
Sweden	Saudi Arabia	Sudan				
Switzerland	South Africa	Tajikistan				
United Kingdom	Sri Lanka	Tanzania				
United States	Thailand	Uganda				
	Turkey	Uzbekistan				
	Ukraine	Vietnam				
	United Arab Emirates	Yemen				
	Uruguay	Zambia				
	Venezuela	Zimbabwe				

Note: Emerging market and developing economies include emerging market and middle-income economies as well as low-income developing countries.
[1] Does not include European Union aggregate.

Table A. Economy Groupings *(continued)*

Euro Area	Emerging Market and Middle-Income Asia	Emerging Market and Middle-Income Europe	Emerging Market and Middle-Income Latin America	Emerging Market and Middle-Income Middle East and North Africa and Pakistan	Emerging Market and Middle-Income Africa
Austria	China	Azerbaijan	Argentina	Algeria	Angola
Belgium	India	Belarus	Brazil	Egypt	South Africa
Cyprus	Indonesia	Croatia	Chile	Iran	
Estonia	Malaysia	Hungary	Colombia	Kuwait	
Finland	Philippines	Kazakhstan	Dominican Republic	Libya	
France	Sri Lanka	Poland	Ecuador	Morocco	
Germany	Thailand	Romania	Mexico	Oman	
Greece		Russia	Peru	Pakistan	
Ireland		Turkey	Uruguay	Qatar	
Italy		Ukraine	Venezuela	Saudi Arabia	
Latvia				United Arab Emirates	
Lithuania					
Luxembourg					
Malta					
Netherlands					
Portugal					
Slovak Republic					
Slovenia					
Spain					

Low-Income Developing Asia	Low-Income Developing Latin America	Low-Income Developing Sub-Saharan Africa	Low-Income Developing Others	Low-Income Oil Producers	Oil Producers
Bangladesh	Bolivia	Benin	Kyrgyz Republic	Cameroon	Algeria
Cambodia	Haiti	Burkina Faso	Moldova	Republic of Congo	Angola
Lao P.D.R.	Honduras	Cameroon	Sudan	Côte d'Ivoire	Azerbaijan
Mongolia	Nicaragua	Chad	Tajikistan	Nigeria	Bahrain
Myanmar		Democratic Republic of the Congo	Uzbekistan	Papua New Guinea	Brunei Darussalam
Nepal		Republic of Congo	Yemen	Yemen	Cameroon
Papua New Guinea		Côte d'Ivoire			Canada
Vietnam		Ethiopia			Colombia
		Ghana			Republic of Congo
		Guinea			Côte d'Ivoire
		Kenya			Ecuador
		Madagascar			Equatorial Guinea
		Mali			Gabon
		Mozambique			Indonesia
		Niger			Iran
		Nigeria			Iraq
		Rwanda			Kazakhstan
		Senegal			Kuwait
		Tanzania			Libya
		Uganda			Mexico
		Zambia			Nigeria
		Zimbabwe			Norway
					Oman
					Papua New Guinea
					Qatar
					Russia
					Saudi Arabia
					Syria
					Timor-Leste
					Trinidad and Tobago
					United Arab Emirates
					Venezuela
					Yemen

Table B. Advanced Economies: Definition and Coverage of *Fiscal Monitor* Data

	Overall Fiscal Balance[1]			Cyclically Adjusted Balance			Gross Debt		
	Coverage		Accounting Practice	Coverage		Accounting Practice	Coverage		Accounting Practice
	Aggregate	Subsectors		Aggregate	Subsectors		Aggregate	Subsectors	
Australia	GG	CG, SG, LG, TG	A	GG	CG, SG, LG, TG	A	GG	CG, SG, LG, TG	A
Austria	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A
Belgium	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A
Canada	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A
Cyprus[2]	GG	CG, LG, SS	C/A	. . .	. . .	. . .	GG	CG, LG, SS	C/A
Czech Republic	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Denmark	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Estonia	GG	CG, LG, SS	C	. . .	. . .	. . .	GG	CG, LG, SS	C
Finland	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
France	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Germany	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A
Greece	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Hong Kong SAR	CG	CG	C	CG	CG	C	CG	CG	C
Iceland	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Ireland	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Israel	GG	CG, LG, SS	Other	GG	CG, SS, LG	Other	GG	CG, SS, LG	Other
Italy	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Japan	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Korea	CG	CG	C	CG	CG	C	GG	CG, LG	C
Latvia	GG	CG, LG, SS, NFPC	C	GG	CG, LG, SS, NFPC	C	GG	CG, LG, SS, NFPC	C
Lithuania	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Luxembourg	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Malta	GG	CG, SS	A	GG	CG, SS	A	GG	CG, SS	A
Netherlands	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
New Zealand	CG	CG	A	CG	CG	A	CG	CG	A
Norway	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Portugal	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Singapore	CG	CG	C	CG	CG	C	CG	CG	C
Slovak Republic	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Slovenia	GG	CG, SG, LG, SS	C	GG	CG, SG, LG, SS	C	GG	CG, SG, LG, SS	C
Spain	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A
Sweden	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Switzerland	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A	GG	CG, SG, LG, SS	A
United Kingdom	GG	CG, LG	A	GG	CG, LG	A	GG	CG, LG	A
United States	GG	CG, SG, LG	A	GG	CG, SG, LG	A	GG	CG, SG, LG	A

Note: Coverage: BCG = budgetary central government; CG = central government; EA = extrabudgetary units; FC = financial public corporations; GG = general government; LG = local governments; NFPC = nonfinancial public corporations; NFPS = nonfinancial public sector; PS = public sector; SG = state governments; SS = social security funds; TG = territorial governments. Accounting standard: A = accrual; C = cash.

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

[2] Historical data until 2012 are reported on an accrual basis as general government cash data were not available for years that preceded the IMF program.

Table C. Emerging Market and Middle-Income Economies: Definition and Coverage of *Fiscal Monitor* Data

	Overall Fiscal Balance[1]			Cyclically Adjusted Balance			Gross Debt		
	Coverage		Accounting Practice	Coverage		Accounting Practice	Coverage		Accounting Practice
	Aggregate	Subsectors		Aggregate	Subsectors		Aggregate	Subsectors	
Algeria	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Angola	GG	CG, LG	Other	. . .	. . .	. . .	GG	CG, LG	Other
Argentina	GG	CG, SG, LG, SS	C	CG	CG	C	CG	CG	C
Azerbaijan	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Belarus[2]	GG	CG, LG, SS	C	. . .	. . .	. . .	GG	CG, LG, SS	C
Brazil[3]	NFPS	CG, SG, LG, SS, MPC, NFPC	C	NFPS	CG, SG, LG, SS, MPC, NFPC	C	NFPS	CG, SG, LG, SS, MPC, NFPC	C
Chile	GG	CG, LG	A	CG	CG, LG	A	GG	CG, LG	A
China	GG	CG, LG	C	GG	CG, LG	C	GG	CG, LG	C
Colombia[4]	GG	CG, SG, LG, SS	C/A	GG	CG, SG, LG, SS	C/A	GG	CG, SG, LG, SS	C/A
Croatia	GG	CG, LG	A	GG	CG, LG	A	GG	CG, LG	A
Dominican Republic	GG	CG, SG, LG, SS, NFPC	C/A	GG	CG, SG, LG, SS, NFPC	C/A	GG	CG, SG, LG, SS, NFPC	C/A
Ecuador	NFPS	CG, SG, LG, SS, NFPC	C	NFPS	CG, SG, LG, SS, NFPC	C	NFPS	CG, SG, LG, SS, NFPC	C
Egypt	CG	CG, LG, SS, MPC	C	GG	CG, LG, SS, MPC	C	GG	CG, LG, SS, MPC	C
Hungary	GG	CG, LG, SS, NMPC	A	GG	CG, LG, SS, NMPC	A	GG	CG, LG, SS, NMPC	A
India	GG	CG, SG	C	GG	CG, SG	C	GG	CG, SG	C
Indonesia	GG	CG, LG	C	GG	CG, LG	C	GG	CG, LG	C
Iran	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Kazakhstan	GG	CG, LG	A	. . .	. . .	. . .	GG	CG, LG	A
Kuwait	CG	CG	C/A	. . .	. . .	. . .	CG	CG	C/A
Libya	GG	CG, SG, LG	C	. . .	. . .	. . .	GG	CG, SG, LG	C
Malaysia	GG	CG, SG, LG	C	GG	CG	C	GG	CG, SG, LG	C
Mexico	PS	CG, SS, NFPC, NMPC	C	GG	GG	C	PS	CG, SS, NFPC, NMPC	C
Morocco	CG	CG	A	. . .	. . .	. . .	CG	CG	A
Oman	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Pakistan	GG	CG, LG, SG	C	. . .	. . .	. . .	GG	CG, LG, SG	C
Peru	GG	CG, SG, LG, SS	C	GG	CG, SG, LG, SS	C	GG	CG, SG, LG, SS	C
Philippines	GG	CG, LG, SS	C	CG	CG	C	GG	CG, LG, SS	C
Poland	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Qatar	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Romania	GG	CG, LG, SS	C	GG	CG, LG, SS	C	GG	CG, LG, SS	C
Russia	GG	CG, SG, SS	C/A	GG	CG, SG, SS	C/A	GG	CG, SG, SS	C/A
Saudi Arabia	GG	CG	C	. . .	. . .	. . .	GG	CG	C
South Africa	GG	CG, SG, SS	C	GG	CG, SG, SS	C	GG	CG, SG, SS	C
Sri Lanka	GG	CG, SG, LG, SS	C	. . .	. . .	. . .	GG	CG, SG, LG, SS	C
Thailand[5]	PS	CG, SS, NFPC, NMPC	A	PS	CG, SS, NFPC, NMPC	A	PS	CG, SS, NFPC, NMPC	A
Turkey	GG	CG, LG, SS	A	GG	CG, LG, SS	A	GG	CG, LG, SS	A
Ukraine	GG	CG, SG, LG, SS	C	GG	CG, SG, LG, SS	C	GG	CG, SG, LG, SS	C
United Arab Emirates[6]	GG	CG, BCG, SG, SS	C	. . .	. . .	. . .	GG	CG, BCG, SG, SS	C
Uruguay	PS	CG, LG, SS, MPC, NFPC	A	. . .	. . .	. . .	PS	CG, LG, SS, MPC, NFPC	A
Venezuela	GG	CG, LG, SS, NFPC	C	GG	CG, LG, SS, NFPC	C	GG	CG, LG, SS, NFPC	C

Note: Coverage: BCG = budgetary central government; CG = central government; EA = extrabudgetary units; FPC = financial public corporations; GG = general government; LG = local governments; MPC = monetary public corporations, including central bank; NFPC = nonfinancial public corporations; NFPS = nonfinancial public sector; NMPC = nonmonetary financial public corporations; PS = public sector; SG = state governments; SS = social security funds. Accounting standard: A = accrual; C = cash.

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

[2] Gross debt refers to general government public debt, including publicly guaranteed debt.

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

[4] Revenue is recorded on a cash basis and expenditure on an accrual basis.

[5] Data for Thailand do not include debt of Specialized Financial Institutions (SFIs and NMPC) without government guarantee.

[6] Gross debt covers banking system claims only.

Table D. Low-Income Developing Countries: Definition and Coverage of *Fiscal Monitor* Data

	Overall Fiscal Balance[1]			Cyclically Adjusted Balance			Gross Debt		
	Coverage		Accounting Practice	Coverage		Accounting Practice	Coverage		Accounting Practice
	Aggregate	Subsectors		Aggregate	Subsectors		Aggregate	Subsectors	
Bangladesh	CG	CG	C	CG	CG	C	CG	CG	C
Benin	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Bolivia	NFPS	CG, LG, SS, MPC, NMPC, NFPC	C	NFPS	CG, LG, SS, MPC, NMPC, NFPC	C	NFPS	CG, LG, SS, MPC, NMPC, NFPC	C
Burkina Faso	CG	CG	Other	. . .	. . .	. . .	CG	CG	Other
Cambodia	GG	CG, LG	A	GG	CG, LG	A	GG	CG, LG	A
Cameroon	NFPS	CG, NFPC	C	. . .	. . .	. . .	NFPS	CG, NFPC	C
Chad	NFPS	CG, NFPC	C	. . .	. . .	. . .	NFPS	CG, NFPC	C
Democratic Republic of the Congo	GG	CG, LG	A	. . .	. . .	. . .	GG	CG, LG	A
Republic of Congo	CG	CG	NC	. . .	. . .	. . .	CG	CG	NC
Côte d'Ivoire	CG	CG	A	. . .	. . .	. . .	CG	CG	A
Ethiopia	CG	CG, SG, LG, NFPC	C	. . .	. . .	. . .	CG	CG, SG, LG, NFPC	C
Ghana	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Guinea	CG	CG	Other	. . .	. . .	. . .	CG	CG	Other
Haiti	CG	CG	C	CG	CG	C	CG	CG	C
Honduras	CPS	CG, LG, SS, NFPC	A	CPS	CG, LG, SS, NFPC	A	CPS	CG, LG, SS, NFPC	A
Kenya	CG	CG	A	. . .	. . .	. . .	CG	CG	A
Kyrgyz Republic	GG	CG, LG, SS	C	. . .	. . .	. . .	GG	CG, LG, SS	C
Lao P.D.R.[2]	CG	CG	C	CG	CG	C	CG	CG	C
Madagascar	CG	CG, LG	C	. . .	. . .	. . .	CG	CG	C
Mali	CG	CG	C/A	. . .	. . .	. . .	CG	CG	C/A
Moldova	GG	CG, LG, SS	C	GG	CG, LG, SS	C	GG	CG, LG, SS	C
Mongolia[3]	GG	CG, SG, LG, SS	C	. . .	. . .	. . .	GG	CG, SG, LG, SS	C
Mozambique	CG	CG, SG	C/A	CG	CG, SG	C/A	CG	CG, SG	C/A
Myanmar[4]	NFPS	CG, NFPC	C	. . .	. . .	. . .	NFPS	CG, NFPC	C
Nepal	CG	CG	C	CG	CG	C	CG	CG	C
Nicaragua	GG	CG, LG, SS	C	GG	CG, LG, SS	C	GG	CG, LG, SS	C
Niger	CG	CG	A	. . .	. . .	. . .	CG	CG	A
Nigeria	GG	CG, SG, LG, NFPC	C	. . .	. . .	. . .	GG	CG, SG, LG, NFPC	C
Papua New Guinea	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Rwanda	GG	CG, LG	C/A	. . .	. . .	. . .	GG	CG, LG	C/A
Senegal	CG	CG	C	CG	CG	C	CG	CG	C
Sudan	CG	CG	C/A	. . .	. . .	. . .	CG	CG	C/A
Tajikistan	GG	CG, LG, SS	C	. . .	. . .	. . .	GG	CG, LG, SS	C
Tanzania	CG	CG, LG	C	. . .	. . .	. . .	CG	CG, LG	C
Uganda	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Uzbekistan[5]	GG	CG, SG, LG, SS	C	. . .	. . .	. . .	GG	CG, SG, LG, SS	C
Vietnam	GG	CG, SG, LG	C	GG	CG, SG, LG	C	GG	CG, SG, LG	C
Yemen	GG	CG, LG	C	. . .	. . .	. . .	GG	CG, LG	C
Zambia	CG	CG	C	. . .	. . .	. . .	CG	CG	C
Zimbabwe	CG	CG	C	. . .	. . .	. . .	CG	CG	C

Note: Coverage: BCG = budgetary central government; CG = central government; CPS = combined public sector; EA = extrabudgetary units; FC = financial public corporations; GG = general government; LG = local governments; MPC = monetary public corporations, including central bank; NC = non-cash; NFPC = nonfinancial public corporations; NFPS = nonfinancial public sector; NMPC = nonmonetary financial public corporations; PS = public sector; SG = state governments; SS = social security funds. Accounting standard: A = accrual; C = cash.

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

[2] Lao P.D.R.'s fiscal spending includes capital spending by local governments financed by loans provided by the central bank.

[3] Mongolia's listing includes the Human Development Fund.

[4] Overall and primary balances in 2012 are based on the monetary statistics and are different from the balances calculated from expenditure and revenue data.

[5] Uzbekistan's listing includes the Fund for Reconstruction and Development.

Table A1. Advanced Economies: General Government Overall Balance, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia	1.5	–1.1	–4.6	–5.1	–4.5	–3.5	–2.8	–2.9	–2.8	–2.9	–2.5	–1.7	–0.8	–0.2	0.0
Austria	–3.9	–3.9	–5.3	–4.4	–2.6	–2.2	–1.3	–2.7	–1.2	–1.6	–1.5	–1.1	–1.0	–0.8	–0.7
Belgium	0.1	–1.1	–5.4	–4.0	–4.1	–4.2	–3.0	–3.1	–2.6	–2.7	–2.2	–2.0	–2.2	–2.3	–2.4
Canada	1.8	0.2	–3.9	–4.7	–3.3	–2.5	–1.9	–0.5	–1.3	–2.5	–2.3	–2.0	–1.6	–1.2	–0.9
Cyprus[1]	3.3	0.9	–5.5	–4.8	–5.7	–5.8	–4.4	–0.2	–1.4	–0.5	–0.6	–0.5	–0.1	–0.1	–0.1
Czech Republic	–0.7	–2.1	–5.5	–4.4	–2.7	–3.9	–1.2	–1.9	–0.4	–0.6	–0.6	–0.4	–0.4	–0.4	–0.5
Denmark	5.0	3.2	–2.8	–2.7	–2.1	–3.5	–1.1	1.5	–1.7	–0.9	–1.9	–1.7	–1.5	–1.3	–1.1
Estonia	2.4	–2.9	–1.9	0.2	1.0	–0.4	–0.3	0.7	0.4	0.2	0.2	0.1	–0.1	–0.1	–0.2
Finland	5.1	4.2	–2.5	–2.6	–1.0	–2.2	–2.6	–3.2	–2.7	–2.4	–2.4	–2.0	–1.5	–1.1	–0.6
France	–2.5	–3.2	–7.2	–6.8	–5.1	–4.8	–4.0	–4.0	–3.5	–3.3	–3.0	–2.7	–2.1	–1.5	–1.0
Germany	0.2	–0.2	–3.2	–4.2	–1.0	0.0	–0.2	0.3	0.7	0.1	0.1	0.2	0.4	0.5	0.6
Greece	–6.7	–10.2	–15.2	–11.2	–10.2	–6.5	–3.5	–4.1	–3.1	–3.4	–2.7	–1.7	–1.7	–2.0	–2.6
Hong Kong SAR	7.3	0.1	1.7	4.1	3.8	3.1	1.0	3.6	0.6	1.5	1.5	0.9	1.2	2.1	2.1
Iceland	4.9	–13.1	–9.7	–9.8	–5.6	–3.7	–1.8	–0.1	–0.5	14.7	0.5	0.6	1.1	0.7	1.1
Ireland[1]	0.3	–7.0	–13.8	–32.1	–12.6	–8.0	–5.7	–3.7	–1.9	–0.7	–0.5	–0.3	–0.1	0.2	0.4
Israel	–0.6	–2.7	–5.6	–4.1	–3.4	–5.0	–4.2	–3.4	–3.1	–3.4	–3.9	–3.9	–3.9	–3.9	–3.9
Italy	–1.5	–2.7	–5.3	–4.2	–3.5	–2.9	–2.9	–3.0	–2.6	–2.5	–2.2	–1.3	–0.5	–0.1	0.0
Japan	–2.1	–4.1	–10.4	–9.3	–9.8	–8.8	–8.6	–6.2	–5.2	–5.2	–5.1	–4.4	–3.9	–3.2	–3.1
Korea	2.2	1.5	0.0	1.5	1.7	1.6	0.6	0.4	0.3	0.8	1.1	1.6	2.1	2.2	2.3
Latvia	0.6	–3.2	–7.0	–6.5	–3.1	0.1	–0.6	–1.7	–1.8	–1.2	–1.2	–0.1	–0.4	–0.5	–0.5
Lithuania	–1.0	–3.3	–9.3	–6.9	–8.9	–3.1	–2.6	–0.7	–0.2	–0.3	–0.5	–0.5	–0.5	–0.5	–0.5
Luxembourg	4.2	3.4	–0.7	–0.7	0.5	0.3	0.8	1.7	1.3	1.2	0.0	–0.1	–0.3	–0.3	–0.3
Malta	–2.3	–4.2	–3.3	–3.2	–2.6	–3.6	–2.6	–2.0	–1.5	–0.8	–0.7	–0.6	–0.5	–0.5	–0.5
Netherlands	0.2	0.2	–5.4	–5.0	–4.3	–3.9	–2.4	–2.3	–1.9	–1.1	–0.7	–0.4	–0.2	0.0	0.2
New Zealand	3.2	1.3	–1.7	–5.9	–5.4	–1.8	–1.0	–0.3	–0.2	–0.4	–0.3	0.0	0.6	0.9	0.9
Norway	17.0	18.5	10.3	10.9	13.2	13.5	10.5	8.4	5.5	3.0	3.2	3.5	3.6	3.5	3.5
Portugal	–3.0	–3.8	–9.8	–11.2	–7.4	–5.7	–4.8	–7.2	–4.4	–3.0	–3.0	–2.9	–2.9	–2.9	–2.9
Singapore	10.1	6.1	0.0	6.0	8.7	7.9	6.7	5.5	2.6	2.4	2.4	2.5	2.9	2.8	3.2
Slovak Republic	–1.9	–2.3	–7.9	–7.5	–4.1	–4.3	–2.7	–2.7	–3.0	–2.3	–2.2	–2.0	–1.9	–1.9	–1.9
Slovenia	0.3	–0.3	–5.4	–5.2	–5.5	–3.1	–13.9	–5.8	–3.3	–2.3	–2.3	–2.4	–2.6	–2.7	–2.8
Spain[1]	2.0	–4.4	–11.0	–9.4	–9.6	–10.4	–6.9	–5.9	–5.1	–4.5	–3.1	–2.7	–2.3	–2.2	–2.1
Sweden	3.3	2.0	–0.7	0.0	–0.1	–0.9	–1.3	–1.5	0.0	–0.4	–0.7	–0.4	0.1	0.3	0.3
Switzerland	1.6	1.8	0.6	0.3	0.5	0.0	–0.2	–0.2	–0.2	–0.3	–0.3	–0.2	–0.2	–0.2	0.0
United Kingdom	–2.9	–4.9	–10.5	–9.5	–7.6	–7.7	–5.7	–5.6	–4.2	–3.3	–2.7	–2.2	–1.1	–0.7	–0.7
United States[2]	–2.9	–6.7	–13.1	–10.9	–9.6	–7.9	–4.4	–4.2	–3.5	–4.1	–3.7	–3.3	–3.5	–3.6	–3.7
Average	–1.2	–3.5	–8.8	–7.7	–6.3	–5.5	–3.7	–3.3	–2.8	–3.0	–2.8	–2.3	–2.1	–2.0	–2.0
Euro Area	–0.6	–2.2	–6.3	–6.2	–4.2	–3.7	–3.0	–2.6	–2.1	–2.0	–1.7	–1.4	–1.0	–0.7	–0.6
G7	–2.1	–4.5	–10.0	–8.8	–7.4	–6.4	–4.4	–3.8	–3.2	–3.6	–3.3	–2.8	–2.6	–2.5	–2.5
G20 Advanced	–1.8	–4.2	–9.5	–8.3	–7.0	–6.0	–4.1	–3.6	–3.0	–3.4	–3.1	–2.6	–2.4	–2.2	–2.2

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

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

[1] Data include financial sector support. For Cyprus, 2014 and 2015 balances exclude financial sector support.

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

Table A2. Advanced Economies: General Government Primary Balance, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia	1.3	–1.1	–4.5	–4.8	–4.0	–2.8	–2.0	–2.0	–1.9	–1.8	–1.4	–0.6	0.2	0.8	1.0
Austria	–1.7	–1.6	–3.1	–2.3	–0.4	0.0	0.8	–0.7	0.8	0.2	0.2	0.3	0.4	0.5	0.6
Belgium	3.6	2.4	–2.0	–0.7	–0.9	–1.0	–0.1	–0.3	–0.1	–0.5	–0.2	–0.1	–0.3	–0.4	–0.4
Canada	2.4	0.5	–2.8	–3.9	–2.7	–1.8	–1.2	0.0	–0.6	–2.0	–2.0	–1.9	–1.6	–1.3	–1.0
Cyprus[1]	5.7	3.1	–3.6	–3.2	–4.1	–3.3	–2.1	2.4	1.4	2.0	1.9	2.0	2.5	2.5	2.5
Czech Republic	0.0	–1.4	–4.5	–3.3	–1.7	–2.8	–0.2	–0.8	0.5	0.2	0.2	0.3	0.3	0.3	0.2
Denmark	5.6	3.4	–2.4	–2.1	–1.5	–3.0	–0.7	1.8	–0.9	–0.2	–1.3	–1.4	–1.3	–1.1	–0.9
Estonia	2.0	–3.3	–2.2	0.0	0.9	–0.5	–0.4	0.6	0.3	0.1	0.1	0.0	–0.1	–0.2	–0.3
Finland	4.8	3.7	–2.9	–2.5	–1.0	–2.0	–2.5	–3.0	–2.5	–2.2	–2.4	–2.0	–1.5	–0.9	–0.3
France	–0.1	–0.5	–4.9	–4.5	–2.6	–2.4	–1.9	–1.9	–1.6	–1.5	–1.5	–1.2	–0.7	0.0	0.6
Germany	2.6	2.2	–0.8	–2.1	1.1	1.8	1.4	1.7	2.0	1.2	0.9	0.9	1.0	1.0	1.0
Greece	–2.2	–5.4	–10.1	–5.4	–3.0	–1.4	0.5	0.0	0.7	0.1	0.7	1.6	1.6	1.6	1.5
Hong Kong SAR	5.7	–2.6	–0.2	2.3	1.9	1.3	–0.7	3.6	0.6	0.6	0.9	0.2	0.7	1.6	1.6
Iceland	5.2	–13.3	–6.6	–7.0	–2.9	–0.4	1.6	3.6	3.2	17.2	2.6	2.6	2.8	2.3	2.5
Ireland[1]	0.9	–6.3	–12.4	–29.7	–9.7	–4.4	–2.0	–0.3	0.3	1.3	1.4	1.5	1.7	1.9	1.9
Israel	4.0	1.4	–1.6	–0.3	0.2	–1.3	–0.9	–0.5	–0.2	–0.4	–0.8	–0.8	–0.8	–0.8	–0.8
Italy	3.0	2.0	–1.0	–0.1	1.0	2.1	1.7	1.4	1.4	1.3	1.4	2.1	2.8	3.2	3.3
Japan	–2.1	–3.8	–9.9	–8.6	–9.0	–7.9	–7.8	–5.6	–4.9	–5.2	–5.3	–4.7	–4.2	–3.5	–3.3
Korea	1.4	1.2	–0.7	0.8	0.9	0.8	–0.2	–0.3	–0.4	–0.3	0.2	1.2	2.0	2.2	2.2
Latvia	0.8	–3.1	–6.4	–5.5	–2.2	1.3	0.7	–0.4	–0.2	–0.2	–0.2	0.8	0.4	0.3	0.3
Lithuania	–0.5	–2.8	–8.2	–5.2	–7.2	–1.2	–0.9	1.0	1.3	1.1	1.0	1.1	1.0	1.0	0.9
Luxembourg	3.2	2.1	–1.2	–0.9	0.3	0.1	0.6	1.5	1.0	1.2	0.1	–0.1	–0.3	–0.4	–0.5
Malta	1.2	–0.8	0.0	–0.1	0.6	–0.6	0.3	0.8	1.1	1.5	1.5	1.6	1.5	1.5	1.5
Netherlands	1.6	1.6	–4.2	–3.8	–3.0	–2.8	–1.2	–1.1	–0.8	–0.2	0.1	0.4	0.6	0.8	1.0
New Zealand	3.7	1.6	–1.4	–5.4	–4.8	–1.1	–0.4	0.2	0.3	–0.1	0.1	0.5	0.9	1.2	1.3
Norway	14.1	15.5	8.0	8.8	11.1	11.7	8.6	6.3	3.0	0.6	0.7	1.1	1.2	1.1	1.0
Portugal	–0.4	–1.1	–7.1	–8.5	–3.6	–1.4	–0.6	–2.8	–0.2	1.3	1.2	1.2	1.1	1.1	1.1
Singapore	8.7	3.7	–1.1	5.4	8.2	7.4	6.2	4.8	1.6	1.5	1.5	1.6	1.9	1.8	2.3
Slovak Republic	–1.0	–1.5	–6.8	–6.4	–2.8	–2.7	–1.0	–1.0	–1.5	–1.1	–1.1	–1.0	–0.9	–0.9	–0.9
Slovenia	1.2	0.5	–4.6	–4.0	–4.2	–1.4	–11.6	–2.9	–0.6	0.3	–0.1	0.0	0.1	0.1	0.1
Spain[1]	3.1	–3.4	–9.6	–7.8	–7.6	–7.9	–4.0	–2.9	–2.4	–2.0	–0.8	–0.4	–0.1	0.0	0.1
Sweden	4.0	2.4	–0.5	0.1	0.2	–0.9	–1.3	–1.6	–0.2	–0.7	–0.9	–0.5	0.1	0.4	0.5
Switzerland	2.3	2.3	1.1	0.8	0.8	0.4	0.1	0.0	0.0	–0.1	–0.1	–0.1	–0.1	–0.1	0.1
United Kingdom	–1.3	–3.4	–9.1	–7.1	–4.9	–5.4	–4.3	–3.8	–2.8	–1.6	–0.9	–0.4	0.6	0.8	0.8
United States	–0.8	–4.6	–11.2	–8.9	–7.3	–5.7	–2.4	–2.2	–1.5	–2.1	–1.8	–1.3	–1.3	–1.3	–1.3
Average	0.5	–1.9	–7.1	–6.0	–4.5	–3.6	–2.1	–1.6	–1.3	–1.6	–1.4	–1.0	–0.8	–0.5	–0.5
Euro Area	1.9	0.4	–3.8	–3.7	–1.6	–1.0	–0.5	–0.2	0.1	–0.1	0.0	0.3	0.6	0.8	1.0
G7	–0.2	–2.6	–8.1	–6.8	–5.3	–4.4	–2.5	–2.0	–1.5	–1.9	–1.8	–1.3	–1.1	–0.9	–0.8
G20 Advanced	–0.1	–2.4	–7.8	–6.5	–5.1	–4.1	–2.4	–1.9	–1.5	–1.9	–1.7	–1.2	–0.9	–0.7	–0.6

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

Note: Primary balance is defined as the overall balance excluding net interest payments. For country-specific details, see Data and Conventions in text, and Table B.

[1] Data include financial sector support. For Cyprus, 2014 and 2015 balances exclude financial sector support.

Table A3. Advanced Economies: General Government Cyclically Adjusted Balance, 2007–21

(Percent of potential GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia	1.2	–1.4	–4.5	–4.9	–4.2	–3.2	–2.4	–2.4	–2.3	–2.4	–2.1	–1.4	–0.6	–0.1	0.0
Austria	–6.1	–5.9	–3.6	–3.4	–2.7	–2.1	–0.8	–1.8	–0.4	–1.1	–1.2	–1.0	–0.9	–0.8	–0.7
Belgium	–0.9	–1.9	–4.6	–3.9	–4.4	–4.1	–2.4	–2.6	–2.2	–2.4	–2.0	–1.9	–2.1	–2.3	–2.4
Canada	1.0	–0.2	–2.3	–3.7	–2.9	–2.0	–1.5	–0.4	–1.0	–2.1	–2.0	–1.9	–1.5	–1.2	–0.8
Cyprus	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Czech Republic	–3.6	–4.9	–5.3	–4.2	–2.9	–3.2	0.1	–1.3	–0.8	–1.1	–0.9	–0.7	–0.6	–0.5	–0.5
Denmark	2.2	1.4	–0.6	–1.6	–1.7	–2.9	0.1	2.3	–1.1	–0.5	–1.6	–1.4	–1.5	–1.3	–1.2
Estonia	–2.2	–4.7	2.0	3.8	2.7	0.3	0.5	1.0	0.8	0.7	0.5	0.3	0.0	–0.1	–0.2
Finland	2.1	1.7	–0.1	–1.4	–1.0	–1.2	–1.0	–1.0	–0.4	–0.6	–0.8	–0.7	–0.5	–0.5	–0.4
France	–3.5	–3.7	–5.6	–5.7	–4.6	–3.9	–2.9	–2.7	–2.4	–2.4	–2.2	–2.1	–1.8	–1.4	–1.1
Germany	–1.0	–1.3	–1.1	–3.5	–1.5	–0.3	–0.1	0.3	0.7	–0.1	–0.1	0.1	0.3	0.4	0.5
Greece	–10.4	–13.8	–18.6	–12.1	–8.4	–2.4	0.5	–0.7	0.2	–0.2	–0.7	–0.6	–1.2	–1.8	–2.6
Hong Kong SAR[1]	3.9	–0.5	–0.7	0.9	0.4	0.3	–1.3	2.5	0.1	–0.3	0.3	–0.5	–0.1	0.7	0.8
Iceland	2.9	–4.5	–10.0	–7.8	–4.7	–3.1	–1.9	–0.1	–0.8	14.1	–0.1	0.3	1.0	0.6	1.1
Ireland[1]	–9.5	–12.5	–10.6	–8.4	–6.3	–4.9	–3.1	–1.9	–0.7	–0.7	–0.7	–0.5	–0.3	0.1	0.4
Israel	–1.0	–2.6	–4.6	–3.8	–3.7	–4.9	–4.6	–3.8	–3.2	–3.5	–4.0	–4.0	–4.1	–4.1	–4.2
Italy	–2.9	–3.6	–3.6	–3.6	–3.2	–1.5	–0.8	–0.9	–0.9	–1.1	–1.3	–0.9	–0.3	0.0	0.0
Japan	–2.3	–3.6	–7.5	–7.9	–8.4	–7.9	–8.3	–5.8	–4.8	–4.9	–4.8	–4.1	–3.6	–2.9	–2.9
Korea	1.8	1.3	1.3	1.5	1.6	1.7	0.9	0.6	0.6	1.1	1.4	1.8	2.2	2.3	2.3
Latvia	–1.0	–8.4	–3.2	–3.3	–1.3	0.8	–1.0	–1.5	–1.7	–1.1	–1.2	–0.2	–0.5	–0.5	–0.5
Lithuania	–6.5	–8.8	–6.7	–4.2	–7.5	–2.4	–2.3	–0.5	0.2	0.1	–0.1	–0.3	–0.5	–0.5	–0.5
Luxembourg	2.1	2.3	1.2	–0.7	0.2	1.3	1.2	1.8	0.9	1.0	0.0	–0.1	–0.3	–0.3	–0.3
Malta	–3.0	–5.6	–2.4	–3.0	–2.1	–3.1	–2.8	–2.0	–2.1	–1.5	–1.1	–0.8	–0.7	–0.6	–0.5
Netherlands	–0.6	–0.7	–4.4	–4.3	–4.1	–3.0	–1.1	–1.2	–1.2	–0.7	–0.4	–0.3	–0.3	–0.2	0.0
New Zealand	2.7	1.3	–1.7	–5.4	–5.1	–1.8	–1.0	–0.5	–0.6	–0.8	–0.7	–0.4	0.1	0.5	0.0
Norway[1]	–3.0	–3.1	–5.4	–5.4	–4.5	–4.8	–5.1	–5.9	–6.8	–8.0	–8.2	–8.2	–8.2	–8.1	–8.1
Portugal	–3.7	–4.2	–8.8	–10.8	–6.3	–3.0	–1.8	–4.6	–2.6	–1.6	–2.0	–2.3	–2.6	–2.8	–2.9
Singapore	11.8	6.7	0.2	6.5	8.5	7.8	6.6	5.5	2.6	2.6	2.4	2.6	2.7	2.8	3.0
Slovak Republic	–3.6	–4.3	–6.4	–7.3	–4.0	–4.0	–2.1	–2.2	–2.5	–2.3	–2.3	–2.1	–2.1	–2.1	–2.2
Slovenia	–2.7	–3.2	–4.4	–4.7	–4.2	–2.0	–1.6	–2.7	–1.8	–1.3	–1.9	–2.2	–2.4	–2.6	–2.8
Spain[1]	–1.3	–7.2	–10.4	–8.3	–7.4	–3.7	–2.8	–2.5	–2.8	–2.7	–2.5	–2.4	–2.3	–2.4	–2.4
Sweden[1]	2.7	1.2	0.9	1.5	0.7	–0.3	–0.8	–0.9	–0.2	–0.6	–0.8	–0.5	0.0	0.2	0.2
Switzerland[1]	0.7	0.8	1.0	0.4	0.6	0.3	0.1	–0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
United Kingdom[1]	–4.7	–5.8	–8.8	–7.4	–6.0	–6.0	–4.2	–4.9	–4.0	–3.2	–2.5	–1.9	–0.9	–0.6	–0.7
United States[1, 2]	–4.1	–6.0	–7.7	–9.6	–8.2	–6.4	–4.3	–3.9	–3.3	–3.9	–3.7	–3.4	–3.6	–3.6	–3.7
Average	–2.6	–4.0	–6.0	–6.7	–5.7	–4.5	–3.3	–2.8	–2.5	–2.8	–2.7	–2.4	–2.2	–2.1	–2.1
Euro Area	–2.3	–3.5	–4.7	–5.0	–3.8	–2.6	–1.4	–1.3	–1.0	–1.3	–1.2	–1.0	–0.8	–0.7	–0.6
G7	–3.2	–4.5	–6.4	–7.5	–6.5	–5.3	–3.9	–3.3	–2.9	–3.3	–3.1	–2.8	–2.6	–2.5	–2.5
G20 Advanced	–2.9	–4.2	–6.1	–7.2	–6.1	–5.0	–3.7	–3.1	–2.7	–3.1	–2.9	–2.5	–2.4	–2.2	–2.2

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

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

[1] The data for these countries include adjustments beyond the output cycle.

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

Table A4. Advanced Economies: General Government Cyclically Adjusted Primary Balance, 2007–21

(Percent of potential GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia	1.0	–1.4	–4.4	–4.6	–3.7	–2.5	–1.6	–1.5	–1.3	–1.3	–1.0	–0.3	0.5	1.0	1.1
Austria	–3.9	–3.5	–1.5	–1.3	–0.5	0.1	1.3	0.2	1.5	0.6	0.5	0.4	0.5	0.5	0.6
Belgium	2.7	1.7	–1.3	–0.7	–1.2	–0.9	0.5	0.2	0.3	–0.1	0.0	0.0	–0.3	–0.4	–0.4
Canada	1.6	0.1	–1.3	–2.9	–2.3	–1.3	–0.8	0.1	–0.2	–1.6	–1.7	–1.7	–1.5	–1.2	–0.9
Cyprus	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Czech Republic	–2.8	–4.1	–4.3	–3.2	–1.9	–2.1	1.1	–0.2	0.1	–0.2	–0.1	0.1	0.1	0.2	0.2
Denmark	2.8	1.6	–0.2	–1.0	–1.1	–2.4	0.5	2.7	–0.4	0.2	–1.0	–1.1	–1.3	–1.1	–1.0
Estonia	–2.6	–5.2	1.8	3.6	2.6	0.2	0.4	0.9	0.8	0.6	0.5	0.3	0.0	–0.2	–0.3
Finland	1.7	1.1	–0.4	–1.3	–0.9	–0.9	–0.9	–0.8	–0.2	–0.4	–0.7	–0.7	–0.5	–0.3	–0.1
France	–1.0	–1.0	–3.4	–3.5	–2.1	–1.5	–0.8	–0.6	–0.5	–0.6	–0.7	–0.7	–0.4	0.1	0.5
Germany	1.5	1.1	1.2	–1.4	0.6	1.6	1.6	1.7	2.0	1.0	0.8	0.7	0.8	0.9	0.9
Greece	–5.5	–8.5	–13.2	–6.1	–1.4	2.3	4.1	3.1	3.7	3.0	2.6	2.6	2.1	1.7	1.5
Hong Kong SAR[1]	2.2	–3.3	–2.6	–1.0	–1.5	–1.5	–3.0	2.5	0.2	–1.2	–0.3	–1.2	–0.6	0.2	0.3
Iceland	3.1	–4.6	–7.0	–5.1	–2.1	0.2	1.5	3.6	3.0	16.6	2.1	2.2	2.6	2.3	2.5
Ireland[1]	–8.8	–11.8	–9.2	–6.1	–3.5	–1.5	0.4	1.4	1.5	1.3	1.3	1.4	1.6	1.8	1.9
Israel	3.6	1.5	–0.7	0.0	0.0	–1.2	–1.2	–0.9	–0.3	–0.4	–1.0	–1.0	–1.0	–1.1	–1.1
Italy	1.7	1.2	0.5	0.5	1.2	3.4	3.7	3.4	3.0	2.5	2.2	2.5	3.0	3.3	3.3
Japan	–2.3	–3.3	–7.0	–7.3	–7.7	–7.0	–7.5	–5.2	–4.5	–4.8	–5.0	–4.4	–3.9	–3.2	–3.0
Korea	1.0	0.9	0.7	0.8	0.9	0.9	0.0	–0.1	–0.2	0.0	0.5	1.3	2.1	2.2	2.2
Latvia	–0.8	–8.3	–2.6	–2.4	–0.5	2.0	0.2	–0.2	–0.1	–0.1	–0.2	0.7	0.4	0.3	0.3
Lithuania	–5.9	–8.3	–5.6	–2.6	–5.8	–0.4	–0.6	1.1	1.7	1.5	1.3	1.3	1.1	1.0	0.9
Luxembourg	1.0	1.0	0.7	–0.9	–0.1	1.1	1.0	1.6	0.7	1.0	0.1	–0.1	–0.3	–0.4	–0.5
Malta	0.7	–2.0	0.9	0.2	1.2	–0.1	0.2	0.9	0.7	1.0	1.2	1.4	1.4	1.5	1.6
Netherlands	0.8	0.7	–3.2	–3.2	–2.9	–1.9	0.0	–0.1	–0.2	0.3	0.5	0.5	0.5	0.6	0.8
New Zealand	3.1	1.5	–1.4	–5.0	–4.4	–1.0	–0.4	0.0	–0.2	–0.4	–0.3	0.0	0.5	0.8	0.4
Norway[1]	–6.9	–7.1	–8.5	–8.0	–7.2	–7.2	–7.4	–8.6	–9.8	–11.0	–11.3	–11.3	–11.2	–11.2	–11.1
Portugal	–1.0	–1.4	–6.2	–8.1	–2.5	1.0	2.2	–0.4	1.4	2.5	2.0	1.7	1.4	1.2	1.1
Singapore	10.3	4.4	–0.9	5.9	8.0	7.4	6.1	4.8	1.6	1.6	1.5	1.6	1.7	1.9	2.0
Slovak Republic	–2.7	–3.4	–5.4	–6.2	–2.7	–2.4	–0.5	–0.6	–1.0	–1.1	–1.1	–1.2	–1.2	–1.1	–1.1
Slovenia	–1.7	–2.4	–3.5	–3.5	–2.9	–0.3	0.5	0.2	0.9	1.2	0.3	0.3	0.2	0.2	0.1
Spain[1]	–0.1	–6.1	–9.1	–6.8	–5.5	–1.3	–0.1	0.3	–0.2	–0.2	–0.2	–0.2	–0.1	–0.2	–0.2
Sweden[1]	3.4	1.7	1.0	1.7	0.9	–0.3	–0.7	–0.9	–0.4	–0.9	–1.1	–0.6	0.0	0.3	0.4
Switzerland[1]	1.4	1.3	1.5	0.9	0.9	0.7	0.3	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1
United Kingdom[1]	–3.1	–4.2	–7.5	–5.0	–3.3	–3.7	–2.9	–3.1	–2.5	–1.5	–0.7	–0.1	0.8	0.9	0.8
United States[1]	–2.0	–4.0	–5.9	–7.6	–6.0	–4.2	–2.4	–1.9	–1.4	–1.9	–1.8	–1.4	–1.4	–1.3	–1.3
Average	–0.9	–2.4	–4.4	–5.0	–3.8	–2.7	–1.7	–1.2	–1.0	–1.4	–1.3	–1.0	–0.8	–0.6	–0.6
Euro Area	0.3	–0.9	–2.3	–2.5	–1.2	0.0	1.0	1.0	1.1	0.6	0.5	0.6	0.7	0.9	1.0
G7	–1.3	–2.5	–4.6	–5.6	–4.4	–3.3	–2.1	–1.5	–1.2	–1.7	–1.6	–1.3	–1.1	–0.9	–0.8
G20 Advanced	–1.1	–2.4	–4.4	–5.4	–4.2	–3.1	–2.0	–1.5	–1.2	–1.6	–1.5	–1.1	–0.9	–0.7	–0.6

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

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

[1] The data for these countries include adjustments beyond the output cycle.

Table A5. Advanced Economies: General Government Revenue, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia	35.8	34.0	33.4	32.0	32.1	33.3	34.0	34.2	34.6	34.7	34.9	35.2	35.5	35.8	36.0
Austria	47.8	48.3	48.8	48.3	48.3	48.9	49.5	49.9	50.5	49.7	49.5	49.5	49.5	49.5	49.5
Belgium	48.3	49.2	48.8	49.3	50.3	51.6	52.6	52.0	51.4	51.0	50.8	50.4	50.1	49.9	49.9
Canada	40.4	39.1	39.6	38.4	38.4	38.5	38.5	38.5	39.1	38.8	38.6	38.4	38.4	38.5	38.6
Cyprus	41.1	39.5	36.8	37.5	36.8	36.1	37.6	39.7	38.9	37.8	37.5	37.3	37.6	37.6	37.6
Czech Republic	39.3	38.1	38.1	38.6	40.3	40.5	41.4	40.3	41.4	40.0	40.0	40.2	40.1	40.0	39.9
Denmark	54.6	53.7	54.0	54.3	54.8	54.8	55.5	57.4	53.9	52.5	50.0	49.8	49.6	49.4	49.4
Estonia	36.0	36.1	42.3	40.6	38.4	38.7	38.0	38.7	40.0	41.5	42.5	42.8	42.8	42.6	42.3
Finland	51.9	52.4	52.2	52.1	53.3	54.0	54.9	54.9	55.0	54.9	53.5	54.1	54.4	54.6	54.8
France	49.7	49.8	49.6	49.6	50.8	52.0	52.9	53.4	53.5	53.2	53.3	53.1	53.1	53.1	53.1
Germany	43.0	43.4	44.3	43.0	43.8	44.2	44.5	44.7	44.7	44.6	44.5	44.5	44.4	44.4	44.4
Greece	40.4	40.6	38.9	41.3	44.0	45.8	47.9	46.8	48.1	47.2	46.2	45.1	44.2	43.5	43.2
Hong Kong SAR	21.3	18.9	18.8	20.7	22.4	21.4	21.0	20.9	18.7	21.2	20.9	21.8	21.8	21.9	21.9
Iceland	45.9	42.5	38.8	39.6	40.1	41.7	42.1	45.3	42.2	56.9	41.7	41.4	41.6	41.3	41.4
Ireland	36.1	34.8	33.3	33.2	33.1	33.6	33.9	34.0	27.6	26.3	25.8	25.6	25.3	25.0	24.7
Israel	41.5	39.1	36.2	37.0	37.0	36.1	36.5	36.7	36.8	37.6	37.2	37.3	37.3	37.3	37.3
Italy	45.3	45.1	45.9	45.6	45.7	47.8	48.1	48.2	47.9	47.3	46.0	45.8	46.0	46.0	46.0
Japan	31.2	31.6	29.6	29.6	30.8	31.1	32.1	33.6	34.1	33.7	33.7	33.7	33.8	34.6	34.7
Korea	22.6	22.3	21.3	21.0	21.6	22.1	21.5	21.2	21.3	22.0	21.8	21.5	21.5	21.5	21.5
Latvia	33.8	33.5	35.8	36.6	35.7	37.5	36.9	36.2	36.3	36.2	36.8	37.9	37.2	36.3	36.0
Lithuania	33.4	33.8	34.3	34.3	32.6	32.1	32.1	33.5	34.4	34.3	34.5	34.5	34.5	34.5	34.4
Luxembourg	42.4	43.6	45.3	44.2	43.8	44.8	44.0	44.1	42.8	42.6	41.3	41.0	40.8	40.8	40.8
Malta	38.9	38.4	38.6	37.9	38.5	38.9	39.3	41.2	41.9	39.6	39.8	39.9	40.0	40.1	40.1
Netherlands	42.7	43.8	42.7	43.2	42.7	43.2	43.9	43.9	43.2	43.6	43.7	43.7	43.7	43.7	43.7
New Zealand	36.6	36.0	34.8	33.9	33.9	33.9	34.0	34.1	34.5	34.4	34.4	34.0	33.9	34.0	34.0
Norway	56.5	57.4	55.4	55.0	56.2	55.8	53.8	53.3	53.3	53.1	51.2	51.2	51.3	51.2	51.1
Portugal	41.5	41.6	40.4	40.6	42.6	42.9	45.1	44.5	43.9	43.6	43.4	43.3	43.2	43.0	42.9
Singapore	23.8	24.0	17.4	21.1	23.2	22.4	21.7	21.6	21.6	22.0	21.3	21.6	21.8	22.0	22.3
Slovak Republic	34.2	34.3	36.1	34.5	36.4	36.2	38.6	39.2	42.7	39.7	39.5	39.3	39.0	38.7	38.4
Slovenia	39.8	40.4	39.8	40.8	40.6	41.7	41.0	41.5	40.7	40.7	40.4	40.5	40.6	40.7	40.8
Spain	40.9	36.7	34.8	36.2	36.2	37.5	38.2	38.6	38.2	37.4	38.0	38.0	37.9	37.9	37.9
Sweden	52.0	51.3	51.3	51.0	50.3	50.6	50.9	50.1	48.9	48.6	48.9	49.2	49.3	49.1	49.1
Switzerland	31.6	32.4	33.0	32.5	33.0	32.6	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7	32.7
United Kingdom	35.4	36.0	34.4	35.3	36.0	36.0	36.3	35.3	35.8	36.3	36.4	36.1	36.3	36.2	36.1
United States	31.7	30.6	28.4	29.1	29.4	29.4	31.6	31.4	31.6	31.4	31.5	31.7	31.8	32.0	32.0
Average	36.8	36.6	35.1	35.1	35.7	35.8	37.0	37.0	36.5	36.4	36.2	36.2	36.3	36.4	36.4
Euro Area	44.7	44.4	44.4	44.3	44.9	46.0	46.6	46.7	46.4	46.0	45.8	45.7	45.6	45.6	45.5
G7	36.1	35.9	34.3	34.3	35.0	35.0	36.5	36.6	36.3	36.1	36.0	36.0	36.1	36.3	36.3
G20 Advanced	35.6	35.4	33.9	33.8	34.4	34.5	35.9	35.9	35.7	35.5	35.4	35.4	35.5	35.7	35.7

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

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

Table A6. Advanced Economies: General Government Expenditure, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia	34.4	35.1	37.9	37.1	36.5	36.8	36.8	37.1	37.5	37.6	37.4	36.9	36.3	36.0	36.0
Austria	51.7	52.2	54.1	52.7	50.8	51.1	50.8	52.6	51.7	51.3	51.0	50.7	50.5	50.4	50.3
Belgium	48.2	50.3	54.1	53.3	54.4	55.8	55.6	55.1	54.0	53.7	53.0	52.4	52.2	52.2	52.3
Canada	38.6	38.9	43.5	43.2	41.7	41.0	40.3	39.0	40.4	41.4	40.9	40.4	40.0	39.7	39.5
Cyprus	37.9	38.6	42.3	42.2	42.5	41.9	42.0	39.9	40.3	38.3	38.1	37.8	37.7	37.7	37.6
Czech Republic	40.0	40.2	43.6	43.0	43.0	44.5	42.6	42.2	41.8	40.6	40.6	40.7	40.6	40.5	40.4
Denmark	49.6	50.5	56.8	57.1	56.8	58.3	56.5	56.0	55.7	53.4	51.9	51.5	51.0	50.7	50.5
Estonia	33.6	39.0	44.2	40.4	37.4	39.1	38.3	38.0	39.6	41.3	42.3	42.7	42.8	42.7	42.6
Finland	46.8	48.3	54.8	54.8	54.4	56.2	57.5	58.1	57.7	57.2	56.0	56.1	55.9	55.7	55.4
France	52.2	53.0	56.8	56.4	55.9	56.8	57.0	57.3	57.0	56.5	56.2	55.8	55.3	54.7	54.1
Germany	42.8	43.6	47.6	47.3	44.7	44.3	44.7	44.4	44.0	44.5	44.3	44.2	44.0	43.9	43.8
Greece	47.1	50.8	54.1	52.5	54.2	52.3	51.4	50.8	51.1	50.5	48.9	46.8	46.0	45.5	45.8
Hong Kong SAR	13.9	18.8	17.1	16.6	18.6	18.3	20.0	17.3	18.1	19.7	19.4	20.9	20.6	19.8	19.8
Iceland	41.0	55.7	48.5	49.4	45.7	45.4	44.0	45.3	42.7	42.2	41.2	40.8	40.5	40.6	40.4
Ireland	35.8	41.8	47.1	65.3	45.7	41.6	39.5	37.7	29.5	27.0	26.3	25.8	25.4	24.8	24.3
Israel	42.1	41.7	41.8	41.0	40.4	41.1	40.7	40.1	39.9	41.0	41.1	41.2	41.2	41.2	41.2
Italy	46.8	47.8	51.2	49.9	49.1	50.8	51.0	51.2	50.5	49.8	48.2	47.2	46.6	46.1	46.0
Japan	33.3	35.7	40.0	38.9	40.6	39.8	40.6	39.8	39.3	38.9	38.9	38.1	37.7	37.8	37.8
Korea	20.5	20.8	21.3	19.5	19.9	20.6	20.9	20.8	21.0	21.1	20.6	19.8	19.3	19.2	19.1
Latvia	33.2	36.7	42.8	43.1	38.8	37.4	37.4	37.9	38.1	37.4	37.9	38.0	37.7	36.8	36.5
Lithuania	34.4	37.0	43.6	41.2	41.5	35.2	34.7	34.1	34.6	34.6	35.0	35.0	35.0	34.9	35.0
Luxembourg	38.2	40.2	46.0	44.9	43.3	44.6	43.2	42.4	41.5	41.4	41.3	41.1	41.1	41.1	41.1
Malta	41.2	42.6	41.9	41.1	41.0	42.5	41.8	43.2	43.4	40.5	40.5	40.5	40.5	40.6	40.6
Netherlands	42.4	43.6	48.2	48.1	47.0	47.1	46.3	46.2	45.1	44.7	44.4	44.2	43.9	43.7	43.5
New Zealand	33.4	34.7	36.5	39.9	39.3	35.8	35.0	34.3	34.7	34.8	34.7	34.0	33.4	33.1	33.1
Norway	39.5	38.9	45.0	44.1	43.0	42.2	43.3	44.9	47.8	50.1	48.0	47.7	47.7	47.7	47.6
Portugal	44.5	45.3	50.2	51.8	50.0	48.5	49.9	51.7	48.3	46.6	46.4	46.2	46.1	45.9	45.8
Singapore	13.7	17.9	17.3	15.0	14.6	14.5	15.1	16.1	19.0	19.6	18.9	19.1	18.9	19.2	19.0
Slovak Republic	36.1	36.7	43.9	42.0	40.5	40.5	41.3	41.9	45.6	42.0	41.7	41.3	40.9	40.6	40.3
Slovenia	39.6	40.7	45.3	46.0	46.1	44.8	54.9	47.3	44.1	43.0	42.7	42.9	43.2	43.4	43.6
Spain	38.9	41.1	45.8	45.6	45.8	48.0	45.1	44.5	43.3	41.9	41.1	40.7	40.2	40.1	40.0
Sweden	48.7	49.3	52.0	51.0	50.4	51.5	52.2	51.7	48.9	49.0	49.6	49.5	49.2	48.8	48.8
Switzerland	30.0	30.7	32.4	32.2	32.6	32.6	32.9	32.9	33.0	33.1	33.0	33.0	33.0	32.9	32.8
United Kingdom	38.3	40.9	44.8	44.9	43.6	43.7	42.0	40.9	40.0	39.6	39.1	38.4	37.4	36.9	36.8
United States	34.5	37.3	41.6	40.0	38.9	37.3	36.0	35.5	35.0	35.5	35.2	35.0	35.3	35.5	35.8
Average	38.0	40.1	43.9	42.7	42.0	41.2	40.7	40.2	39.3	39.4	39.0	38.6	38.4	38.4	38.4
Euro Area	45.3	46.6	50.7	50.5	49.1	49.7	49.6	49.3	48.5	48.0	47.4	47.0	46.6	46.3	46.1
G7	38.2	40.3	44.3	43.1	42.4	41.4	40.9	40.3	39.5	39.6	39.3	38.9	38.8	38.8	38.8
G20 Advanced	37.5	39.6	43.5	42.1	41.5	40.6	40.0	39.5	38.7	38.9	38.5	38.1	37.9	37.9	38.0

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

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

Table A7. Advanced Economies: General Government Gross Debt, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia[1]	9.7	11.7	16.7	20.5	24.2	27.8	30.8	34.3	37.6	40.9	43.2	43.5	42.3	40.6	39.0
Austria	64.8	68.5	79.7	82.4	82.2	81.6	80.8	84.3	86.2	84.9	83.7	82.3	80.6	78.9	77.3
Belgium	87.0	92.5	99.6	99.7	102.3	104.1	105.2	106.6	106.1	105.8	105.0	104.0	103.2	102.6	102.1
Canada[1]	66.8	67.8	79.3	81.1	81.5	84.8	86.1	86.2	91.5	92.1	90.5	88.7	86.7	84.6	82.2
Cyprus	53.6	44.6	53.4	56.3	65.8	79.3	102.5	108.2	108.9	106.7	105.3	101.9	97.9	94.6	91.2
Czech Republic	27.8	28.7	34.1	38.2	39.8	44.5	44.9	42.2	40.3	39.8	38.8	37.8	36.9	36.0	35.2
Denmark	27.3	33.4	40.4	42.9	46.4	45.2	44.7	44.8	45.5	45.7	46.3	46.3	46.0	45.4	44.6
Estonia	3.7	4.5	7.0	6.6	5.9	9.5	9.9	10.4	9.7	9.5	9.1	8.7	8.4	8.1	7.9
Finland	34.0	32.7	41.7	47.1	48.5	52.9	55.4	59.3	62.5	63.8	65.3	65.9	66.0	65.5	64.4
France	64.4	68.1	79.0	81.7	85.2	89.6	92.4	95.3	96.1	97.1	97.8	97.9	97.4	95.9	93.8
Germany	63.5	64.9	72.4	81.0	78.3	79.5	77.1	74.5	71.0	68.2	65.9	63.6	61.1	58.9	56.7
Greece[1]	103.1	109.4	126.7	146.2	172.1	159.6	177.7	180.1	176.9	183.4	184.7	184.7	178.5	173.1	169.2
Hong Kong SAR[1]	1.0	0.9	0.7	0.6	0.6	0.5	0.5	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0
Iceland	27.3	67.6	82.9	88.3	95.1	92.6	84.8	82.5	67.6	55.1	51.8	41.5	36.7	34.0	29.9
Ireland	23.9	42.4	61.7	86.3	109.6	119.5	119.5	105.2	78.7	74.6	72.6	69.7	68.0	66.2	63.5
Israel	73.0	71.9	74.6	70.7	68.8	68.3	67.0	66.0	64.1	65.8	67.6	68.7	69.3	70.0	70.6
Italy	99.8	102.4	112.5	115.4	116.5	123.3	129.0	132.5	132.7	133.2	133.4	132.0	129.9	127.5	125.0
Japan	183.0	191.8	210.2	215.8	231.6	238.0	244.5	249.1	248.0	250.4	253.0	254.9	254.7	254.5	253.9
Korea	28.7	28.2	31.4	30.8	31.5	32.1	33.8	35.9	37.9	38.9	39.2	38.8	37.8	36.8	35.6
Latvia	7.2	16.2	32.5	40.3	37.6	36.9	35.9	38.6	34.9	35.1	34.7	32.9	31.6	30.2	28.9
Lithuania	16.7	15.4	29.0	36.3	37.3	39.8	38.8	40.7	42.8	41.9	41.0	39.5	37.9	36.5	35.2
Luxembourg	7.8	15.1	16.0	20.1	19.1	22.0	23.3	22.9	21.5	22.2	22.9	23.5	24.0	24.0	24.2
Malta	62.4	62.7	67.8	67.6	70.0	67.6	68.4	67.0	64.0	62.2	59.7	57.9	55.8	53.7	51.7
Netherlands	42.4	54.5	56.5	59.3	61.6	66.4	67.7	67.9	65.1	63.5	61.8	60.4	58.8	57.0	55.3
New Zealand	14.5	16.9	21.7	26.9	31.5	31.9	30.8	30.3	29.9	29.9	29.2	26.8	25.6	24.6	23.1
Norway	49.2	47.3	42.0	42.4	28.9	30.0	30.3	27.9	27.9	27.9	27.9	27.9	27.9	27.9	27.9
Portugal	68.4	71.7	83.6	96.2	111.4	126.2	129.0	130.2	129.0	128.4	128.2	127.7	127.0	126.5	125.9
Singapore	84.7	95.3	99.7	97.0	101.1	105.8	103.1	98.5	104.7	106.4	105.7	104.2	102.7	101.1	99.6
Slovak Republic	29.9	28.2	36.0	40.8	43.3	52.4	55.0	53.9	52.9	52.8	53.0	52.4	51.6	50.8	50.0
Slovenia	22.7	21.6	34.5	38.2	46.4	53.9	71.0	80.9	83.1	80.0	81.2	82.3	83.1	84.0	84.9
Spain	35.5	39.4	52.7	60.1	69.5	85.4	93.7	99.3	99.3	100.1	100.2	100.0	99.2	98.3	97.4
Sweden	38.1	36.7	40.2	37.6	36.9	37.2	39.8	44.8	43.4	42.7	41.2	40.4	39.7	38.4	37.0
Switzerland	49.5	49.4	47.3	46.1	46.0	46.6	46.4	45.7	45.7	44.7	43.7	42.6	41.3	40.3	39.3
United Kingdom	42.2	50.3	64.2	75.7	81.3	84.8	86.0	87.9	89.0	89.0	88.8	88.6	86.6	84.3	82.1
United States[1]	64.0	72.8	86.0	94.7	99.0	102.5	104.6	104.6	105.2	108.2	108.4	107.9	107.8	107.9	108.3
Average	71.7	78.5	91.9	98.4	102.6	106.8	105.6	105.4	105.4	108.6	109.2	108.5	107.6	106.5	105.5
Euro Area	64.9	68.5	78.3	84.1	86.7	91.3	93.3	94.3	92.5	91.7	91.0	89.8	88.1	86.2	84.2
G7	80.9	88.9	103.7	111.9	117.1	121.3	119.4	118.6	117.9	121.7	122.6	122.0	121.1	120.2	119.3
G20 Advanced	77.1	84.8	99.2	106.1	110.6	114.5	112.9	112.4	112.2	116.0	116.8	116.1	115.2	114.1	113.1

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

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

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

Table A8. Advanced Economies: General Government Net Debt, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Australia[1]	–7.3	–5.3	–0.6	3.9	8.1	11.2	13.2	15.6	17.7	19.7	21.1	21.6	21.0	19.8	18.5
Austria	. . .	. . .	. . .	. . .	. . .	60.4	60.2	59.5	59.1	58.5	58.0	57.2	56.2	55.1	54.2
Belgium	54.3	55.1	61.0	59.6	60.8	62.5	63.6	62.8	61.0	62.0	62.4	62.7	63.0	63.5	64.2
Canada[1]	22.1	18.4	24.4	26.8	27.1	28.2	29.4	28.1	26.3	26.9	25.3	23.6	21.7	19.6	17.2
Cyprus	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Czech Republic	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Denmark	–4.6	–6.7	–5.9	–3.3	1.1	6.6	4.0	4.9	6.5	7.3	9.0	10.4	11.4	12.2	12.9
Estonia	–10.5	–7.9	–9.5	–7.9	–6.1	–2.6	–1.5	–1.3	–1.7	–1.6	–1.6	–1.5	–1.4	–1.2	–0.9
Finland	–69.7	–50.0	–59.6	–61.8	–48.8	–50.3	–53.7	–54.4	–50.7	–47.1	–43.4	–40.2	–37.4	–35.0	–33.2
France	57.7	60.3	70.1	73.7	76.4	81.6	84.4	87.4	88.2	89.2	89.8	90.0	89.4	88.0	85.8
Germany	47.9	47.8	54.4	57.1	55.2	54.4	53.4	50.1	47.5	45.4	43.7	42.0	40.1	38.5	36.8
Greece	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Hong Kong SAR	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Iceland	17.6	53.3	66.3	65.7	61.7	63.8	62.2	55.9	50.6	45.5	39.8	34.2	32.1	24.5	22.9
Ireland	14.2	22.5	36.5	66.2	77.7	86.1	89.2	86.2	67.0	63.8	62.3	59.8	58.2	56.5	53.9
Israel	65.8	64.1	66.2	64.1	63.2	62.6	62.2	62.6	60.9	62.7	64.6	65.8	66.6	67.4	68.1
Italy	85.9	87.9	96.3	98.3	100.4	105.0	109.9	112.5	113.3	113.8	113.9	112.7	110.9	108.9	106.7
Japan	80.5	95.3	106.2	113.1	127.2	129.0	124.2	126.2	125.3	127.9	130.7	132.6	132.4	132.2	131.5
Korea	26.8	26.9	29.6	28.9	29.4	30.0	31.6	33.9	35.7	36.8	37.2	36.9	36.0	35.0	33.9
Latvia	4.4	11.1	21.4	28.8	30.1	29.7	32.9	35.6	32.0	32.3	31.9	30.2	29.0	27.7	26.5
Lithuania	13.0	13.5	24.5	31.8	33.5	34.1	35.7	37.8	39.9	39.2	38.3	37.0	35.6	34.2	33.1
Luxembourg	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Malta	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Netherlands	17.6	16.2	20.2	23.4	26.8	28.4	31.3	33.1	34.3	34.8	34.5	33.9	33.1	32.1	31.0
New Zealand	–0.9	–2.3	–0.8	2.3	6.1	7.6	7.7	7.0	6.5	6.7	6.7	6.4	6.4	6.0	4.8
Norway	–143.7	–128.8	–158.3	–167.6	–162.4	–171.4	–205.3	–244.0	–279.1	–274.4	–274.7	–275.8	–276.5	–277.4	–278.9
Portugal	61.4	67.2	79.3	91.6	100.8	115.7	118.4	120.0	121.6	121.9	122.2	122.2	122.2	122.0	121.5
Singapore	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Slovak Republic	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Slovenia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Spain	19.2	22.3	32.8	42.3	51.5	65.8	73.8	78.6	79.7	81.4	82.1	82.3	82.1	81.7	81.3
Sweden	–16.2	–8.5	–15.2	–17.1	–19.2	–21.3	–21.1	–20.5	–19.3	–18.0	–16.5	–15.6	–15.0	–14.7	–14.5
Switzerland	30.2	29.3	27.5	26.4	26.2	25.5	25.2	24.6	24.5	23.6	22.6	21.5	20.2	19.2	18.2
United Kingdom	37.1	44.4	57.4	68.5	72.9	76.2	77.6	79.5	80.4	80.5	80.3	80.0	78.1	75.8	73.6
United States[1]	44.5	50.5	62.0	69.4	75.9	79.4	80.8	80.3	79.8	82.2	82.3	82.1	82.6	83.4	84.4
Average	43.2	48.4	58.3	63.5	68.1	71.0	70.0	69.9	70.3	72.5	72.9	72.7	72.3	71.8	71.5
Euro Area	44.9	46.5	53.9	57.8	60.2	65.7	67.8	68.3	67.6	67.4	67.0	66.2	65.0	63.7	62.2
G7	52.0	58.3	69.3	75.5	81.3	84.1	83.1	82.8	82.1	84.3	84.7	84.4	84.1	83.7	83.4
G20 Advanced	49.5	55.5	66.1	71.5	76.7	79.3	78.5	78.5	78.2	80.4	80.7	80.5	80.0	79.5	79.1

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

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

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

Table A9. Emerging Market and Middle-Income Economies: General Government Overall Balance, 2007–21
(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Algeria	6.1	9.1	–5.5	–0.4	–0.4	–4.4	–0.4	–7.3	–16.2	–12.9	–9.3	–7.7	–6.6	–5.3	–3.9
Angola	4.7	–4.5	–7.4	3.4	8.7	4.6	–0.3	–6.6	–4.9	–5.4	–5.4	–4.0	–3.4	–2.9	–2.6
Argentina	–0.1	0.2	–2.4	–1.3	–2.6	–2.8	–3.0	–4.0	–6.6	–7.1	–7.4	–6.6	–5.4	–4.3	–4.1
Azerbaijan	0.7	21.6	8.3	14.2	11.7	4.3	1.0	3.2	–6.8	–9.9	–3.9	–0.4	6.3	8.0	7.6
Belarus	–0.7	–9.8	–9.3	–2.3	2.6	–0.1	–2.9	–1.7	–3.5	–5.3	–8.2	–8.0	–7.9	–7.8	–6.5
Brazil	–2.7	–1.5	–3.2	–2.7	–2.5	–2.5	–3.0	–6.0	–10.3	–10.4	–9.1	–8.0	–7.4	–7.0	–6.4
Chile	7.9	3.9	–4.3	–0.4	1.4	0.7	–0.5	–1.5	–2.1	–3.2	–2.9	–2.0	–1.6	–1.4	–1.2
China	0.1	0.0	–1.8	0.6	–0.1	–0.7	–0.8	–0.9	–2.7	–3.0	–3.3	–3.0	–2.8	–2.7	–2.7
Colombia	–0.8	–0.3	–2.8	–3.3	–2.0	0.1	–0.9	–1.8	–3.5	–2.9	–2.1	–1.5	–0.9	–0.2	0.0
Croatia	–2.4	–2.8	–6.0	–6.2	–7.8	–5.3	–5.3	–5.5	–3.2	–2.8	–2.6	–2.4	–2.3	–2.3	–2.3
Dominican Republic	0.1	–3.3	–3.0	–2.7	–3.0	–6.6	–3.6	–3.0	–0.4	–3.7	–3.9	–3.4	–3.8	–4.0	–4.2
Ecuador	2.6	0.6	–3.6	–1.4	–0.1	–0.9	–4.6	–5.3	–5.2	–5.2	0.3	0.4	1.2	2.1	0.6
Egypt[1]	–7.2	–7.4	–6.6	–7.9	–9.3	–10.0	–13.4	–12.9	–11.5	–12.0	–9.7	–8.1	–5.9	–4.5	–3.9
Hungary	–5.1	–3.6	–4.6	–4.5	–5.5	–2.3	–2.5	–2.3	–2.0	–2.0	–2.7	–2.5	–2.2	–2.0	–1.9
India	–4.4	–10.0	–9.8	–8.4	–8.2	–7.5	–7.6	–7.3	–6.9	–6.7	–6.6	–6.2	–5.8	–5.5	–5.2
Indonesia	–0.9	0.1	–1.6	–1.2	–0.7	–1.6	–2.2	–2.1	–2.6	–2.5	–2.6	–2.8	–2.8	–2.8	–2.8
Iran	6.7	0.6	0.8	2.8	0.6	–0.3	–0.9	–1.2	–1.7	–1.1	–1.0	–0.7	–0.8	–0.7	–0.8
Kazakhstan	5.1	1.2	–1.3	1.5	5.6	4.3	4.8	1.7	–6.8	–5.6	–4.1	–3.4	–3.4	–2.6	–1.8
Kuwait	37.4	20.2	27.2	26.0	33.1	33.3	34.3	28.1	1.7	–3.5	3.2	3.8	3.3	3.2	2.4
Libya	28.6	27.5	–5.3	11.6	–15.9	27.8	–4.0	–40.3	–52.5	–56.6	–43.8	–38.0	–31.1	–22.2	–19.8
Malaysia	–2.6	–3.5	–6.5	–4.5	–3.6	–3.8	–4.1	–2.7	–3.0	–3.4	–3.0	–2.7	–2.6	–2.3	–2.3
Mexico	–1.1	–0.8	–5.0	–3.9	–3.4	–3.8	–3.7	–4.6	–4.1	–3.0	–3.0	–2.5	–2.5	–2.5	–2.5
Morocco	–0.1	0.7	–1.8	–4.3	–6.6	–7.3	–5.2	–4.9	–4.4	–3.5	–3.0	–2.8	–2.5	–2.1	–2.0
Oman	12.4	17.3	–0.3	5.7	9.4	4.7	4.7	–1.1	–16.5	–13.5	–10.3	–7.6	–6.0	–4.7	–4.2
Pakistan	–5.1	–7.5	–5.0	–6.0	–6.7	–8.6	–8.4	–4.9	–5.2	–4.4	–3.6	–2.9	–2.7	–2.5	–2.5
Peru	3.3	2.7	–1.4	0.1	2.0	2.1	0.7	–0.3	–2.2	–2.5	–1.9	–1.4	–1.0	–0.8	–0.6
Philippines	–0.3	0.0	–2.7	–2.4	–0.4	–0.3	0.2	0.9	0.2	–0.4	–1.5	–1.7	–1.9	–2.0	–2.1
Poland	–1.9	–3.6	–7.3	–7.5	–4.9	–3.7	–4.0	–3.3	–2.6	–2.8	–2.9	–2.9	–2.6	–2.4	–2.2
Qatar	10.6	10.0	15.0	6.7	7.3	11.0	22.2	15.0	5.4	–7.6	–10.1	–6.1	–4.3	–3.7	–2.8
Romania	–3.1	–4.7	–7.1	–6.3	–4.2	–2.5	–2.5	–1.9	–1.5	–2.8	–2.8	–2.8	–2.8	–2.8	–2.8
Russia	5.6	4.5	–5.9	–3.2	1.4	0.4	–1.2	–1.1	–3.5	–3.9	–1.5	–0.8	0.0	0.3	0.4
Saudi Arabia	11.8	29.8	–5.4	3.6	11.2	12.0	5.8	–3.4	–15.9	–13.0	–9.5	–8.4	–6.8	–6.1	–7.6
South Africa	1.4	–0.4	–4.8	–4.6	–3.8	–4.0	–3.9	–3.7	–3.9	–3.9	–3.9	–3.7	–3.5	–3.4	–3.2
Sri Lanka	–6.9	–7.0	–9.9	–8.0	–6.9	–6.5	–5.9	–6.7	–6.9	–5.4	–4.7	–4.0	–3.7	–3.5	–3.5
Thailand	0.2	0.8	–2.2	–1.3	0.0	–0.9	0.4	–0.8	0.3	–0.4	–0.4	–0.5	–0.5	–0.5	–0.5
Turkey	–2.0	–2.7	–6.0	–3.4	–0.6	–1.7	–1.3	–0.9	–1.0	–1.9	–1.6	–1.5	–1.5	–1.6	–1.9
Ukraine	–1.9	–3.0	–6.0	–5.8	–2.8	–4.3	–4.8	–4.5	–1.2	–3.7	–4.4	–3.7	–3.1	–2.6	–2.1
United Arab Emirates	21.8	20.1	–4.3	2.0	6.3	10.9	10.4	5.0	–2.1	–3.9	–1.9	–0.3	0.8	1.6	2.1
Uruguay	0.0	–1.6	–1.6	–1.4	–0.9	–2.7	–2.3	–3.5	–3.6	–4.3	–3.7	–3.2	–2.5	–2.5	–2.6
Venezuela	–2.8	–3.5	–8.7	–10.4	–11.6	–15.6	–14.3	–16.8	–23.1	–25.7	–26.1	–23.8	–22.9	–22.5	–22.4
Average	1.0	0.8	–3.7	–1.9	–0.9	–1.1	–1.5	–2.4	–4.4	–4.7	–4.4	–3.8	–3.4	–3.1	–3.0
Asia	–1.1	–1.8	–3.4	–1.5	–1.6	–1.9	–1.9	–1.9	–3.2	–3.4	–3.7	–3.4	–3.2	–3.1	–3.0
Europe	1.4	0.6	–5.8	–3.7	–0.1	–0.7	–1.5	–1.4	–2.8	–3.3	–2.2	–1.7	–1.3	–1.1	–1.0
Latin America	–1.1	–0.9	–3.8	–3.1	–2.8	–3.1	–3.2	–5.1	–7.5	–8.0	–7.2	–5.9	–5.3	–4.8	–4.6
MENAP	10.7	12.8	–1.1	2.3	4.3	6.0	4.2	–0.8	–8.3	–8.4	–6.3	–5.0	–4.0	–3.2	–3.3
G20 Emerging	0.1	0.5	–3.9	–1.9	–1.1	–1.3	–1.9	–2.6	–4.4	–4.4	–4.3	–3.8	–3.5	–3.3	–3.2

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

Note: For country-specific details, see Data and Conventions in text, and Table C. MENAP = Middle East, North Africa, and Pakistan.

[1] Based on nominal GDP series prior to the recent revision; therefore, the numbers in the tables are not comparable to the authorities' numbers because of a difference in the denominators.

Table A10. Emerging Market and Middle-Income Economies: General Government Primary Balance, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Algeria	6.0	8.8	–6.0	–0.8	–1.7	–5.3	–0.5	–7.4	–16.7	–13.3	–9.3	–7.6	–6.2	–4.7	–3.1
Angola	5.8	–2.5	–5.6	4.6	9.6	5.5	0.5	–5.4	–2.9	–3.1	–2.5	–1.0	–0.2	0.4	0.8
Argentina	1.7	1.8	–1.1	–0.4	–1.4	–1.5	–2.4	–3.2	–5.4	–5.6	–5.1	–4.1	–3.0	–2.0	–1.8
Azerbaijan	0.9	21.7	8.5	14.4	12.0	4.5	1.2	3.3	–6.5	–9.2	–3.2	0.2	6.9	8.5	8.0
Belarus	–0.3	–9.2	–8.5	–1.7	3.7	1.3	–1.8	–0.7	–1.8	–3.0	–5.6	–5.2	–4.5	–4.1	–2.8
Brazil	3.2	3.8	1.9	2.3	2.9	1.9	1.7	–0.6	–1.9	–2.8	–2.2	–1.2	–0.5	0.3	0.7
Chile	7.7	3.6	–4.5	–0.3	1.5	0.8	–0.4	–1.4	–1.9	–3.0	–2.5	–1.7	–1.2	–1.0	–0.8
China	0.4	0.4	–1.3	1.1	0.4	–0.2	–0.3	–0.4	–2.1	–2.2	–2.3	–1.7	–1.3	–1.3	–1.2
Colombia	1.8	1.9	–1.1	–1.6	–0.1	1.6	1.2	0.3	–0.3	0.2	0.8	1.3	1.8	2.3	2.2
Croatia	–1.0	–1.1	–4.1	–4.1	–5.1	–2.3	–2.2	–2.4	–0.1	0.3	0.5	0.6	0.5	0.5	0.5
Dominican Republic	1.6	–1.7	–1.2	–0.9	–1.0	–4.2	–1.2	–0.5	2.2	–0.8	–0.9	–0.3	–0.5	–0.6	–0.7
Ecuador	4.3	1.7	–3.0	–0.8	0.5	–0.2	–3.6	–4.3	–3.8	–3.6	2.4	2.6	3.4	4.3	2.8
Egypt[1]	–2.9	–3.7	–3.6	–3.6	–4.5	–4.9	–6.3	–5.8	–4.8	–4.4	–1.8	0.1	1.2	1.1	1.3
Hungary	–1.3	0.0	–0.6	–0.7	–1.7	1.9	1.8	1.5	1.5	1.2	0.2	0.1	0.3	0.6	0.9
India	0.4	–5.3	–5.2	–4.2	–3.9	–3.1	–3.1	–2.8	–2.3	–2.1	–2.1	–1.8	–1.6	–1.5	–1.3
Indonesia	0.9	1.7	–0.1	0.0	0.5	–0.4	–1.0	–0.9	–1.2	–1.0	–1.0	–1.2	–1.1	–1.1	–1.1
Iran	6.8	0.7	0.8	2.7	0.7	–0.2	–0.9	–1.1	–1.6	–0.6	–0.4	0.0	0.1	0.2	0.1
Kazakhstan	4.2	1.5	–1.4	1.8	5.5	3.6	4.3	1.3	–6.5	–5.5	–4.3	–3.5	–3.4	–2.5	–1.6
Kuwait	25.6	11.1	18.1	16.9	26.5	26.6	26.0	18.5	–11.7	–17.6	–9.6	–8.4	–8.3	–7.9	–8.0
Libya	28.6	27.5	–5.3	11.6	–15.9	27.8	–4.0	–40.3	–52.5	–56.6	–43.8	–38.0	–31.1	–22.2	–19.8
Malaysia	–1.9	–2.1	–5.0	–2.9	–2.0	–2.0	–2.2	–0.8	–1.4	–1.5	–0.7	–0.4	–0.2	–0.2	–0.4
Mexico	1.5	1.7	–2.3	–1.4	–1.0	–1.2	–1.2	–1.9	–1.2	0.1	0.2	1.0	1.1	1.1	1.1
Morocco	2.8	3.2	0.6	–2.0	–4.4	–4.8	–2.6	–2.2	–1.6	–0.8	–0.4	–0.3	–0.1	0.3	0.3
Oman	10.8	16.0	–1.4	4.8	9.0	3.4	2.6	–2.1	–16.8	–14.4	–11.0	–8.1	–6.5	–5.0	–4.3
Pakistan	–1.1	–2.9	–0.2	–1.7	–2.9	–4.2	–3.9	–0.3	–0.5	–0.1	0.5	1.5	1.7	1.6	1.5
Peru	5.2	4.1	–0.3	1.2	3.0	3.0	1.7	0.7	–1.3	–1.3	–0.6	–0.1	0.2	0.5	0.7
Philippines	3.4	3.4	0.6	0.7	2.2	2.3	2.7	3.1	2.3	1.6	0.3	0.1	–0.2	–0.4	–0.7
Poland	0.3	–1.5	–4.8	–5.0	–2.3	–1.0	–1.5	–1.4	–0.8	–1.1	–1.2	–1.2	–0.9	–0.7	–0.5
Qatar	11.2	10.4	16.0	7.9	8.7	12.4	23.3	16.2	6.9	–6.0	–8.2	–3.8	–1.7	–0.9	0.1
Romania	–2.5	–4.1	–6.1	–5.0	–2.8	–0.7	–0.8	–0.4	–0.2	–1.4	–1.3	–1.2	–1.3	–1.4	–1.4
Russia	5.6	4.7	–6.2	–3.1	1.7	0.7	–0.8	–0.7	–3.2	–3.4	–0.8	0.1	0.9	1.2	1.2
Saudi Arabia	11.5	29.2	–5.2	4.0	11.3	11.9	5.4	–4.0	–17.9	–15.5	–10.2	–8.9	–7.1	–6.1	–7.3
South Africa	3.9	2.1	–2.5	–2.1	–1.1	–1.3	–0.9	–0.6	–0.6	–0.4	–0.2	0.1	0.3	0.6	0.9
Sri Lanka	–1.8	–2.2	–3.4	–1.7	–1.4	–1.1	–0.8	–2.2	–2.2	–0.8	0.0	0.7	0.8	1.0	0.8
Thailand	1.1	1.6	–1.5	–0.7	0.8	–0.1	1.1	–0.1	0.8	0.2	0.2	0.2	0.2	0.2	0.2
Turkey	2.9	1.7	–1.4	0.3	2.1	1.1	1.4	1.4	1.2	0.3	0.7	0.7	0.7	0.8	0.8
Ukraine	–1.4	–2.5	–4.9	–4.1	–0.8	–2.4	–2.3	–1.2	3.0	0.9	0.0	0.7	1.0	1.3	1.8
United Arab Emirates	21.8	20.1	–4.1	2.3	6.5	11.2	10.8	5.2	–1.8	–3.6	–1.6	0.0	1.1	2.0	2.4
Uruguay	3.6	1.4	1.1	1.5	1.9	–0.2	0.4	–0.6	0.0	–0.9	–0.2	0.4	0.7	0.8	0.8
Venezuela	–1.2	–2.0	–7.2	–8.6	–9.4	–12.4	–10.9	–13.0	–21.0	–24.8	–25.9	–23.6	–22.8	–22.5	–22.4
Average	2.8	2.5	–2.0	–0.1	0.8	0.5	0.1	–0.8	–2.7	–2.9	–2.4	–1.7	–1.2	–1.0	–0.9
Asia	0.5	–0.5	–2.0	–0.2	–0.3	–0.6	–0.7	–0.7	–1.9	–2.0	–2.0	–1.6	–1.3	–1.2	–1.1
Europe	2.9	2.1	–4.3	–2.2	1.1	0.6	–0.2	–0.2	–1.5	–1.9	–0.7	–0.3	0.2	0.5	0.6
Latin America	2.5	2.4	–0.6	0.1	0.6	–0.1	–0.2	–1.6	–3.1	–3.8	–3.2	–1.7	–1.0	–0.5	–0.2
MENAP	10.7	12.8	–0.7	2.9	4.8	6.5	4.9	–0.2	–7.8	–7.9	–5.5	–4.0	–2.9	–2.2	–2.1
G20 Emerging	2.3	2.4	–2.0	0.0	0.8	0.3	–0.3	–0.9	–2.5	–2.5	–2.2	–1.6	–1.2	–1.0	–0.9

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

Note: Primary balance is defined as the overall balance excluding net interest payments. For country-specific details, see Data and Conventions in text, and Table C. MENAP = Middle East, North Africa, and Pakistan.

[1] Based on nominal GDP series prior to the recent revision; therefore, the numbers in the tables are not comparable to the authorities' numbers because of a difference in the denominators.

Table A11. Emerging Market and Middle-Income Economies: General Government Cyclically Adjusted Balance, 2007–21

(Percent of potential GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Algeria	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Angola	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Argentina	–1.3	–0.8	–0.4	–1.3	–3.6	–2.9	–3.6	–3.5	–7.1	–6.2	–6.5	–5.5	–4.3	–3.1	–3.0
Azerbaijan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Belarus	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Brazil	–3.1	–2.4	–2.8	–3.7	–3.7	–3.5	–4.1	–7.3	–10.0	–8.9	–7.8	–7.3	–7.2	–6.9	–6.4
Chile[1]	0.5	–1.5	–4.3	–2.5	–1.1	–0.1	–1.0	–1.5	–2.0	–2.5	–1.8	–0.9	–0.4	–0.3	–0.2
China	–0.1	–0.3	–1.8	0.6	–0.1	–0.5	–0.5	–0.5	–2.4	–2.9	–3.2	–3.0	–2.8	–2.7	–2.7
Colombia	–1.6	–0.6	–2.3	–2.7	–2.1	0.1	–1.1	–2.1	–3.7	–2.8	–1.9	–1.3	–0.8	–0.3	–0.1
Croatia	–4.3	–4.6	–5.5	–5.3	–7.0	–4.0	–3.8	–4.0	–2.3	–2.2	–2.2	–2.2	–2.2	–2.3	–2.3
Dominican Republic	–0.1	–3.9	–2.4	–3.2	–2.6	–6.4	–2.7	–2.7	0.0	–2.8	–3.2	–3.0	–3.3	–3.3	–3.5
Ecuador	4.8	–4.0	–3.3	–2.4	–2.5	–3.7	–8.8	–9.6	–4.5	–3.2	2.9	2.4	2.9	4.4	2.3
Egypt[2]	–7.2	–7.9	–7.1	–8.6	–9.6	–10.1	–13.2	–12.5	–11.3	–11.2	–5.6	–2.9	0.9	2.0	1.8
Hungary	–7.8	–6.1	–3.4	–3.1	–4.3	0.2	–0.3	–1.1	–1.4	–1.6	–2.5	–2.5	–2.2	–2.1	–1.9
India	–4.9	–9.6	–9.5	–8.8	–8.5	–7.4	–7.5	–7.2	–6.9	–6.7	–6.6	–6.2	–6.0	–5.7	–5.3
Indonesia	–0.9	–0.1	–1.6	–1.2	–0.7	–1.6	–2.3	–2.1	–2.5	–2.5	–2.6	–2.8	–2.8	–2.8	–2.8
Iran	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Kazakhstan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Kuwait	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Libya	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Malaysia	–2.9	–3.3	–5.4	–4.2	–2.9	–3.7	–3.5	–2.4	–3.4	–3.5	–2.9	–2.6	–2.5	–2.3	–2.3
Mexico	–1.6	–1.2	–4.0	–3.6	–3.3	–3.9	–3.7	–4.5	–4.2	–4.1	–2.9	–2.4	–2.4	–2.5	–2.5
Morocco	–1.2	–0.4	–1.9	–4.3	–6.8	–7.4	–5.2	–6.2	–4.5	–4.5	–3.8	–3.3	–2.6	–2.2	0.0
Oman	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Pakistan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Peru[1]	1.6	1.0	–0.2	–0.4	1.2	1.4	0.1	–0.2	–1.7	–2.0	–1.7	–1.2	–0.9	–0.8	–0.6
Philippines	–0.7	–0.5	–1.8	–2.5	0.0	–0.3	0.1	0.6	0.2	–0.4	–1.6	–1.7	–1.9	–2.0	–2.1
Poland	–2.6	–4.1	–7.2	–7.4	–5.6	–3.8	–3.2	–3.0	–2.7	–2.8	–2.9	–3.0	–2.6	–2.4	–2.2
Qatar	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Romania	–5.8	–9.4	–8.0	–6.1	–3.8	–1.6	–2.0	–1.4	–1.2	–3.1	–3.1	–3.1	–3.0	–2.9	–2.8
Russia	5.0	4.3	–5.0	–2.8	1.5	0.2	–1.4	0.1	–2.4	–3.3	–1.9	–0.8	0.0	0.3	0.4
Saudi Arabia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
South Africa	1.2	–0.6	–3.1	–3.4	–3.4	–3.8	–3.8	–3.4	–3.2	–3.0	–3.0	–2.9	–2.9	–2.9	–2.8
Sri Lanka	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Thailand	–0.2	0.4	–1.4	–1.4	0.0	–0.6	0.2	–0.4	0.7	–0.1	–0.3	–0.5	–0.5	–0.6	–0.6
Turkey	–3.5	–3.0	–3.7	–2.9	–1.5	–1.9	–1.2	–1.2	–1.1	–2.0	–1.6	–1.4	–1.4	–1.6	–1.9
Ukraine	–3.6	–3.5	–2.1	–2.7	–3.1	–4.5	–4.6	–3.2	1.8	–2.1	–2.3	–2.2	–2.1	–2.2	–2.1
United Arab Emirates	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Uruguay	0.3	–1.8	–1.9	–2.5	–2.1	–3.6	–3.3	–4.4	–3.8	–3.9	–2.8	–2.5	–2.2	–2.4	–2.6
Venezuela	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Average	–1.1	–1.5	–3.5	–2.5	–2.0	–2.0	–2.2	–2.4	–3.6	–3.9	–3.7	–3.3	–3.1	–2.9	–2.8
Asia	–1.3	–2.0	–3.3	–1.5	–1.6	–1.7	–1.6	–1.5	–2.9	–3.3	–3.6	–3.4	–3.2	–3.1	–3.0
Europe	0.3	–0.1	–5.0	–3.7	–0.8	–1.1	–1.7	–0.9	–1.9	–2.8	–2.1	–1.5	–1.1	–1.0	–1.0
Latin America	–1.9	–1.7	–2.8	–3.1	–3.2	–2.9	–3.5	–5.2	–6.6	–6.1	–5.2	–4.6	–4.3	–3.9	–3.7
MENAP	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
G20 Emerging	–0.8	–1.1	–3.4	–2.2	–1.8	–1.9	–2.1	–2.3	–3.7	–4.0	–3.9	–3.6	–3.3	–3.2	–3.1

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

Note: For country-specific details, see Data and Conventions in text, and Table C. MENAP = Middle East, North Africa, and Pakistan.

[1] The data for these countries include adjustments beyond the output cycle.

[2] Based on nominal GDP series prior to the recent revision; therefore, the numbers in the tables are not comparable to the authorities' numbers because of a difference in the denominators.

Table A12. Emerging Market and Middle-Income Economies: General Government Cyclically Adjusted Primary Balance, 2007–21

(Percent of potential GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Algeria	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Angola	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Argentina	0.6	0.8	0.8	–0.4	–2.4	–1.6	–3.0	–2.7	–5.8	–4.7	–4.2	–3.1	–2.0	–0.9	–0.7
Azerbaijan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Belarus	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Brazil	2.9	3.1	2.3	1.5	1.9	1.1	0.8	–1.6	–1.7	–1.5	–1.2	–0.6	–0.3	0.3	0.7
Chile[1]	0.3	–1.9	–4.5	–2.4	–1.0	0.0	–0.9	–1.3	–1.8	–2.3	–1.5	–0.6	0.0	0.1	0.2
China	0.3	0.1	–1.4	1.0	0.4	0.0	0.0	0.1	–1.8	–2.1	–2.2	–1.7	–1.3	–1.2	–1.2
Colombia	1.1	1.6	–0.7	–1.1	–0.2	1.6	1.0	0.0	–0.5	0.4	1.0	1.5	1.9	2.3	2.1
Croatia	–2.7	–2.9	–3.6	–3.3	–4.4	–1.1	–0.8	–1.1	0.8	0.8	0.8	0.8	0.6	0.5	0.5
Dominican Republic	1.4	–2.3	–0.6	–1.3	–0.5	–4.0	–0.4	–0.2	2.7	0.2	–0.1	0.1	0.0	0.1	0.0
Ecuador	6.5	–2.8	–2.7	–1.8	–1.8	–2.9	–7.8	–8.5	–3.1	–1.7	5.0	4.5	5.1	6.6	4.4
Egypt[2]	–2.9	–4.1	–4.0	–4.1	–4.7	–4.9	–6.1	–5.5	–4.6	–3.6	2.1	5.2	7.9	7.5	7.1
Hungary	–3.8	–2.3	0.5	0.5	–0.7	4.2	3.8	2.7	2.0	1.6	0.3	0.1	0.3	0.6	0.9
India	0.0	–5.0	–5.0	–4.5	–4.1	–3.1	–3.0	–2.7	–2.2	–2.1	–2.1	–1.9	–1.7	–1.6	–1.3
Indonesia	0.9	1.5	0.0	0.1	0.5	–0.4	–1.1	–0.9	–1.2	–0.9	–1.0	–1.2	–1.1	–1.1	–1.1
Iran	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Kazakhstan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Kuwait	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Libya	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Malaysia	–2.2	–1.9	–4.0	–2.6	–1.3	–2.0	–1.7	–0.5	–1.7	–1.7	–0.6	–0.3	–0.2	–0.2	–0.4
Mexico	1.1	1.4	–1.5	–1.1	–0.9	–1.4	–1.2	–1.8	–1.3	–1.1	0.3	1.1	1.1	1.1	1.2
Morocco	1.8	2.2	0.4	–2.1	–4.6	–4.9	–2.7	–3.5	–1.8	–1.8	–1.3	–0.8	–0.2	0.2	3.3
Oman	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Pakistan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Peru[1]	3.4	2.4	0.9	0.6	2.2	2.3	1.1	0.7	–0.8	–0.8	–0.4	0.0	0.3	0.5	0.7
Philippines	3.1	3.0	1.5	0.6	2.5	2.3	2.6	2.8	2.2	1.6	0.3	0.1	–0.2	–0.4	–0.7
Poland	–0.4	–2.0	–4.7	–5.0	–3.0	–1.1	–0.7	–1.1	–0.9	–1.0	–1.2	–1.3	–0.9	–0.7	–0.5
Qatar	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Romania	–5.2	–8.7	–7.0	–4.9	–2.3	0.1	–0.3	0.1	0.0	–1.7	–1.7	–1.5	–1.5	–1.5	–1.4
Russia	5.0	4.5	–5.3	–2.7	1.8	0.5	–1.0	0.5	–2.1	–2.8	–1.2	0.1	0.9	1.2	1.2
Saudi Arabia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
South Africa	3.7	1.9	–0.8	–0.8	–0.8	–1.0	–0.8	–0.3	0.1	0.5	0.6	0.8	0.9	1.0	1.2
Sri Lanka	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Thailand	0.7	1.3	–0.7	–0.8	0.9	0.2	1.0	0.3	1.3	0.5	0.3	0.2	0.1	0.2	0.2
Turkey	1.5	1.4	0.6	0.8	1.3	0.9	1.4	1.1	1.1	0.2	0.7	0.7	0.8	0.8	0.8
Ukraine	–3.1	–3.0	–1.1	–1.1	–1.2	–2.6	–2.2	0.0	5.8	2.4	2.1	2.2	1.9	1.8	1.8
United Arab Emirates	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Uruguay	3.9	1.1	0.9	0.6	0.8	–1.0	–0.5	–1.4	–0.2	–0.5	0.6	0.9	1.0	0.8	0.8
Venezuela	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Average	1.2	0.5	–1.6	–0.6	0.0	–0.3	–0.5	–0.6	–1.6	–1.8	–1.5	–1.0	–0.7	–0.6	–0.5
Asia	0.3	–0.6	–1.9	–0.2	–0.3	–0.5	–0.4	–0.3	–1.7	–1.9	–2.0	–1.6	–1.3	–1.2	–1.1
Europe	2.0	1.5	–3.5	–2.2	0.5	0.3	–0.3	0.4	–0.6	–1.3	–0.6	0.0	0.4	0.6	0.7
Latin America	2.0	1.8	0.5	0.2	0.5	0.1	–0.4	–1.7	–2.0	–1.7	–0.9	–0.3	0.1	0.6	0.7
MENAP	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
G20 Emerging	1.5	0.9	–1.5	–0.2	0.2	–0.2	–0.5	–0.6	–1.8	–1.9	–1.8	–1.3	–0.9	–0.8	–0.7

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

Note: Cyclically adjusted primary balance is defined as the cyclically adjusted balance excluding net interest payments. For country-specific details, see Data and Conventions in text, and Table C. MENAP = Middle East, North Africa, and Pakistan.

[1] The data for these countries include adjustments beyond the output cycle. For country-specific details, see Data and Conventions in text, and Table C.

[2] Based on nominal GDP series prior to the recent revision; therefore, the numbers in the tables are not comparable to the authorities' numbers because of a difference in the denominators.

Table A13. Emerging Market and Middle-Income Economies: General Government Revenue, 2007–21
(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Algeria	39.4	47.0	36.9	36.6	39.9	39.1	35.8	33.4	30.0	27.9	29.6	30.1	30.4	30.8	31.2
Angola	45.8	50.9	34.6	43.5	48.8	45.9	40.2	35.3	24.8	21.0	22.5	22.9	22.9	22.9	22.7
Argentina	28.0	29.3	30.2	30.4	30.6	32.1	32.6	32.4	34.0	32.5	32.3	32.2	32.0	31.8	31.7
Azerbaijan	28.5	51.7	42.0	46.0	45.5	41.5	39.5	38.9	33.8	35.0	37.6	40.3	44.4	45.3	44.8
Belarus	47.3	48.9	44.2	39.7	37.1	38.7	39.3	38.5	40.7	37.5	37.7	37.8	38.0	38.1	38.3
Brazil	34.9	35.9	33.9	36.1	35.1	34.8	34.6	33.1	31.7	32.6	33.9	34.1	34.4	34.2	34.2
Chile	27.2	25.8	20.7	23.1	24.4	24.0	22.7	22.5	24.1	23.3	24.9	25.8	26.6	26.8	27.0
China	18.1	22.4	23.8	24.6	26.9	27.8	27.7	28.0	28.6	27.7	28.1	28.0	27.8	27.6	27.5
Colombia	27.2	26.4	26.7	26.1	26.7	28.3	28.1	27.7	26.4	25.8	26.6	26.6	26.3	26.4	26.5
Croatia	42.5	42.0	41.6	41.3	41.0	41.7	42.5	42.6	43.7	44.2	43.8	43.7	43.3	43.3	43.3
Dominican Republic	16.4	15.1	13.3	13.1	12.8	13.6	14.6	15.1	17.8	14.6	14.5	14.4	14.3	14.3	14.2
Ecuador	26.7	35.8	29.4	33.3	39.3	39.3	39.3	38.7	33.3	31.7	33.1	32.9	33.2	33.7	34.1
Egypt[1]	26.4	26.6	26.3	23.9	20.9	21.1	21.9	23.7	21.9	20.3	23.2	21.5	21.7	21.3	21.4
Hungary	45.0	45.1	46.1	45.0	44.3	46.3	47.0	47.5	48.7	45.6	45.8	45.6	45.6	45.7	45.4
India	22.0	19.7	18.5	18.8	19.3	19.8	19.5	19.6	21.1	21.4	21.3	21.4	21.6	21.8	21.9
Indonesia	17.8	19.4	15.4	15.6	17.0	17.2	16.9	16.5	14.9	14.1	13.8	13.9	14.0	14.1	14.1
Iran	26.5	22.7	21.4	21.9	19.2	14.2	14.1	14.6	15.5	16.0	16.0	16.3	16.3	16.2	16.1
Kazakhstan	28.8	28.3	22.1	23.9	26.0	25.4	24.0	23.1	16.6	16.0	17.0	17.2	17.7	18.7	19.8
Kuwait	67.5	60.6	69.4	70.7	72.1	72.1	72.5	72.4	58.0	52.8	55.0	54.4	53.3	52.3	50.9
Libya	62.3	68.4	52.9	64.9	39.1	72.3	65.2	37.9	21.5	18.0	24.0	24.8	25.7	28.0	28.1
Malaysia	23.6	23.8	24.8	22.5	23.9	25.0	24.1	23.8	22.2	20.8	21.5	21.9	22.2	22.0	21.5
Mexico	22.2	25.0	23.3	22.8	23.7	23.9	24.3	23.4	23.2	22.6	21.4	21.5	21.7	21.6	21.5
Morocco	28.5	31.3	28.7	26.8	27.2	28.0	27.8	28.1	26.5	26.9	27.5	27.6	27.8	28.0	28.2
Oman	48.8	47.4	39.3	40.6	48.9	49.5	49.9	45.9	38.6	38.0	38.8	39.7	40.4	39.5	38.6
Pakistan	14.4	14.4	14.2	14.3	12.6	13.0	13.5	15.2	14.5	15.3	16.0	16.7	17.0	17.3	17.5
Peru	21.9	22.2	20.1	21.1	21.8	22.4	22.3	22.3	20.1	19.6	20.2	20.6	20.6	20.7	20.9
Philippines	18.7	18.7	17.4	16.8	17.6	18.6	18.9	18.9	19.3	19.3	19.4	19.4	19.4	19.5	19.4
Poland	41.3	40.9	38.0	38.1	38.8	38.9	38.4	38.9	38.9	39.3	39.7	39.7	39.8	39.8	39.8
Qatar	38.7	33.0	47.8	37.3	35.4	41.4	50.0	47.7	46.4	35.1	30.3	31.3	31.2	30.6	30.0
Romania	32.1	31.6	30.6	31.6	32.1	32.4	31.4	32.0	32.8	31.2	30.4	30.0	29.7	29.5	29.4
Russia	37.4	36.5	32.6	32.2	34.9	35.0	34.4	34.3	32.8	31.0	32.5	31.9	31.7	31.7	31.5
Saudi Arabia	41.2	56.5	31.7	37.5	44.5	45.3	41.4	36.9	25.4	23.2	23.6	26.1	26.6	27.3	27.0
South Africa	28.6	28.3	26.9	26.9	27.1	27.3	27.6	28.2	29.6	29.9	30.0	30.3	30.4	30.4	30.5
Sri Lanka	16.6	15.6	15.0	14.9	15.0	14.1	13.3	12.3	13.1	13.0	14.0	15.3	15.5	15.8	15.8
Thailand	20.2	20.0	19.5	20.7	21.1	21.3	22.3	21.4	22.6	22.3	22.2	22.2	22.3	22.3	22.4
Turkey	31.6	31.8	32.6	33.3	34.6	35.0	37.2	36.4	37.0	36.6	37.2	37.3	37.3	37.4	37.5
Ukraine	40.2	42.4	40.8	43.4	42.9	44.7	43.3	40.3	42.1	38.1	38.0	38.2	38.3	38.1	38.3
United Arab Emirates	39.5	42.0	30.7	34.6	37.7	40.1	40.8	37.3	28.5	26.2	26.4	27.0	27.2	27.1	26.9
Uruguay	28.9	27.1	28.1	29.0	28.3	27.8	29.5	28.8	28.7	28.4	29.1	29.4	29.5	29.6	29.6
Venezuela	33.1	31.4	24.6	21.2	27.9	25.1	26.1	30.3	25.3	15.8	14.1	15.6	16.5	16.8	16.9
Average	27.7	29.6	26.9	27.6	28.9	29.5	29.3	28.7	27.7	26.7	27.1	27.2	27.1	27.1	26.9
Asia	19.2	21.5	21.9	22.4	24.4	25.3	25.3	25.6	26.3	25.4	25.7	25.7	25.6	25.6	25.4
Europe	36.8	36.7	34.3	34.2	35.7	35.8	35.7	35.5	34.9	34.1	34.7	34.5	34.4	34.4	34.4
Latin America	28.9	30.4	28.6	29.8	30.2	30.0	30.1	29.2	28.2	27.3	27.8	28.3	28.6	28.5	28.5
MENAP	36.7	40.6	31.4	33.0	33.9	36.7	35.9	33.1	26.1	23.9	24.6	25.4	25.5	25.6	25.4
G20 Emerging	25.9	28.2	26.0	26.9	28.6	29.0	28.8	28.4	27.9	27.1	27.5	27.5	27.4	27.3	27.1

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

Note: For country-specific details, see Data and Conventions in text, and Table C. MENAP = Middle East, North Africa, and Pakistan.

[1] Based on nominal GDP series prior to the recent revision; therefore, the numbers in the tables are not comparable to the authorities' numbers because of a difference in the denominators.

Table A14. Emerging Market and Middle-Income Economies: General Government Expenditure, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Algeria	33.3	37.9	42.3	37.0	40.3	43.5	36.2	40.7	46.1	40.8	38.9	37.8	37.0	36.0	35.1
Angola	41.2	55.4	41.9	40.0	40.2	41.3	40.5	41.9	29.7	26.3	27.9	27.0	26.4	25.8	25.3
Argentina	28.1	29.0	32.6	31.7	33.1	34.9	35.6	36.4	40.6	39.6	39.7	38.8	37.4	36.1	35.8
Azerbaijan	27.8	30.1	33.7	31.8	33.8	37.2	38.5	35.7	40.5	44.9	41.5	40.7	38.1	37.3	37.2
Belarus	47.9	58.7	53.5	42.1	34.5	38.9	42.2	40.2	44.2	42.8	46.0	45.9	45.9	45.9	44.8
Brazil	37.6	37.4	37.1	38.8	37.6	37.3	37.5	39.1	42.0	43.0	43.0	42.1	41.8	41.1	40.7
Chile	19.3	21.8	25.0	23.5	23.0	23.3	23.2	24.0	26.2	26.5	27.7	27.8	28.2	28.2	28.2
China	18.1	22.4	25.5	24.0	27.0	28.4	28.5	28.9	31.3	30.7	31.4	31.0	30.6	30.4	30.2
Colombia	28.0	26.6	29.5	29.4	28.7	28.3	29.0	29.4	29.9	28.7	28.7	28.2	27.2	26.6	26.5
Croatia	45.0	44.7	47.6	47.5	48.8	47.0	47.8	48.1	46.9	47.0	46.4	46.1	45.6	45.6	45.6
Dominican Republic	16.3	18.3	16.3	15.8	15.9	20.2	18.1	18.1	18.2	18.3	18.4	17.8	18.1	18.3	18.4
Ecuador	24.1	35.2	33.0	34.7	39.5	40.3	43.9	43.9	38.5	36.9	32.8	32.5	32.0	31.6	33.5
Egypt[1]	33.5	34.0	32.9	31.8	30.3	31.1	35.3	36.7	33.5	32.4	32.9	29.6	27.6	25.8	25.3
Hungary	50.1	48.7	50.6	49.6	49.7	48.6	49.5	49.8	50.7	47.6	48.5	48.1	47.8	47.7	47.3
India	26.4	29.7	28.3	27.2	27.5	27.3	27.2	26.9	28.0	28.1	27.9	27.6	27.4	27.3	27.1
Indonesia	18.7	19.4	17.0	16.9	17.7	18.8	19.1	18.6	17.4	16.6	16.4	16.8	16.8	16.8	16.9
Iran	19.7	22.1	20.6	19.1	18.5	14.5	15.0	15.7	17.2	17.1	17.0	17.0	17.0	16.9	16.9
Kazakhstan	23.7	27.1	23.5	22.5	20.4	21.1	19.2	21.4	23.5	21.6	21.1	20.6	21.0	21.3	21.5
Kuwait	30.1	40.4	42.2	44.7	39.1	38.8	38.1	44.3	56.3	56.4	51.7	50.6	50.0	49.1	48.5
Libya	33.7	40.8	58.2	53.4	55.0	44.5	69.2	78.2	74.0	74.7	67.9	62.8	56.9	50.2	47.9
Malaysia	26.3	27.3	31.3	27.0	27.5	28.8	28.2	26.5	25.2	24.2	24.5	24.6	24.7	24.3	23.8
Mexico	23.4	25.8	28.2	26.7	27.1	27.7	28.0	27.9	27.3	25.6	24.4	24.0	24.2	24.1	24.0
Morocco	28.6	30.6	30.4	31.1	33.8	35.3	33.0	33.0	30.9	30.4	30.5	30.4	30.3	30.1	30.2
Oman	36.4	30.1	39.6	35.0	39.5	44.8	45.2	46.9	55.0	51.5	49.1	47.2	46.3	44.2	42.9
Pakistan	19.5	21.8	19.3	20.3	19.3	21.7	21.8	20.1	19.7	19.6	19.6	19.6	19.6	19.8	20.0
Peru	18.6	19.6	21.4	21.0	19.8	20.4	21.6	22.6	22.3	22.1	22.1	21.9	21.6	21.5	21.4
Philippines	19.0	18.6	20.1	19.2	18.0	18.9	18.7	18.1	19.1	19.7	20.9	21.1	21.3	21.4	21.5
Poland	43.1	44.5	45.3	45.6	43.6	42.6	42.4	42.2	41.5	42.1	42.5	42.6	42.4	42.2	42.0
Qatar	28.1	23.0	32.9	30.6	28.2	30.4	27.9	32.8	41.0	42.7	40.5	37.4	35.5	34.3	32.9
Romania	35.2	36.3	37.8	37.9	36.3	34.9	33.9	33.9	34.2	34.0	33.2	32.8	32.5	32.4	32.2
Russia	31.9	31.9	38.5	35.4	33.5	34.6	35.6	35.4	36.3	35.0	34.0	32.6	31.7	31.4	31.2
Saudi Arabia	29.5	26.7	37.1	34.0	33.4	33.3	35.6	40.3	41.3	36.2	33.1	34.5	33.4	33.4	34.6
South Africa	27.2	28.7	31.7	31.5	30.9	31.4	31.5	31.9	33.5	33.7	33.8	34.0	33.9	33.8	33.7
Sri Lanka	23.5	22.6	24.9	22.8	21.9	20.5	19.2	19.0	19.9	18.4	18.8	19.3	19.2	19.3	19.3
Thailand	20.0	19.2	21.7	22.0	21.1	22.3	22.0	22.2	22.3	22.7	22.6	22.7	22.8	22.8	22.9
Turkey	33.6	34.5	38.6	36.7	35.2	36.6	38.4	37.3	38.0	38.5	38.8	38.8	38.7	39.0	39.4
Ukraine	42.1	45.4	46.8	49.2	45.7	49.0	48.1	44.8	43.2	41.8	42.4	41.9	41.4	40.8	40.4
United Arab Emirates	17.7	21.9	35.0	32.6	31.4	29.2	30.4	32.3	30.6	30.0	28.3	27.3	26.4	25.5	24.8
Uruguay	28.9	28.7	29.7	30.5	29.2	30.5	31.8	32.3	32.2	32.8	32.8	32.5	32.1	32.1	32.2
Venezuela	35.9	34.9	33.3	31.6	39.5	40.7	40.4	47.2	48.4	41.5	40.1	39.4	39.4	39.3	39.3
Average	26.8	28.8	30.6	29.4	29.9	30.6	30.8	31.1	32.2	31.4	31.5	31.0	30.5	30.2	30.0
Asia	20.3	23.4	25.3	23.9	26.0	27.1	27.2	27.5	29.4	28.8	29.4	29.1	28.8	28.6	28.4
Europe	35.4	36.1	40.1	37.9	35.8	36.5	37.2	36.8	37.7	37.4	36.9	36.2	35.7	35.5	35.4
Latin America	30.0	31.3	32.5	32.9	33.1	33.2	33.3	34.3	35.8	35.3	35.1	34.3	33.9	33.3	33.1
MENAP	26.0	27.8	32.4	30.7	29.6	30.7	31.6	33.9	34.5	32.3	31.0	30.4	29.5	28.8	28.7
G20 Emerging	25.8	27.7	29.9	28.8	29.7	30.4	30.7	30.9	32.3	31.5	31.7	31.3	30.9	30.6	30.4

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

Note: For country-specific details, see Data and Conventions in text, and Table C. MENAP = Middle East, North Africa, and Pakistan.

[1] Based on nominal GDP series prior to the recent revision; therefore, the numbers in the tables are not comparable to the authorities' numbers because of a difference in the denominators.

Table A15. Emerging Market and Middle-Income Economies: General Government Gross Debt, 2007–21
(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Algeria	13.6	8.4	10.2	10.9	9.5	9.5	7.7	8.0	9.1	13.0	17.1	23.9	29.1	32.7	34.5
Angola	16.1	16.6	22.7	44.3	33.8	29.5	32.9	40.7	64.2	77.7	73.6	71.2	69.6	67.6	65.5
Argentina	50.8	43.9	53.8	42.6	38.1	39.4	42.2	43.6	52.1	51.8	50.7	51.2	50.5	49.3	48.9
Azerbaijan	8.3	7.3	12.4	12.5	11.4	13.9	12.7	11.2	28.3	39.6	36.1	37.3	35.0	33.0	32.0
Belarus	18.3	20.8	26.0	30.6	34.9	32.0	34.5	37.3	53.7	54.9	59.2	62.8	65.7	68.2	69.2
Brazil[1]	63.7	61.9	64.9	63.0	61.2	62.3	60.4	63.3	73.7	78.3	82.4	85.2	87.9	90.8	93.6
Chile	3.9	4.9	5.8	8.6	11.2	12.0	12.8	15.1	17.5	20.4	23.3	25.0	26.0	26.5	26.6
China	29.0	27.0	32.6	33.1	33.1	34.0	36.9	39.8	42.9	46.3	49.9	52.6	54.6	56.1	57.2
Colombia	32.5	32.1	35.2	36.4	35.7	34.1	37.8	44.2	50.6	47.5	47.0	45.7	43.9	41.6	39.6
Croatia	37.1	38.9	48.0	57.0	63.7	70.7	82.2	86.5	86.7	86.8	86.3	85.3	83.9	82.8	81.9
Dominican Republic	17.5	19.6	22.7	23.8	25.7	30.5	34.6	34.4	34.9	35.8	36.7	37.1	37.8	38.8	40.1
Ecuador	27.2	22.2	17.7	19.7	19.4	21.6	25.9	31.2	33.8	39.6	39.7	39.7	38.4	36.5	35.2
Egypt[2]	76.3	66.8	69.5	69.6	72.8	74.6	84.8	86.3	89.0	94.6	93.4	88.6	85.2	81.9	77.5
Hungary	65.6	71.6	78.0	80.6	80.8	78.3	76.8	76.2	75.3	75.3	75.1	74.1	73.0	72.2	71.3
India	74.0	74.5	72.5	67.5	69.6	69.1	68.0	68.3	69.1	68.5	67.2	65.6	63.5	61.4	59.2
Indonesia	32.3	30.3	26.5	24.5	23.1	23.0	24.8	24.7	27.3	27.5	28.2	29.2	29.9	30.4	30.9
Iran	12.0	9.3	10.4	12.2	8.9	17.4	15.4	15.6	15.9	14.9	15.0	15.0	14.6	14.4	12.5
Kazakhstan	5.9	6.8	10.2	10.7	9.8	11.7	12.2	14.1	21.9	21.4	21.3	22.3	23.7	24.3	25.2
Kuwait	11.8	9.6	11.0	11.3	8.5	6.8	6.5	7.5	11.2	18.3	22.4	26.6	30.2	33.4	36.3
Libya	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Malaysia	39.9	39.9	51.1	51.9	52.6	54.6	55.9	55.6	57.4	56.6	55.7	54.3	52.5	50.5	48.4
Mexico	37.5	42.8	43.9	42.2	43.2	43.2	46.4	49.5	54.0	56.0	56.1	55.8	55.1	54.3	53.5
Morocco	52.0	45.4	46.1	49.0	52.5	58.3	61.7	63.5	64.1	64.4	63.8	63.3	61.9	60.0	58.7
Oman	7.1	4.8	6.9	5.9	5.2	4.9	5.1	4.9	14.9	21.8	24.5	27.0	29.8	31.5	32.1
Pakistan	52.0	57.3	58.6	60.7	58.9	63.3	64.2	63.7	63.6	66.1	64.2	61.7	59.3	56.4	53.8
Peru	31.9	28.0	28.4	25.4	23.0	21.2	20.3	20.7	24.0	26.3	26.5	26.2	25.8	25.8	25.5
Philippines	44.6	44.2	44.3	43.5	41.4	40.6	39.3	36.4	34.8	33.4	32.4	31.4	30.6	29.8	29.1
Poland	44.2	46.6	49.8	53.3	54.4	54.0	56.0	50.5	51.3	52.4	53.2	53.5	53.1	52.7	52.1
Qatar	8.9	11.1	36.0	41.8	35.6	36.6	32.6	31.7	39.8	54.9	66.2	71.2	75.3	79.7	82.1
Romania	12.7	13.4	23.3	30.5	33.9	37.6	38.8	40.5	39.3	39.7	40.3	40.8	41.3	41.9	42.4
Russia	8.0	7.4	9.9	10.6	10.9	11.8	13.1	15.9	16.4	17.1	17.9	18.6	19.1	18.9	18.5
Saudi Arabia	17.1	12.1	14.0	8.4	5.4	3.6	2.2	1.6	5.0	14.1	19.9	24.6	28.3	31.3	35.4
South Africa	27.1	26.5	30.1	34.7	38.2	41.0	44.0	46.9	49.8	51.7	53.3	54.6	55.4	55.9	56.2
Sri Lanka	85.0	81.4	86.1	81.9	78.5	79.2	78.3	75.5	76.0	77.2	75.5	73.1	70.7	68.2	65.8
Thailand	36.0	34.9	42.4	39.9	39.1	41.9	42.2	43.6	43.1	43.6	44.3	45.1	45.7	45.7	45.4
Turkey	39.9	40.0	46.1	42.3	39.1	36.2	36.1	33.5	32.9	31.7	30.8	30.1	28.9	28.1	27.5
Ukraine	11.8	19.7	34.1	40.6	36.9	37.5	40.7	70.3	80.1	92.7	92.1	85.7	79.3	72.7	66.6
United Arab Emirates	7.9	12.5	24.1	22.2	17.6	17.0	15.8	15.6	18.1	19.0	18.8	18.6	18.2	17.5	16.8
Uruguay	68.0	67.8	63.1	59.4	58.1	58.0	60.2	61.4	64.3	63.7	65.2	65.4	65.1	65.0	64.7
Venezuela	26.4	20.3	27.6	36.5	50.6	58.1	73.7	63.5	41.5	32.8	28.2	25.0	24.1	23.7	23.5
Average	35.2	33.5	38.4	38.1	37.3	37.5	38.9	41.1	44.8	47.3	49.1	50.6	51.6	52.2	52.6
Asia	40.1	36.9	40.5	39.9	39.4	39.5	41.3	43.5	45.9	48.4	50.8	52.6	53.8	54.6	55.0
Europe	23.0	23.1	28.6	28.4	27.0	26.2	27.5	29.5	32.6	33.6	33.3	33.3	33.2	32.7	32.1
Latin America	45.9	46.0	49.7	48.7	48.7	48.9	49.6	52.1	56.6	58.3	60.2	61.8	62.5	63.0	63.6
MENAP	22.0	19.6	25.5	24.5	22.1	23.7	24.2	25.2	31.0	36.5	37.3	39.0	40.3	40.6	41.1
G20 Emerging	37.7	35.5	39.9	38.9	37.9	37.7	39.0	41.5	45.3	48.0	50.4	52.1	53.3	54.2	54.8

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

Note: For country-specific details, see Data and Conventions in text, and Table C. MENAP = Middle East, North Africa, and Pakistan.

[1] 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.

[2] Based on nominal GDP series prior to the recent revision; therefore, the numbers in the tables are not comparable to the authorities' numbers because of a difference in the denominators.

Table A16. Emerging Market and Middle-Income Economies: General Government Net Debt, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Algeria	–20.7	–30.4	–33.1	–29.5	–27.6	–25.3	–25.7	–17.7	–3.3	8.9	17.1	23.9	29.1	32.7	34.5
Angola	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Argentina	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Azerbaijan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Belarus	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Brazil	44.1	37.1	40.4	38.0	34.5	32.3	30.6	33.1	36.2	45.8	50.4	53.6	56.5	59.6	62.6
Chile	–13.0	–19.3	–10.6	–7.0	–8.6	–6.8	–5.6	–4.4	–3.5	0.0	2.9	4.8	6.1	7.0	7.6
China	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Colombia	22.5	22.3	26.1	28.4	27.1	24.9	27.0	33.7	42.2	41.5	41.4	40.5	39.1	37.1	35.4
Croatia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Dominican Republic	17.5	19.6	22.7	23.8	25.7	30.5	34.6	34.4	34.9	35.8	36.7	37.1	37.8	38.8	40.1
Ecuador	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Egypt[1]	61.3	52.8	55.9	57.1	61.3	64.6	74.3	77.8	78.0	86.2	86.5	82.8	80.2	77.5	73.6
Hungary	63.1	63.6	72.2	75.2	74.4	72.1	71.2	71.0	71.4	71.5	71.5	70.7	69.8	69.0	68.3
India	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Indonesia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Iran	–2.7	–2.8	2.5	2.0	–2.7	6.4	–1.7	–2.1	–0.4	0.2	–0.2	–0.8	–1.3	–1.8	–4.0
Kazakhstan	–13.8	–13.9	–11.0	–10.2	–12.2	–15.4	–17.1	–18.7	–30.9	–21.8	–15.4	–10.6	–6.4	–3.1	–1.1
Kuwait	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Libya	–82.7	–70.8	–93.7	–90.5	–160.4	–85.1	–110.7	–99.9	–54.0	2.9	46.1	76.9	95.9	95.9	103.4
Malaysia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Mexico	29.1	33.2	36.2	36.2	37.5	37.7	40.4	43.2	47.6	49.7	49.7	49.4	48.7	48.0	47.2
Morocco	50.5	44.7	45.5	48.5	52.1	57.8	61.2	63.0	63.5	63.8	63.2	62.7	61.3	59.4	58.1
Oman	–30.2	–25.4	–33.2	–30.2	–29.8	–29.5	–44.3	–43.8	–48.1	–38.4	–30.4	–21.4	–15.1	–10.4	–6.3
Pakistan	44.8	52.0	51.4	52.0	51.7	55.9	58.6	57.1	57.0	58.5	56.6	54.1	51.9	49.2	46.8
Peru	16.7	13.0	12.2	10.3	7.2	4.6	3.5	3.6	5.6	7.7	9.1	9.9	10.3	10.5	10.5
Philippines	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Poland	6.2	5.8	10.4	15.8	18.5	19.3	22.5	15.3	16.2	18.3	20.2	21.4	22.1	22.7	23.0
Qatar	–31.0	–36.8	–39.0	–33.9	–42.3	–56.7	–80.7	–93.8	–123.1	–124.3	–103.1	–86.5	–76.3	–69.8	–67.3
Romania	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Russia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Saudi Arabia	–10.9	–38.4	–39.3	–37.8	–37.8	–47.3	–51.9	–48.4	–38.3	–25.6	–14.0	–4.5	2.6	8.7	16.1
South Africa	22.8	21.7	25.4	28.5	31.3	34.8	37.5	40.2	44.6	46.5	48.3	50.0	51.4	52.3	52.8
Sri Lanka	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Thailand	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Turkey	32.7	32.5	37.5	34.7	31.3	27.8	27.3	24.6	23.6	22.6	21.7	20.9	19.8	19.0	20.8
Ukraine	9.7	17.5	30.8	38.5	34.5	35.3	38.4	68.8	77.3	91.6	91.2	84.9	78.6	72.0	66.0
United Arab Emirates	–215.1	–203.0	–247.1	–227.9	–200.9	–209.0	–215.3	–221.9	–243.4	–245.3	–233.2	–226.7	–221.3	–215.2	–210.6
Uruguay	37.8	31.6	30.7	31.1	28.8	25.9	24.2	22.9	25.6	31.5	33.1	33.3	33.0	32.8	32.5
Venezuela	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Average	12.9	9.2	12.4	14.0	12.7	9.9	8.8	9.8	10.9	15.8	18.6	20.6	22.2	23.4	24.5
Asia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Europe	22.2	22.0	27.8	28.6	26.4	24.1	24.5	23.2	21.8	25.2	25.5	25.6	25.1	24.7	25.4
Latin America	32.7	30.7	33.9	33.1	31.2	29.6	29.6	32.5	35.9	41.4	44.1	45.6	46.8	47.9	48.9
MENAP	–31.6	–38.3	–37.4	–34.1	–32.6	–37.7	–42.4	–41.0	–36.8	–29.3	–25.7	–20.9	–16.9	–14.2	–12.2
G20 Emerging	30.4	25.3	29.1	28.2	25.9	22.5	21.9	23.7	27.2	32.8	36.3	38.7	. . .	. . .	. . .

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

Note: For country-specific details, see Data and Conventions in text, and Table C. MENAP = Middle East, North Africa, and Pakistan.

[1] Based on nominal GDP series prior to the recent revision; therefore, the numbers in the tables are not comparable to the authorities' numbers because of a difference in the denominators.

Table A17. Low-Income Developing Countries: General Government Overall Balance, 2007–21
(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bangladesh	–2.2	–4.0	–3.2	–2.7	–3.6	–3.0	–3.4	–3.1	–3.9	–4.3	–4.7	–4.2	–4.2	–3.9	–3.5
Benin	0.3	–0.1	–3.1	–0.4	–1.3	–0.3	–1.9	–2.3	–7.5	–4.2	–4.3	–3.2	–2.4	–1.7	–1.3
Bolivia	1.7	3.6	0.0	1.7	0.8	1.8	0.7	–3.4	–6.9	–8.1	–7.5	–7.1	–6.2	–5.6	–5.0
Burkina Faso	–5.6	–4.1	–4.7	–3.0	–1.4	–3.1	–3.9	–1.9	–2.3	–3.1	–3.0	–3.1	–3.1	–3.1	–3.2
Cambodia	–0.7	0.5	–4.1	–2.8	–4.1	–3.8	–2.1	–1.3	–1.6	–2.6	–2.9	–3.3	–3.4	–4.1	–4.1
Cameroon	4.7	2.2	0.0	–1.1	–2.6	–1.6	–4.0	–4.6	–2.7	–6.2	–4.9	–4.8	–4.9	–4.8	–4.8
Chad	2.5	3.6	–9.2	–4.2	2.4	0.5	–2.1	–4.2	–4.9	–2.8	–1.3	–1.2	0.1	0.1	1.7
Democratic Republic of the Congo	–0.2	–1.1	1.3	2.4	–0.5	1.8	4.0	1.3	–0.1	–1.9	2.8	2.6	2.3	2.2	2.8
Republic of Congo	9.4	23.4	4.8	16.1	16.5	7.5	–1.8	–7.9	–18.3	–7.5	–1.6	1.3	2.3	1.1	0.8
Côte d'Ivoire	–0.5	–0.4	–1.4	–1.8	–4.0	–3.1	–2.2	–2.3	–3.0	–4.0	–3.6	–3.4	–3.0	–3.0	–3.0
Ethiopia	–3.6	–2.9	–0.9	–1.3	–1.6	–1.2	–1.9	–2.6	–2.5	–3.0	–3.2	–3.0	–3.1	–3.1	–3.0
Ghana	–7.2	–6.6	–7.1	–9.8	–8.0	–11.3	–12.0	–10.9	–4.7	–3.8	–2.0	–2.3	–2.0	–1.5	–2.5
Guinea	1.9	0.6	–7.1	–14.0	–1.3	–3.3	–5.2	–4.1	–8.8	–1.9	–0.9	–0.6	–0.3	–0.2	–0.3
Haiti	–2.5	–3.0	–3.5	–2.7	–2.5	–4.8	–7.1	–6.4	–2.4	–1.6	–1.5	–1.6	–1.5	–1.6	–1.8
Honduras	–1.6	–1.7	–4.5	–2.8	–2.8	–4.2	–7.6	–4.3	–1.4	–2.0	–2.0	–1.7	–1.5	–1.4	–1.3
Kenya	–2.4	–3.4	–4.3	–4.4	–4.1	–5.0	–5.7	–7.4	–8.3	–7.4	–6.4	–5.2	–4.5	–4.2	–4.1
Kyrgyz Republic	–1.0	0.5	–1.4	–5.9	–4.7	–5.9	–3.7	1.9	–1.2	–4.5	–2.7	–0.7	–0.8	–0.8	–0.8
Lao P.D.R.	–2.7	–1.4	–4.1	–3.2	–1.7	–0.5	–5.6	–4.5	–2.9	–3.0	–3.9	–4.1	–4.3	–4.4	–4.2
Madagascar	–2.7	–2.0	–2.5	–0.9	–2.4	–2.6	–4.0	–2.3	–3.3	–3.2	–4.4	–4.4	–4.4	–4.3	–4.0
Mali	–2.8	–2.0	–3.7	–2.6	–3.4	–1.0	–2.4	–2.9	–1.8	–4.3	–3.8	–3.5	–3.0	–3.0	–3.0
Moldova	0.1	–0.9	–6.4	–2.6	–2.5	–2.3	–1.9	–1.9	–2.3	–3.2	–3.0	–3.0	–2.9	–2.9	–2.8
Mongolia	2.1	–3.1	–4.0	0.4	–4.0	–9.1	–8.9	–11.1	–8.3	–19.5	–12.2	–10.1	–9.0	–8.2	–8.1
Mozambique	–2.5	–2.1	–4.9	–3.9	–4.8	–3.8	–2.6	–10.7	–7.4	–5.8	–4.0	–4.0	–2.8	–2.9	–2.4
Myanmar	–3.1	–2.2	–4.3	–4.1	–3.1	–1.9	–2.1	–0.6	–4.8	–4.6	–4.6	–4.6	–4.4	–4.3	–4.1
Nepal	–0.8	–0.4	–2.6	–0.8	–1.0	–0.6	2.1	1.5	0.3	1.5	–1.8	–1.5	–1.7	–1.5	–1.5
Nicaragua	1.5	–0.2	–1.2	0.1	0.1	–0.1	–0.7	–1.2	–1.4	–1.7	–1.6	–1.4	–1.8	–2.1	–2.0
Niger	–1.0	1.5	–5.3	–2.4	–1.5	–1.1	–2.6	–8.0	–9.1	–6.9	–5.3	–4.1	–2.4	–1.9	–0.5
Nigeria	–1.1	5.7	–5.4	–4.2	–0.2	–0.2	–2.0	–1.2	–3.8	–4.6	–4.0	–4.1	–4.1	–3.5	–3.4
Papua New Guinea	7.0	2.8	–5.5	3.1	2.2	–1.2	–6.9	–6.5	–5.1	–5.0	–5.2	–4.9	–4.1	–4.1	–3.5
Rwanda	–1.7	0.9	0.0	0.4	–1.1	–1.6	–2.5	–3.6	–3.2	–3.0	–1.6	–1.5	–2.6	–2.3	–2.0
Senegal	–3.5	–4.4	–4.6	–4.9	–6.1	–5.2	–5.5	–5.0	–4.8	–4.2	–3.7	–3.2	–2.9	–2.7	–2.5
Sudan	–3.5	0.6	–5.1	0.3	0.1	–3.3	–2.3	–1.4	–1.9	–2.0	–2.1	–2.2	–2.6	–2.9	–3.2
Tajikistan	–5.5	–5.1	–5.2	–3.0	–2.1	0.6	–0.8	0.0	–2.3	–4.0	–2.7	–2.0	–1.5	–1.3	–1.2
Tanzania	–1.5	–1.9	–4.5	–4.8	–3.6	–4.1	–3.9	–3.0	–3.2	–4.0	–4.6	–4.5	–4.5	–4.1	–3.4
Uganda	–1.1	–2.6	–2.1	–5.7	–2.7	–3.0	–4.0	–3.5	–2.7	–4.7	–2.9	–4.0	–3.9	–2.9	–1.9
Uzbekistan	4.6	7.7	2.5	3.6	7.8	7.8	2.4	2.2	0.9	0.0	0.1	0.1	0.2	0.2	0.3
Vietnam	–2.0	–0.5	–6.0	–2.8	–1.1	–6.8	–7.4	–6.1	–5.9	–6.5	–6.0	–5.6	–5.4	–5.1	–5.1
Yemen	–7.2	–4.5	–10.2	–4.1	–4.5	–6.3	–6.9	–4.1	–10.6	–11.3	–5.5	–3.9	–4.1	–4.2	–4.4
Zambia	–1.0	–0.7	–2.1	–2.4	–1.8	–2.8	–6.2	–5.9	–9.1	–8.9	–8.2	–6.8	–5.0	–4.5	–4.0
Zimbabwe	–3.0	–2.0	–2.1	0.7	–1.2	–0.5	–1.9	–1.5	–1.1	–4.9	–3.1	–2.8	–2.6	–2.5	–2.7
Average	–1.4	1.1	–4.1	–2.7	–1.3	–2.1	–3.3	–2.9	–4.1	–4.6	–4.0	–3.8	–3.6	–3.4	–3.3
Oil Producers	–0.6	4.9	–4.9	–3.2	–0.2	–0.6	–2.6	–1.8	–4.4	–5.1	–4.1	–4.0	–3.9	–3.5	–3.5
Asia	–1.6	–1.8	–4.5	–2.5	–2.2	–4.2	–4.8	–4.0	–4.6	–5.1	–5.1	–4.7	–4.6	–4.4	–4.2
Latin America	0.0	0.3	–2.1	–0.6	–0.8	–1.1	–2.7	–3.6	–3.9	–4.7	–4.5	–4.3	–3.9	–3.7	–3.4
Sub-Saharan Africa	–1.2	2.4	–4.1	–3.5	–1.3	–1.5	–2.9	–2.7	–4.1	–4.6	–3.7	–3.6	–3.4	–3.0	–2.9
Others	–2.3	0.8	–4.0	–0.2	0.9	–0.5	–1.8	–0.7	–2.6	–2.9	–2.1	–1.8	–2.0	–2.2	–2.4

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

Table A18. Low-Income Developing Countries: General Government Primary Balance, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bangladesh	–0.6	–1.9	–1.0	–0.8	–1.9	–1.1	–1.4	–1.0	–1.8	–2.2	–2.4	–1.9	–1.9	–1.6	–1.4
Benin	1.8	0.3	–2.6	0.1	–0.9	0.3	–1.4	–1.9	–6.7	–2.7	–2.6	–1.7	–1.0	–0.3	0.0
Bolivia	4.3	5.5	1.7	3.1	2.1	2.8	1.6	–2.4	–5.9	–7.1	–6.3	–5.8	–4.7	–4.0	–3.3
Burkina Faso	–5.2	–3.7	–4.3	–2.6	–0.8	–2.4	–3.3	–1.2	–1.6	–2.4	–2.3	–2.4	–2.4	–2.4	–2.5
Cambodia	–0.5	0.7	–3.9	–2.5	–3.8	–3.3	–1.4	–0.9	–1.2	–2.2	–2.5	–3.0	–3.1	–3.9	–3.9
Cameroon	5.2	2.6	0.2	–0.8	–2.2	–1.2	–3.6	–4.2	–2.3	–5.0	–3.9	–3.7	–3.8	–3.6	–3.5
Chad	2.8	3.8	–8.8	–3.6	3.0	0.9	–1.5	–3.6	–4.6	–2.2	–0.7	–0.3	0.9	0.7	2.2
Democratic Republic of the Congo	0.9	–0.1	2.7	3.9	1.3	3.3	5.2	2.3	0.2	–1.7	3.6	3.3	3.0	2.8	3.3
Republic of Congo	11.9	25.8	6.1	17.0	16.5	7.5	–1.5	–7.7	–18.1	–7.1	–1.2	1.7	2.7	1.4	1.1
Côte d'Ivoire	1.2	1.3	0.1	–0.3	–2.2	–1.4	–0.9	–1.0	–1.4	–2.3	–1.7	–1.4	–1.0	–1.1	–1.1
Ethiopia	–2.9	–2.4	–0.6	–0.9	–1.2	–0.9	–1.6	–2.2	–2.1	–2.4	–2.6	–2.4	–2.5	–2.5	–2.4
Ghana	–5.3	–4.3	–4.3	–6.6	–5.3	–7.8	–7.3	–4.6	1.8	2.5	3.8	3.0	2.6	2.7	1.3
Guinea	4.3	3.2	–5.0	–12.0	0.7	–1.6	–4.1	–2.9	–7.8	–0.3	0.3	0.5	0.7	0.7	0.5
Haiti	–1.8	–2.3	–2.9	–2.2	–2.1	–4.4	–6.7	–5.9	–2.1	–1.0	–0.9	–1.0	–0.9	–1.1	–1.2
Honduras	–2.2	–2.7	–5.4	–3.4	–3.0	–4.3	–7.1	–3.8	–0.3	–0.7	–0.4	–0.1	0.2	0.2	0.2
Kenya	–0.8	–1.8	–2.7	–2.5	–2.2	–2.9	–3.3	–4.8	–5.6	–4.8	–3.8	–2.7	–2.0	–1.8	–1.8
Kyrgyz Republic	–0.3	1.2	–0.6	–5.1	–3.7	–4.9	–2.9	2.7	–0.2	–3.2	–1.6	0.2	0.2	0.1	0.1
Lao P.D.R.	–2.2	–0.8	–3.8	–2.8	–1.2	0.2	–4.5	–3.7	–1.9	–2.0	–2.9	–2.7	–2.7	–2.6	–2.4
Madagascar	–1.5	–1.2	–1.8	–0.1	–1.5	–1.9	–3.3	–1.7	–2.5	–2.3	–3.5	–3.4	–3.4	–3.2	–2.9
Mali	–2.4	–1.7	–3.4	–2.2	–2.8	–0.4	–1.9	–2.3	–1.2	–3.6	–3.2	–2.8	–2.3	–2.3	–2.3
Moldova	1.3	0.3	–5.0	–1.8	–1.6	–1.5	–1.3	–1.3	–1.4	–1.9	–1.4	–1.8	–1.7	–1.7	–1.6
Mongolia	2.4	–2.9	–3.6	0.9	–3.7	–8.3	–7.5	–8.8	–5.1	–15.2	–7.0	–4.5	–3.9	–3.1	–2.5
Mozambique	–2.0	–1.7	–4.4	–3.2	–3.9	–2.8	–1.8	–9.6	–6.1	–3.3	–0.8	–1.1	–0.1	–0.4	0.0
Myanmar	–2.6	–1.7	–3.5	–3.2	–2.0	–0.7	–0.6	0.8	–3.4	–3.2	–3.0	–3.0	–2.9	–2.7	–2.5
Nepal	–0.1	0.3	–1.9	0.0	–0.1	0.2	2.8	2.0	0.6	2.3	–1.3	–0.9	–1.0	–0.7	–0.6
Nicaragua	2.0	–0.1	–0.9	0.2	0.4	0.4	–0.3	–0.8	–0.9	–1.2	–1.0	–0.8	–1.2	–1.5	–1.2
Niger	–0.7	1.7	–5.1	–2.2	–1.1	–0.8	–2.3	–7.6	–8.5	–6.0	–4.3	–3.1	–1.4	–0.9	0.4
Nigeria	–0.4	6.3	–4.7	–3.6	0.7	0.8	–1.0	–0.2	–2.7	–3.8	–2.7	–2.6	–2.4	–1.8	–1.6
Papua New Guinea	8.4	4.0	–4.1	4.0	3.2	–0.2	–5.8	–4.8	–3.3	–2.5	–2.4	–2.0	–1.1	–0.9	–0.3
Rwanda	–1.2	1.4	0.4	0.9	–0.7	–1.1	–1.8	–2.8	–2.3	–2.0	–0.7	–0.5	–1.6	–1.3	–1.0
Senegal	–2.8	–3.8	–3.9	–4.0	–4.6	–3.7	–4.0	–3.3	–2.8	–2.4	–1.9	–1.3	–1.0	–0.9	–0.8
Sudan	–2.5	1.5	–4.1	1.4	1.3	–2.2	–1.8	–0.5	–1.1	–1.2	–1.4	–1.6	–1.9	–2.2	–2.5
Tajikistan	–5.1	–4.8	–4.7	–2.5	–1.6	1.1	0.1	0.4	–1.8	–3.2	–1.9	–1.1	–0.6	–0.4	0.3
Tanzania	–0.6	–1.2	–3.8	–4.1	–2.8	–3.1	–2.7	–1.6	–1.6	–2.3	–2.7	–2.6	–2.5	–2.1	–1.2
Uganda	0.1	–1.4	–1.1	–4.8	–1.7	–1.7	–2.7	–1.9	–1.0	–2.5	–0.6	–1.5	–1.3	0.1	1.0
Uzbekistan	4.7	7.8	2.5	3.6	7.8	7.8	2.4	2.2	0.9	0.0	0.1	0.2	0.2	0.3	0.3
Vietnam	–1.0	0.5	–4.9	–1.6	0.0	–5.6	–5.9	–4.5	–3.9	–4.4	–3.8	–3.3	–3.0	–2.7	–2.6
Yemen	–4.9	–2.1	–7.7	–1.7	–0.2	–0.9	–1.5	1.5	–3.1	–3.0	1.9	2.8	2.4	2.1	1.8
Zambia	0.3	0.7	–0.7	–1.0	–0.8	–1.5	–4.7	–3.7	–6.3	–5.8	–5.2	–3.5	–1.7	–1.2	–0.6
Zimbabwe	–1.2	0.3	0.4	1.9	–0.2	0.4	–1.0	–0.6	0.0	–3.4	–1.4	–0.9	–0.7	–0.5	–0.6
Average	–0.4	2.1	–3.1	–1.7	–0.2	–0.9	–2.0	–1.5	–2.6	–3.0	–2.2	–2.0	–1.8	–1.6	–1.4
Oil Producers	0.3	5.8	–4.0	–2.4	0.8	0.6	–1.3	–0.6	–2.9	–3.7	–2.4	–2.1	–1.9	–1.5	–1.3
Asia	–0.5	–0.5	–3.1	–1.2	–1.0	–2.8	–3.2	–2.3	–2.8	–3.2	–3.0	–2.6	–2.4	–2.2	–2.0
Latin America	0.9	0.9	–1.6	–0.1	–0.3	–0.5	–2.0	–2.9	–3.1	–3.7	–3.4	–3.1	–2.6	–2.3	–2.0
Sub-Saharan Africa	–0.3	3.3	–3.2	–2.6	–0.3	–0.4	–1.7	–1.5	–2.8	–3.2	–2.1	–1.9	–1.6	–1.3	–1.1
Others	–1.3	1.8	–3.0	0.9	2.4	1.1	–0.4	0.9	–0.9	–1.2	–0.5	–0.4	–0.6	–0.8	–1.1

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

Note: Primary balance is defined as the overall balance excluding net interest payments. For country-specific details, see Data and Conventions in text, and Table D.

Table A19. Low-Income Developing Countries: General Government Revenue, 2007–21
(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bangladesh	9.3	9.8	9.5	10.0	10.4	11.2	11.2	10.9	9.9	10.5	11.1	11.9	12.3	12.8	13.0
Benin	21.9	19.8	20.2	18.9	18.8	19.2	18.6	17.4	16.9	17.1	18.3	19.0	19.3	19.5	19.8
Bolivia	34.4	38.9	35.8	33.2	36.2	37.8	39.1	39.9	37.7	34.7	34.7	33.9	33.9	33.7	33.4
Burkina Faso	20.0	16.8	19.5	19.8	20.7	22.4	23.9	21.4	19.6	21.9	23.1	23.6	24.0	23.8	24.0
Cambodia	13.7	15.9	15.8	17.1	15.6	16.9	18.6	19.6	18.8	19.7	20.5	21.3	22.0	21.3	21.5
Cameroon	20.3	21.2	17.4	16.6	17.9	17.9	18.0	18.1	17.9	16.2	16.1	16.1	15.9	15.9	15.8
Chad	19.7	22.5	15.0	20.2	24.8	24.4	20.8	17.9	12.2	14.0	14.1	14.4	15.8	16.0	19.0
Democratic Republic of the Congo	10.4	11.5	15.2	20.2	15.2	17.2	16.2	14.6	14.6	13.5	17.8	18.0	18.3	18.6	20.5
Republic of Congo	39.3	47.0	29.5	37.5	42.5	42.6	46.9	42.3	27.8	31.3	32.6	33.1	33.8	33.1	33.3
Côte d'Ivoire	19.2	19.9	18.5	18.1	14.2	19.2	19.7	19.6	21.1	21.8	21.6	21.7	21.7	21.7	21.9
Ethiopia	17.0	15.9	16.2	17.2	16.6	15.5	15.8	14.9	16.1	17.3	17.1	17.1	17.6	18.1	18.5
Ghana	17.5	15.9	16.4	16.7	19.1	18.5	16.7	18.4	19.2	19.4	19.2	18.7	19.4	19.0	19.2
Guinea	15.1	16.1	16.5	15.7	20.3	22.8	19.9	21.9	19.0	22.8	23.3	23.6	23.8	23.8	23.6
Haiti	15.5	15.1	16.8	19.9	22.0	23.8	20.9	18.9	19.3	17.0	17.6	17.6	17.5	17.3	17.2
Honduras	24.5	26.4	24.4	24.1	23.1	22.5	22.9	24.4	26.3	25.9	26.0	26.1	26.2	26.3	26.4
Kenya	19.7	19.4	18.8	19.8	19.5	19.1	19.7	19.8	19.5	19.6	19.8	20.0	20.1	20.1	20.2
Kyrgyz Republic	30.9	29.8	32.9	31.2	32.7	34.7	34.4	36.2	38.1	38.5	37.3	36.5	36.9	36.4	36.4
Lao P.D.R.	15.6	15.9	17.1	22.6	22.4	24.1	23.9	23.2	23.1	23.0	22.1	22.1	22.1	22.2	22.5
Madagascar	16.0	15.9	11.5	13.2	11.7	10.8	10.9	12.4	11.8	13.0	13.9	13.1	13.6	13.9	14.3
Mali	18.7	17.0	19.1	17.7	17.1	14.6	17.4	17.1	19.1	18.8	19.1	19.7	20.1	20.4	20.6
Moldova	42.9	40.6	38.9	38.3	36.6	37.9	36.7	37.9	35.7	34.9	35.3	35.3	35.1	35.4	35.4
Mongolia	29.9	23.0	23.2	32.0	33.9	29.8	31.2	27.8	25.6	22.5	22.5	22.1	22.2	22.6	22.6
Mozambique	21.6	21.8	24.0	26.1	27.3	27.0	31.4	31.8	28.0	25.9	27.7	27.7	27.4	27.2	27.1
Myanmar	12.3	11.6	10.7	11.5	11.6	21.8	22.2	24.4	21.4	20.8	21.8	22.3	22.7	23.0	23.1
Nepal	14.2	14.9	16.8	18.0	17.7	18.7	19.3	20.3	20.3	23.0	21.8	21.5	21.5	21.4	21.4
Nicaragua	22.7	21.5	20.9	22.3	23.4	24.0	23.8	23.5	24.0	24.8	25.4	25.6	25.5	25.5	25.6
Niger	22.2	24.1	18.6	18.2	17.9	21.4	24.6	23.0	23.6	23.2	22.3	22.2	23.0	23.7	24.9
Nigeria	17.0	20.1	10.1	12.5	17.8	14.3	11.1	10.5	7.2	5.7	7.1	6.7	7.2	8.4	8.4
Papua New Guinea	25.2	22.7	19.3	21.5	21.9	21.3	20.9	21.7	18.3	17.4	17.1	16.8	17.0	16.6	16.6
Rwanda	21.2	25.2	24.1	26.3	25.4	24.2	25.1	24.0	25.0	23.8	23.2	23.4	22.0	22.1	22.3
Senegal	24.0	21.8	22.0	22.1	22.7	23.3	22.6	24.8	25.1	24.8	24.4	24.3	24.4	24.4	24.3
Sudan	21.9	24.0	15.5	19.3	18.1	9.9	11.0	12.0	11.0	9.9	9.6	9.5	9.1	8.7	8.3
Tajikistan	22.5	22.1	23.4	23.2	24.9	25.1	26.9	28.4	29.8	28.9	27.9	28.4	28.4	28.5	28.5
Tanzania	16.6	16.6	15.7	15.5	15.6	15.7	15.5	14.9	14.8	16.4	16.9	16.8	17.0	17.1	17.3
Uganda	16.1	14.2	13.2	13.2	14.5	13.5	12.8	13.7	15.4	15.2	16.0	15.9	16.3	16.9	17.5
Uzbekistan	35.6	40.7	36.7	37.0	40.2	41.5	35.9	34.9	35.3	33.0	33.0	33.0	33.0	33.0	33.0
Vietnam	26.1	26.6	25.6	27.3	25.9	22.6	23.1	21.9	23.7	22.9	22.8	22.8	22.5	22.2	22.1
Yemen	33.2	36.7	25.0	26.1	25.3	29.9	23.9	23.6	12.9	14.7	20.6	21.9	21.6	21.5	21.2
Zambia	18.9	18.8	15.7	15.6	17.7	18.7	17.6	18.9	18.2	18.1	17.9	18.1	18.5	18.7	18.9
Zimbabwe	2.9	2.2	12.0	23.3	26.7	28.0	27.7	26.6	27.5	25.1	23.4	23.1	23.2	23.2	23.2
Average	19.3	20.8	16.6	17.9	19.8	18.9	17.7	17.3	16.0	16.0	16.7	16.7	16.9	17.2	17.3
Oil Producers	19.1	22.0	12.8	14.8	18.9	16.6	13.7	13.0	9.4	8.7	10.4	10.2	10.8	11.7	11.7
Asia	17.3	17.6	16.7	18.0	17.9	18.7	18.9	18.5	18.0	17.7	18.0	18.3	18.4	18.5	18.6
Latin America	26.2	28.5	27.0	26.8	28.4	29.4	30.1	30.6	30.1	28.8	29.3	29.1	29.2	29.2	29.1
Sub-Saharan Africa	17.8	19.5	14.0	15.5	18.5	16.8	15.0	14.5	12.8	12.9	14.0	13.8	14.4	15.0	15.3
Others	28.5	31.5	24.9	26.5	27.2	26.4	24.2	24.3	21.5	20.1	20.0	19.7	19.0	18.4	17.7

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

Table A20. Low-Income Developing Countries: General Government Expenditure, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bangladesh	11.5	13.8	12.7	12.7	14.0	14.2	14.6	14.0	13.8	14.7	15.8	16.1	16.5	16.7	16.6
Benin	21.6	19.9	23.2	19.2	20.1	19.5	20.5	19.7	24.4	21.4	22.6	22.1	21.7	21.2	21.1
Bolivia	32.7	35.3	35.8	31.5	35.4	36.0	38.4	43.3	44.6	42.8	42.2	41.0	40.2	39.3	38.4
Burkina Faso	25.7	20.9	24.2	22.8	22.1	25.5	27.8	23.4	21.9	25.1	26.1	26.7	27.1	26.9	27.2
Cambodia	14.4	15.4	19.9	19.9	19.7	20.7	20.7	20.9	20.4	22.3	23.4	24.6	25.3	25.4	25.6
Cameroon	15.6	19.0	17.5	17.7	20.5	19.5	21.9	22.7	20.5	22.4	21.0	20.9	20.8	20.7	20.6
Chad	17.1	18.9	24.2	24.4	22.4	23.9	22.9	22.1	17.1	16.8	15.4	15.6	15.7	16.0	17.3
Democratic Republic of the Congo	10.6	12.6	13.9	17.7	15.7	15.4	12.2	13.3	14.7	15.4	15.1	15.4	16.0	16.4	17.8
Republic of Congo	29.9	23.6	24.7	21.4	26.1	35.2	48.7	50.2	46.2	38.9	34.2	31.8	31.5	32.0	32.5
Côte d'Ivoire	19.7	20.3	19.9	20.0	18.2	22.3	21.9	21.8	24.1	25.8	25.2	25.1	24.7	24.7	24.9
Ethiopia	20.5	18.8	17.1	18.5	18.2	16.6	17.8	17.5	18.6	20.2	20.3	20.1	20.7	21.2	21.5
Ghana	24.7	22.5	23.6	26.5	27.1	29.8	28.8	29.3	23.9	23.2	21.2	21.0	21.4	20.5	21.8
Guinea	13.2	15.6	23.7	29.7	21.5	26.1	25.1	26.1	27.8	24.7	24.1	24.2	24.1	24.0	23.8
Haiti	18.1	18.0	20.3	22.7	24.5	28.6	28.0	25.2	21.7	18.5	19.1	19.2	19.0	19.0	19.0
Honduras	26.1	28.1	28.9	27.0	25.9	26.7	30.6	28.7	27.7	27.9	28.0	27.8	27.7	27.7	27.6
Kenya	22.1	22.8	23.1	24.2	23.6	24.2	25.4	27.2	27.8	27.0	26.2	25.2	24.5	24.3	24.3
Kyrgyz Republic	31.8	29.3	34.4	37.1	37.4	40.6	38.1	34.3	39.2	43.0	40.1	37.3	37.6	37.2	37.2
Lao P.D.R.	18.3	17.3	21.3	25.9	24.1	24.6	29.6	27.8	26.0	26.0	26.0	26.2	26.4	26.6	26.8
Madagascar	18.7	17.9	14.1	14.0	14.1	13.4	14.9	14.7	15.1	16.2	18.3	17.6	18.0	18.2	18.3
Mali	21.5	19.0	22.8	20.3	20.6	15.5	19.7	20.0	20.9	23.1	22.9	23.2	23.1	23.4	23.6
Moldova	42.7	41.5	45.3	40.9	39.1	40.3	38.6	39.8	38.1	38.1	38.3	38.3	38.1	38.3	38.2
Mongolia	27.8	26.1	27.2	31.6	37.9	38.9	40.1	38.8	33.9	42.1	34.7	32.2	31.3	30.9	30.7
Mozambique	24.1	23.9	28.9	30.0	32.2	30.7	34.0	42.5	35.4	31.7	31.7	31.7	30.2	30.1	29.5
Myanmar	15.4	13.9	15.0	15.6	14.6	23.6	24.2	25.0	26.2	25.4	26.4	26.9	27.1	27.3	27.2
Nepal	15.0	15.4	19.4	18.8	18.7	19.3	17.2	18.8	20.1	21.5	23.6	23.0	23.2	22.9	22.9
Nicaragua	21.2	21.7	22.1	22.2	23.2	24.1	24.4	24.8	25.4	26.5	27.0	27.0	27.4	27.6	27.6
Niger	23.2	22.6	23.9	20.6	19.4	22.5	27.2	31.0	32.7	30.1	27.6	26.3	25.4	25.6	25.4
Nigeria	18.1	14.4	15.5	16.7	18.0	14.5	13.1	11.7	11.0	10.3	11.1	10.8	11.3	11.9	11.9
Papua New Guinea	18.2	20.0	24.8	18.5	19.7	22.4	27.8	28.3	23.4	22.4	22.3	21.7	21.1	20.7	20.1
Rwanda	22.9	24.3	24.1	25.9	26.5	25.9	27.6	27.6	28.1	26.7	24.8	24.9	24.6	24.4	24.2
Senegal	27.5	26.3	26.6	27.0	28.8	28.5	28.1	29.8	29.9	29.1	28.1	27.5	27.2	27.1	26.8
Sudan	25.4	23.5	20.6	19.0	18.0	13.3	13.3	13.4	12.9	11.8	11.7	11.7	11.7	11.6	11.5
Tajikistan	28.0	27.2	28.6	26.1	27.0	24.6	27.7	28.4	32.1	32.9	30.7	30.4	29.9	29.8	29.7
Tanzania	18.1	18.5	20.2	20.2	19.1	19.8	19.4	17.9	18.0	20.4	21.5	21.3	21.5	21.3	20.7
Uganda	17.2	16.8	15.3	18.8	17.2	16.5	16.8	17.1	18.1	20.0	18.9	19.9	20.3	19.8	19.4
Uzbekistan	31.0	33.0	34.3	33.4	32.4	33.7	33.6	32.8	34.4	33.0	33.0	32.9	32.8	32.7	32.7
Vietnam	28.1	27.1	31.6	30.0	26.9	29.4	30.5	28.0	29.6	29.5	28.8	28.4	27.9	27.3	27.1
Yemen	40.3	41.2	35.2	30.2	29.8	36.2	30.8	27.8	23.5	26.1	26.1	25.8	25.7	25.7	25.5
Zambia	19.9	19.5	17.8	18.1	19.5	21.5	23.8	24.8	27.2	27.1	26.1	24.9	23.5	23.2	22.9
Zimbabwe	5.9	4.3	14.0	22.6	27.8	28.5	29.6	28.1	28.6	30.0	26.4	25.9	25.8	25.7	25.8
Average	20.7	19.7	20.6	20.7	21.0	21.0	21.0	20.2	20.1	20.5	20.7	20.5	20.6	20.6	20.6
Oil Producers	19.7	17.1	17.6	18.0	19.1	17.2	16.2	14.9	13.8	13.8	14.5	14.3	14.7	15.2	15.2
Asia	18.9	19.4	21.2	20.5	20.2	22.9	23.7	22.5	22.6	22.8	23.0	23.0	23.0	22.9	22.8
Latin America	26.2	28.1	29.1	27.4	29.1	30.5	32.8	34.2	34.1	33.5	33.8	33.3	33.1	32.9	32.5
Sub-Saharan Africa	19.0	17.1	18.1	19.0	19.7	18.3	18.0	17.3	16.9	17.5	17.7	17.4	17.8	18.1	18.2
Others	30.9	30.7	29.0	26.7	26.3	26.9	26.0	25.0	24.1	23.0	22.1	21.5	21.1	20.6	20.1

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

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

Table A21. Low-Income Developing Countries: General Government Gross Debt, 2007–21
(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bangladesh	41.9	40.6	39.5	36.6	35.3	33.8	34.5	33.9	33.9	34.0	34.3	34.2	34.2	33.9	33.6
Benin	19.5	25.0	25.6	28.7	29.9	26.8	25.4	30.9	39.3	42.5	43.9	44.2	43.6	42.1	40.2
Bolivia	40.5	37.2	40.0	38.5	34.7	33.3	32.5	33.0	36.2	40.6	42.8	45.3	46.9	48.9	50.0
Burkina Faso	25.3	25.2	28.5	29.3	29.8	28.3	28.7	30.2	32.8	36.3	36.3	36.3	36.3	36.4	36.7
Cambodia	30.5	27.8	29.1	29.4	30.3	32.1	32.1	32.3	32.5	33.0	33.6	34.3	34.9	35.3	35.5
Cameroon	12.0	9.7	10.1	11.5	13.2	15.4	18.7	27.5	29.0	31.6	33.8	35.5	37.5	39.6	41.7
Chad	22.2	20.0	31.7	30.1	30.5	28.8	30.3	39.2	42.6	45.0	39.3	35.6	29.6	26.1	23.0
Democratic Republic of the Congo	86.9	90.5	93.2	31.9	26.3	23.2	19.1	16.8	18.9	20.0	22.6	25.2	26.7	28.0	27.1
Republic of Congo	98.0	68.1	61.6	22.9	33.1	34.1	38.2	47.5	70.6	69.3	61.2	55.8	50.7	47.2	43.6
Côte d'Ivoire	74.0	70.8	64.2	63.0	69.2	45.0	43.4	46.5	48.9	49.0	48.3	47.6	46.3	45.1	44.4
Ethiopia	46.4	41.4	37.6	40.5	44.0	36.9	42.4	46.3	56.1	57.4	60.3	60.8	60.7	59.5	58.3
Ghana	31.0	33.6	36.1	46.3	42.6	50.1	60.3	72.1	70.8	66.0	62.2	58.6	55.7	52.9	51.8
Guinea	92.4	90.2	89.3	99.6	78.0	35.4	45.7	45.4	53.0	52.6	50.3	47.9	45.3	42.7	39.1
Haiti	34.5	38.0	27.8	17.3	11.8	16.3	21.5	26.3	30.1	33.6	34.9	35.0	34.1	32.9	31.8
Honduras	24.7	23.0	27.5	30.7	32.1	35.2	45.7	46.5	46.8	48.7	49.4	49.5	49.0	48.6	48.6
Kenya	38.4	41.5	41.1	44.4	43.0	41.7	41.5	46.7	51.3	52.7	53.0	53.1	52.3	51.5	50.1
Kyrgyz Republic	56.8	48.5	58.1	59.7	49.4	49.0	46.1	52.3	66.0	72.1	72.2	69.8	67.8	64.5	60.2
Lao P.D.R.	64.2	60.3	63.2	62.1	56.9	62.2	60.1	63.0	63.0	61.7	62.6	63.6	64.6	65.3	65.7
Madagascar	32.8	31.5	33.7	31.7	32.2	33.0	33.9	34.7	35.5	42.3	43.2	44.0	44.8	45.5	45.9
Mali	18.5	20.3	21.9	25.3	24.0	25.4	26.4	27.3	30.9	29.8	30.2	31.0	32.0	33.1	34.1
Moldova	24.6	19.3	29.1	26.9	24.1	24.5	23.8	31.4	41.5	42.8	44.5	45.0	45.0	45.1	45.3
Mongolia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Mozambique	36.0	36.3	41.9	43.3	38.0	40.1	53.1	62.4	86.0	112.6	103.2	96.1	90.3	86.0	81.8
Myanmar	62.5	53.9	55.2	49.7	45.0	39.9	34.2	29.7	34.3	34.2	34.2	34.7	35.0	35.1	35.0
Nepal	43.2	41.9	38.5	34.0	31.7	34.5	31.9	27.4	28.0	27.3	27.2	27.4	27.7	28.0	28.1
Nicaragua	31.6	26.5	29.4	30.9	29.3	28.5	29.5	29.3	29.4	30.5	31.2	31.8	32.2	32.4	32.6
Niger	25.1	21.1	27.7	24.3	27.8	26.8	27.2	33.4	45.1	48.9	50.4	50.7	48.7	47.3	45.4
Nigeria	8.1	7.3	8.6	9.6	10.2	10.4	10.5	10.6	11.5	14.6	15.5	16.7	17.4	17.9	18.4
Papua New Guinea	22.4	21.8	21.8	17.3	16.3	19.1	25.0	28.1	30.6	34.3	36.5	38.6	39.5	40.4	40.6
Rwanda	26.7	20.9	22.4	22.6	23.1	21.5	28.7	31.1	37.3	44.2	48.2	49.2	49.2	48.7	47.5
Senegal	23.5	23.9	34.2	35.5	40.7	42.8	46.9	54.2	56.8	57.3	56.2	54.8	53.1	51.5	49.9
Sudan	70.7	68.8	72.1	73.1	70.6	94.2	89.9	77.3	72.9	63.2	56.8	52.7	49.3	46.3	44.0
Tajikistan	34.6	30.0	36.2	36.3	35.5	32.4	29.2	28.2	34.1	46.9	58.1	56.5	54.5	51.6	49.3
Tanzania	21.6	21.5	24.4	27.3	27.8	29.2	30.9	33.8	36.5	38.3	39.7	40.9	41.9	42.6	43.0
Uganda	22.0	20.3	19.2	22.9	23.6	24.2	27.7	31.2	34.4	36.5	38.5	40.4	41.5	41.4	40.2
Uzbekistan	15.8	12.7	11.0	10.0	9.1	8.6	8.3	7.6	10.8	15.1	13.9	12.8	11.4	11.3	10.1
Vietnam	40.9	39.4	45.2	48.1	45.8	47.9	51.8	55.1	58.3	62.0	64.6	66.0	67.0	67.5	67.9
Yemen	40.4	36.4	49.8	42.4	45.7	47.3	48.2	48.7	66.7	82.4	67.5	59.2	55.4	52.6	51.0
Zambia	21.9	19.2	20.5	18.9	20.8	24.9	25.9	33.6	56.3	56.1	58.8	60.3	60.0	59.6	59.2
Zimbabwe	50.1	68.9	68.3	63.2	51.8	56.7	54.6	55.3	58.9	58.9	57.6	57.1	58.2	56.6	58.5
Average	31.5	29.8	32.3	30.8	30.0	30.4	31.2	31.9	35.9	39.1	39.9	40.1	40.2	40.1	39.9
Oil Producers	16.9	14.9	16.5	15.2	16.2	15.3	15.8	16.6	19.0	23.4	24.0	24.5	25.0	25.3	25.8
Asia	43.0	41.0	43.0	41.9	39.8	39.9	41.0	41.4	43.2	44.5	45.6	46.2	46.6	46.7	46.7
Latin America	32.9	31.0	32.5	32.0	30.1	31.0	34.2	35.2	37.2	40.3	41.7	43.1	43.8	44.6	45.2
Sub-Saharan Africa	23.6	22.3	24.2	22.4	22.5	22.0	23.3	25.0	29.1	33.3	34.5	35.1	35.5	35.5	35.5
Others	48.4	44.5	47.8	47.1	44.6	51.3	48.6	44.4	49.3	49.9	46.4	43.3	41.0	39.3	37.7

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

Table A22. Low-Income Developing Countries: General Government Net Debt, 2007–21

(Percent of GDP)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Bangladesh	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Benin	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Bolivia	27.3	20.6	23.1	17.7	13.3	9.2	8.5	12.7	19.5	26.3	31.1	35.6	38.9	41.5	43.2
Burkina Faso	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Cambodia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Cameroon	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Chad	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Democratic Republic of the Congo	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Republic of Congo	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Côte d'Ivoire	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Ethiopia	35.8	34.7	32.0	35.5	39.5	32.2	37.3	42.2	51.6	51.3	52.8	54.1	54.0	52.8	51.7
Ghana	23.3	30.1	32.6	43.0	38.8	48.0	56.9	69.2	68.7	64.2	60.7	57.1	54.2	51.4	50.3
Guinea	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Haiti	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Honduras	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Kenya	34.4	37.1	36.9	40.2	39.1	38.0	38.1	42.9	48.3	50.7	51.1	51.2	50.5	49.6	48.2
Kyrgyz Republic	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Lao P.D.R.	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Madagascar	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Mali	13.2	14.6	12.4	16.9	17.1	21.2	20.5	19.9	24.9	26.8	28.4	29.9	30.5	31.3	31.8
Moldova	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Mongolia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Mozambique	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Myanmar	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nepal	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nicaragua	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Niger	1.5	1.9	0.9	4.3	2.6	2.0	2.9	3.6	5.1	5.4	4.0	3.4	2.8	2.8	2.4
Nigeria	. . .	0.5	6.0	8.9	9.6	9.2	10.2	10.2	11.1	14.2	15.1	16.2	17.0	17.3	17.6
Papua New Guinea	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Rwanda	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Senegal	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Sudan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Tajikistan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Tanzania	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Uganda	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Uzbekistan	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Vietnam	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Yemen	35.2	31.4	43.6	38.3	42.3	45.3	46.7	47.8	65.6	81.3	66.7	58.6	54.9	52.2	50.6
Zambia	17.6	16.3	16.5	15.9	16.4	19.5	24.0	29.0	49.0	52.2	57.4	58.9	58.5	58.2	57.5
Zimbabwe	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Average	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Oil Producers	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Asia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Latin America	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Sub-Saharan Africa	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Others	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .

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

Table A23. Advanced Economies: Structural Fiscal Indicators

(Percent of GDP, except where noted otherwise)

	Pension Spending Change, 2015–30[1]	Net Present Value of Pension Spending Change, 2015–50[1, 2]	Health Care Spending Change, 2015–30	Net Present Value of Health Care Spending Change, 2015–50[2]	Gross Financing Need, 2016[3]	Average Term to Maturity, 2016 (years)[4]	Debt to Average Maturity, 2016	Projected Interest Rate–Growth Differential, 2016–21 (percent)	Precrisis Overall Balance, 2000–07	Projected Overall Balance, 2016–21	Nonresident Holding of General Government Debt, 2015 (percent of total)[5]
Australia	0.8	21.7	1.6	52.1	3.2	7.1	5.8	–0.7	1.1	–1.4	45.6
Austria	0.5	13.7	1.8	62.8	5.2	7.7	11.0	–0.5	–4.1	–1.1	80.4
Belgium	1.5	45.6	2.2	80.3	17.8	8.5	12.5	–0.6	–0.5	–2.3	60.5
Canada	1.0	24.0	1.1	39.7	8.7	5.5	16.8	–0.6	1.1	–1.8	22.0
Cyprus	0.4	0.7	. . .	. . .	6.2	5.0	21.4	–0.7	–2.3	–0.3	74.7
Czech Republic	0.0	1.9	0.7	26.9	5.0	3.2	12.5	–1.4	–3.8	–0.5	38.1
Denmark	–1.2	–36.9	1.4	44.1	5.7	7.7	5.9	–0.6	2.5	–1.4	33.0
Estonia	–0.5	–13.4	0.3	13.4	. . .	. . .	. . .	–3.2	1.2	0.0	71.5
Finland	1.6	21.8	1.4	43.2	4.3	6.1	10.4	–1.2	4.0	–1.7	81.7
France	–0.1	–16.8	0.8	29.8	9.6	7.1	13.7	–1.0	–2.7	–2.3	61.9
Germany	1.4	40.0	0.9	36.8	1.7	6.1	11.2	–1.3	–2.4	0.3	58.7
Hong Kong SAR	1.4	36.6	. . .	. . .	. . .	. . .	. . .	. . .	0.0	1.5	. . .
Iceland	0.4	7.5	2.6	88.2	–11.0	12.6	4.4	–0.3	1.2	3.1	37.2
Ireland	1.3	37.7	0.8	29.0	5.6	11.7	6.4	–2.1	1.5	–0.2	69.5
Israel	0.4	13.0	0.3	13.6	. . .	5.6	11.7	1.6	–4.4	–3.8	13.8
Italy	0.1	–1.8	1.1	39.4	11.1	6.5	20.4	1.0	–3.0	–1.1	37.9
Japan	–0.7	–7.7	2.0	62.4	33.2	7.4	34.0	–0.8	–5.7	–4.2	9.8
Korea	2.0	72.5	2.4	81.9	1.1	5.8	6.7	–1.8	2.0	1.7	12.5
Latvia	–1.4	–39.6	0.7	23.9	. . .	5.7	6.2	–1.9	–1.3	–0.6	79.8
Lithuania	1.5	33.6	0.8	30.4	7.2	5.3	7.9	–0.5	–1.8	–0.5	87.6
Luxembourg	2.2	59.2	1.0	38.3	. . .	7.1	3.1	–3.2	2.4	0.0	40.5
Malta	0.0	6.4	. . .	. . .	7.7	8.8	7.1	–1.8	–4.9	–0.6	10.2
Netherlands	0.9	28.8	3.8	122.4	3.7	6.5	9.7	–1.2	–0.6	–0.4	54.3
New Zealand	2.5	69.4	2.3	75.7	1.4	6.3	4.8	0.7	2.9	0.3	73.2
Norway	1.1	28.1	1.5	53.6	. . .	4.6	6.1	–0.3	13.2	3.4	46.8
Portugal	1.0	22.7	2.5	82.6	18.5	6.7	19.2	0.8	–4.4	–2.9	70.0
Singapore[6]	0.7	21.8	. . .	. . .	. . .	4.0	26.5	–3.0	5.6	2.7	. . .
Slovak Republic	–0.5	–1.0	0.8	29.8	8.1	6.5	8.2	–2.0	–5.0	–2.0	62.9
Slovenia	0.6	36.9	0.9	34.6	6.7	6.4	12.5	0.1	–1.0	–2.5	70.9
Spain	–0.2	18.6	2.1	71.9	18.6	6.5	15.3	–0.5	0.4	–2.8	50.4
Sweden	–0.8	–25.4	0.4	15.8	4.7	4.8	8.9	–2.5	1.2	–0.1	47.2
Switzerland	0.5	15.2	3.2	106.4	1.7	9.5	4.7	–0.9	0.3	–0.2	12.5
United Kingdom	0.3	9.1	1.6	54.5	8.9	14.4	6.2	–0.7	–2.0	–1.8	30.9
United States	1.5	35.6	3.8	117.3	14.8	5.8	18.8	–1.2	–3.1	–3.6	33.2
Average	0.9	23.1	2.5	80.5	13.2	6.8	16.8	–1.0	–2.2	–2.4	37.1
G7	0.9	22.3	2.7	84.2	14.7	6.8	18.8	–0.9	–3.0	–2.9	34.8
G20 Advanced	0.9	24.3	2.6	82.9	13.8	6.7	17.9	–1.0	–2.7	–2.6	34.4

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

Note: All country averages are weighted by nominal GDP converted to U.S. dollars at average market exchange rates in the years indicated and based on data availability.

[1] Projections rely on authorities' estimates when these are available. For the European Union countries, pension projections are based on *The 2015 Ageing Report* of the European Commission. When authorities' estimates are not available, IMF staff projections use the methodology described in Clements, Eich, and Gupta, *Equitable and Sustainable Pensions: Challenges and Experience* (IMF 2014).

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

[3] Gross financing need is defined as the projected overall deficit and maturing government debt in 2016; for more details on the assumptions, see note 1 in Table 1.3 of the April 2016 *Fiscal Monitor*. Data are from Bloomberg L.P. and IMF staff projections.

[4] For most countries, average term to maturity data refer to central government securities; the source is Bloomberg L.P.

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

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

Table A24. Emerging Market and Middle-Income Economies: Structural Fiscal Indicators

(Percent of GDP, except where noted otherwise)

	Pension Spending Change, 2015–30[1]	Net Present Value of Pension Spending Change, 2015–50[1, 2]	Health Care Spending Change, 2015–30	Net Present Value of Health Care Spending Change, 2015–50[2]	Gross Financing Need, 2016[3]	Average Term to Maturity, 2016 (years)[4]	Debt to Average Maturity, 2016	Projected Interest Rate–Growth Differential, 2016–21 (percent)	Precrisis Overall Balance, 2000–07	Projected Overall Balance, 2016–21	Nonresident Holding of General Government Debt, 2015 (percent of total)[5]
Algeria	. . .	. . .	1.4	51.8	. . .	. . .	. . .	–3.5	7.3	–7.6	5.0
Angola	. . .	. . .	0.4	13.0	. . .	. . .	. . .	–19.3	3.1	–3.9	. . .
Argentina	1.0	44.7	1.3	49.7	11.4	9.8	5.3	–13.5	–0.3	–5.8	21.2
Azerbaijan	4.9	134.2	0.4	14.9	. . .	. . .	. . .	–2.6	0.2	1.3	. . .
Belarus	2.3	64.9	0.9	31.2	. . .	1.1	48.2	–3.7	–0.9	–7.3	44.2
Brazil	1.8	98.9	1.7	61.8	18.9	6.9	11.4	4.1	–3.6	–8.0	14.1
Chile	–0.9	–20.4	1.4	50.0	3.5	8.6	2.4	–1.8	2.4	–2.0	20.4
China	2.7	83.7	1.3	47.1	. . .	. . .	. . .	–4.7	–1.8	–2.9	. . .
Colombia	–0.7	–26.7	2.1	74.9	5.0	8.9	5.4	0.2	–1.9	–1.3	28.2
Croatia	–1.2	–48.9	1.5	51.9	15.8	4.5	19.5	0.5	–4.3	–2.5	40.9
Dominican Republic	0.1	5.4	0.8	31.0	7.1	7.7	4.6	0.6	–1.9	–3.8	68.2
Ecuador	1.0	39.4	0.9	33.5	10.1	5.2	7.6	5.8	1.2	–0.1	57.9
Egypt[6]	2.6	50.8	0.4	15.9	48.3	2.1	44.6	–5.9	–8.5	–7.3	8.1
Hungary	–1.9	–35.8	1.2	42.7	18.1	3.9	19.1	–0.8	–6.5	–2.2	55.2
India	0.0	–0.6	0.4	14.3	10.9	9.5	7.2	–4.3	–7.9	–6.0	6.3
Indonesia	0.2	6.8	0.4	13.2	4.3	8.7	3.2	–3.2	–0.7	–2.7	58.6
Iran	2.0	97.2	1.1	41.6	. . .	. . .	. . .	–4.5	3.2	–0.8	. . .
Kazakhstan	1.0	27.9	0.6	19.9	. . .	8.7	2.4	–5.5	4.5	–3.5	28.0
Kuwait	4.1	169.8	0.7	28.7	. . .	1.4	13.3	–3.4	29.0	2.1	. . .
Libya	. . .	0.0	1.0	38.8	. . .	. . .	. . .	–13.8	16.4	–35.3	. . .
Malaysia	0.3	13.1	0.8	28.3	10.0	6.1	9.3	–2.6	–3.8	–2.7	27.1
Mexico	1.2	10.9	1.1	41.0	7.2	9.1	6.1	0.4	–2.0	–2.7	31.7
Morocco	. . .	0.0	0.7	25.6	12.4	6.5	9.9	–1.2	–3.3	–2.7	22.1
Oman	0.5	25.6	0.8	33.8	. . .	4.5	4.8	0.1	10.4	–7.7	. . .
Pakistan	0.1	6.2	0.2	8.0	31.8	2.3	28.6	–2.8	–2.9	–3.1	. . .
Peru	0.7	29.5	0.9	35.3	4.6	14.3	1.8	–0.7	–0.4	–1.3	42.2
Philippines	0.2	6.1	0.4	15.7	7.5	9.8	3.4	–3.9	–2.4	–1.6	30.3
Poland	–0.8	–23.9	1.6	56.3	9.1	4.9	10.6	–1.3	–4.1	–2.6	56.0
Qatar	. . .	0.0	0.7	27.4	. . .	5.5	9.9	–1.3	8.9	–5.8	. . .
Romania	–0.1	1.5	1.1	38.9	9.4	5.3	7.5	–1.8	–2.6	–2.8	49.0
Russia	1.8	58.3	0.9	30.5	5.7	7.6	2.2	1.0	4.2	–0.9	14.0
Saudi Arabia	2.5	87.5	0.8	30.2	. . .	5.9	2.4	–0.1	6.9	–8.6	. . .
South Africa	0.5	16.6	1.0	37.2	10.9	12.7	4.1	0.2	–0.6	–3.6	25.7
Sri Lanka	0.7	24.4	0.5	18.7	19.2	5.0	15.4	–3.0	–7.9	–4.1	40.0
Thailand	2.7	82.4	1.4	48.4	6.4	5.8	7.5	–2.5	–0.4	–0.5	11.1
Turkey	–1.6	–36.4	1.6	59.5	5.4	6.1	5.2	–0.6	–6.6	–1.7	35.7
Ukraine	3.5	113.6	0.9	31.5	9.9	5.0	18.4	–5.7	–2.3	–3.3	49.6
United Arab Emirates	0.7	26.7	0.9	35.4	. . .	. . .	. . .	–4.0	13.7	–0.3	. . .
Uruguay	0.4	27.9	1.3	47.9	14.2	14.2	4.5	–4.2	–2.0	–3.1	45.8
Venezuela	. . .	. . .	. . .	. . .	. . .	8.3	3.9	–93.1	0.1	–23.9	. . .
Average	1.7	55.2	1.1	40.4	11.3	6.9	7.9	–3.7	–1.0	–3.7	24.3
G20 Emerging	1.9	61.7	1.1	41.6	10.2	7.0	7.0	–3.2	–1.8	–3.7	21.0

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

Note: All country averages are weighted by nominal GDP converted to U.S. dollars at average market exchange rates in the years indicated and based on data availability.

[1] Projections rely on authorities' estimates when these are available. For the European Union countries, pension projections are based on *The 2015 Ageing Report* of the European Commission. When authorities' estimates are not available, IMF staff projections use the methodology described in Clements, Eich, and Gupta, *Equitable and Sustainable Pensions: Challenges and Experience* (IMF 2014).

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

[3] Gross financing need is defined as the projected overall balance and maturing government debt in 2016. Data are from IMF staff projections. See Table 1.4 of the April 2016 *Fiscal Monitor*.

[4] Average term to maturity data refer to government securities; the source is Bloomberg L.P.

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

[6] Projections do not incorporate the potential impact of the investment agreements reached at the March 2015 Economic Development Conference.

Table A25. Low-Income Developing Countries: Structural Fiscal Indicators

(Percent of GDP, except where noted otherwise)

	Pension Spending Change, 2015–30[1]	Net Present Value of Pension Spending Change, 2015–50[1, 2]	Health Care Spending Change, 2015–30	Net Present Value of Health Care Spending Change, 2015–50[2]	Average Term to Maturity, 2016 (years)[3]	Debt to Average Maturity, 2016	Projected Interest Rate–Growth Differential, 2016–21 (percent)	Precrisis Overall Balance, 2000–07	Projected Overall Balance, 2016–21	Nonresident Holding of General Government Debt, 2015 (percent of total)[4]
Bangladesh	0.4	17.9	0.4	15.5	4.6	7.3	–5.6	–2.8	–4.1	38.8
Benin	0.0	1.9	0.4	16.3	3.9	10.8	–3.3	–2.3	–2.8	. . .
Bolivia	0.3	22.9	1.0	37.9	15.6	2.6	–5.1	–3.6	–6.6	49.9
Burkina Faso	–0.1	1.9	0.6	21.9	2.4	14.9	–5.6	–1.8	–3.1	74.2
Cambodia	0.3	12.1	0.4	14.7	. . .	. . .	–8.3	–3.4	–3.4	. . .
Cameroon	–0.1	–0.1	0.3	11.5	6.7	4.7	–2.8	5.7	–5.1	. . .
Chad	0.0	–0.2	0.2	9.2	. . .	. . .	–3.9	–2.4	–0.6	. . .
Côte d'Ivoire	0.0	–0.2	. . .	0.0	. . .	. . .	–4.7	–1.0	–3.3	. . .
Democratic Republic of the Congo	0.0	–0.3	0.5	17.2	. . .	. . .	–4.0	–1.2	1.8	. . .
Republic of Congo	0.0	1.1	0.4	15.0	. . .	. . .	–5.2	6.5	–0.6	. . .
Côte d'Ivoire	0.0	–0.2	. . .	0.0	. . .	. . .	–4.7	–1.0	–3.3	. . .
Ethiopia	0.0	0.6	0.4	14.9	. . .	. . .	–13.6	–4.8	–3.1	. . .
Ghana	0.0	3.7	0.6	21.5	3.1	21.4	–4.6	–4.6	–2.4	. . .
Guinea	0.0	0.0	0.3	11.3	. . .	. . .	–7.8	–3.4	–0.7	. . .
Haiti	. . .	0.0	0.4	13.7	. . .	. . .	–7.0	–1.9	–1.6	. . .
Honduras	0.0	2.3	1.4	52.2	4.0	12.1	–1.4	–3.3	–1.6	. . .
Kenya	0.1	8.2	0.4	14.4	4.8	11.0	–5.6	–1.4	–5.3	. . .
Kyrgyz Republic	0.7	22.1	1.1	40.6	. . .	. . .	–6.5	–5.2	–1.7	81.1
Lao P.D.R.	0.0	0.9	0.4	14.3	. . .	. . .	–6.9	–4.0	–4.0	. . .
Madagascar	0.0	1.4	0.5	18.4	. . .	. . .	–7.7	–3.4	–4.1	74.9
Mali	–0.3	–3.1	0.3	13.1	2.2	13.3	–3.8	1.3	–3.4	. . .
Moldova	1.1	49.8	1.7	61.3	0.3	137.2	–5.0	–0.4	–3.0	50.4
Mongolia	6.1	218.4	1.4	51.0	. . .	. . .	. . .	–0.8	–11.2	. . .
Mozambique	–0.1	–1.5	0.4	15.9	3.9	29.1	–9.5	–3.3	–3.7	. . .
Myanmar	. . .	0.0	. . .	0.0	. . .	. . .	–10.1	–4.2	–4.4	. . .
Nepal	0.0	3.4	0.6	22.2	. . .	. . .	–7.0	–1.0	–1.1	. . .
Nicaragua	0.6	26.5	1.6	61.1	2.2	13.8	–8.1	–1.3	–1.8	83.9
Niger	–0.1	–1.6	0.4	13.4	. . .	. . .	–5.4	2.6	–3.5	. . .
Nigeria	–0.1	–1.3	0.3	11.2	4.6	3.2	–5.1	2.3	–4.0	. . .
Papua New Guinea	0.0	0.5	1.0	35.9	. . .	. . .	0.2	1.8	–4.5	23.1
Rwanda	0.1	5.6	1.5	56.1	. . .	. . .	–8.5	–0.6	–2.2	. . .
Senegal	–0.1	3.3	0.5	18.7	4.1	14.0	–4.8	–1.2	–3.2	. . .
Sudan	0.0	0.9	0.4	12.9	. . .	. . .	–12.7	–1.1	–2.5	. . .
Tajikistan	1.0	29.6	0.5	16.5	. . .	. . .	–7.7	–2.8	–2.1	. . .
Tanzania	–0.1	1.7	0.5	17.2	3.2	12.2	–6.1	–1.8	–4.2	. . .
Uganda	–0.1	–0.6	0.3	11.9	3.1	11.6	–2.7	–1.0	–3.4	65.6
Uzbekistan	2.5	96.0	0.9	34.0	. . .	. . .	–13.5	0.6	0.2	. . .
Vietnam	2.2	82.2	1.0	38.6	4.5	13.9	–5.3	–1.7	–5.6	. . .
Yemen	–0.4	5.7	0.3	12.4	. . .	. . .	–4.0	–0.7	–5.6	. . .
Zambia	. . .	0.0	0.7	26.1	6.1	9.2	–6.4	–0.4	–6.2	. . .
Zimbabwe	. . .	. . .	. . .	. . .	. . .	. . .	0.6	–3.9	–3.1	. . .
Average	0.4	17.8	0.5	19.3	2.0	4.5	–6.6	–0.2	–3.7	5.9

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

Note: All country averages are weighted by nominal GDP converted to U.S. dollars at average market exchange rates in the years indicated and based on data availability.

[1] Pension projections are based on Clements, Eich, and Gupta, *Equitable and Sustainable Pensions: Challenges and Experience* (IMF 2014). Projections rely on authorities' estimates when these are available.

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

[3] Average term to maturity data refer to government securities; the source is Bloomberg L.P.

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

Fiscal Monitor Archives

Navigating the Fiscal Challenges Ahead	May 2010
Fiscal Exit: From Strategy to Implementation	November 2010
Shifting Gears	April 2011
Addressing Fiscal Challenges to Reduce Economic Risks	September 2011
Balancing Fiscal Policy Risks	April 2012
Taking Stock: A Progress Report on Fiscal Adjustment	October 2012
Fiscal Adjustment in an Uncertain World	April 2013
Taxing Times	October 2013
Public Expenditure Reform: Making Difficult Choices	April 2014
Back to Work: How Fiscal Policy Can Help	October 2014
Now Is the Time: Fiscal Policies for Sustainable Growth	April 2015
Acting Now, Acting Together	April 2016
Debt: Use It Wisely	October 2016

I. Adjustment

China: What Do We Know about the General Government's Balance Sheet?	October 2016, Box 1.1
Brazil: Private Debt and the Strength of the Public Sector Balance Sheet	October 2016, Box 1.3
Fiscal Consolidations with Progressive Measures	April 2014, Box 2.4
Constructing an Index of the Difficulty of Fiscal Adjustment	October 2013, Box 1
Medium-Term Fiscal Adjustment in an Uncertain World	April 2013, Chapter 2
Fiscal Adjustment in the United States: Making Sense of the Numbers	April 2013, Box 5
The Appropriate Pace of Short-Term Fiscal Adjustment	April 2013, Box 2
Taking Stock: A Progress Report on Fiscal Adjustment	October 2012, Chapter 2
Distributional Consequences of Alternative Fiscal Consolidation Measures: Reading from the Data	October 2012, Appendix 1
Easy Does It: The Appropriate Pace of Fiscal Consolidation	April 2012, Chapter 3
Fiscal Multipliers in Expansions and Contractions	April 2012, Appendix 1
Early Lessons from Experiences with Large Fiscal Adjustment Plans	April 2012, Appendix 2
Experience with Large Fiscal Adjustment Plans in Ireland and Portugal	April 2012, Box A2.1
Fiscal Adjustment Plans and Medium-Term Fiscal Outlook	November 2010, Chapter 3
To Tighten or Not to Tighten: This Is the Question	November 2010, Box 1.2
Fiscal Adjustment and Income Distribution in Advanced and Emerging Economies	November 2010, Appendix 3
The Fiscal Policy Outlook: Adjustment Needs and Plans	May 2010, Chapter 3
Adjustment Measures and Institutions	May 2010, Chapter 4
Fiscal Adjustment Requirements: Gross and Net Debt Targets	May 2010, Appendix 2

II. Commodities and Energy

Reforming Energy Subsidies	April 2015, Box 1.2
The Fiscal Impact of Lower Oil Prices	April 2015, Chapter 1

III. Country Cases

IV. Crises, Shocks

V. Emerging Markets

Too Good to Be True? Fiscal Developments in Emerging Economies	September 2011, Chapter 4
Determinants of Domestic Bond Yields in Emerging Economies	September 2011, Box 4

VI. Employment

Can Fiscal Policies Do More for Jobs?	October 2014, Chapter 2
Methodology for Estimating the Impact of Fiscal Consolidation on Employment	October 2014, Appendix 1
Do Old Workers Crowd Out the Youth?	October 2014, Box 2.2
Fiscal Policies to Address Weak Employment	October 2012, Appendix 2

VII. Financial Sector

The Fiscal Implications of International Bond Issuance by Low-Income Developing Countries	October 2014, Box 1.2
Nonresident Holdings of Emerging Market Economy Debt	April 2014, Box 1.2
A One-Off Capital Levy?	October 2013, Box 6
Bond Yields and Stability of the Investor Base	April 2013, Box 3
Long-Run and Short-Run Determinants of Sovereign Bond Yields in Advanced Economies	October 2012, Box 3
Financial Sector Support	October 2012, Box 4
Reassuring Markets about Fiscal Sustainability in the Euro Area	September 2011, Chapter 2
Determinants of Domestic Bond Yields in Emerging Economies	September 2011, Box 4
Financial Sector Support and Recovery to Date	September 2011, Box 7
Financial Sector Support and Recovery to Date	April 2011, Box 1.1
Sovereign Financing and Government Debt Markets	November 2010, Chapter 2
Advanced Economies: Financial Market Spillovers among Sovereigns	November 2010, Box 2.2
Market Concerns about Economies and Default Risks	November 2010, Box 2.1
Are Sovereign Spreads Linked to Fundamentals?	November 2010, Appendix 2
Measures to Finance the Cost of Financial Sector Support	May 2010, Box 3

VIII. Fiscal Outlook

Navigating a Risky World	October 2016, Chapter 1
Recent Fiscal Developments and Outlook	April 2015, Chapter 1
Recent Fiscal Developments and Outlook	October 2014, Chapter 1
Recent Fiscal Developments and Outlook	April 2014, Chapter 1
Recent Fiscal Developments and the Short-Term Outlook	October 2013, Chapter 1
Recent Fiscal Developments and the Short-Term Outlook	April 2013, Chapter 1
The Fiscal Outlook	October 2012, Chapter 1
Moving Forward	October 2012, Chapter 3
Continued Fiscal Tightening Is in Store for 2012, Particularly among Advanced Economies	April 2012, Chapter 1
Conclusion and Risk Assessment	April 2012, Chapter 7
Risk to the Baseline	September 2011, Box 2
Fiscal Developments in Oil-Producing Economies	September 2011, Box 3
The Fiscal Indicators Index	September 2011, Box 5
Addressing Fiscal Challenges to Reduce Economic Risks: Introduction	September 2011, Chapter 1
Too Good to Be True? Fiscal Developments in Emerging Economies	September 2011, Chapter 4
Addressing Fiscal Challenges to Reduce Economic Risks: Conclusion	September 2011, Chapter 7

Shocks to the Baseline Fiscal Outlook	April 2011, Chapter 3
Fiscal Developments and Near-Term Outlook	November 2010, Chapter 1
Fiscal Adjustment Plans and Medium-Term Fiscal Outlook	November 2010, Chapter 3
Assessing Fiscal Risks	November 2010, Chapter 4
The Near- and Medium-Term Fiscal Outlook	May 2010, Chapter 1

IX. Government Debt

Debt: Use It Wisely	October 2016, Chapter 1
Debt Data Set	October 2016, Annex 1.1
Private and Public Debt and the Pace of the Recovery	October 2016, Annex 1.2
Interlinkages between Public and Private Debt: Selected Summary of the Literature	October 2016, Annex 1.3
Policies during Deleveraging Episodes	October 2016, Annex 1.5
How Much Do Financial Markets Value Government Balance Sheets?	October 2016, Box 1.5
Skeletons in the Closet? Shedding Light on Contingent Liabilities	April 2015, Box 1.3
Lowflation and Debt in the Euro Area	October 2014, Box 1.1
Moment of Truth: Unfunded Pension Liabilities and Public Debt Statistics	April 2014, Box 1.1
Public Debt Dynamics and Fiscal Adjustment in Low-Income Countries in Sub-Saharan Africa	April 2013, Box 6
Debt Ratios Are Still on the Rise, but Peaks Are within Sight	April 2012, Chapter 2
High Gross Debt Levels May Overstate Challenges in the Short Run . . .	April 2012, Chapter 4
. . . But Long-Run Debt-Related Challenges Remain Large	April 2012, Chapter 5
The Legacy of the Crisis: How Long Will It Take to Lower Public Debt?	September 2011, Chapter 5
Factors Underlying the Debt Increase Precrisis versus End-2015	September 2011, Box 6
The Importance of Monitoring Both Gross and Net Debt	September 2011, Appendix 3
Stock-Flow Adjustments and Their Determinants	September 2011, Appendix 4
Fiscal Deficits and Debts: Development and Outlook	April 2011, Chapter 1
Sovereign Financing and Government Debt Markets	April 2011, Chapter 2
Debt Dynamics and the Interest Rate-Growth Differential	April 2011, Box 3.1
Sovereign Financing and Government Debt Markets	November 2010, Chapter 2
Are Sovereign Spreads Linked to Fundamentals?	November 2010, Appendix 2
Risks to Medium-Term Public Debt Trajectories Methodological and Statistical Appendix	November 2010, Appendix 4
Implications of Fiscal Developments for Government Debt Markets	May 2010, Chapter 2
Debt Dynamics in G-20 Economies: An Update	May 2010, Box 1
Gross versus Net Debt	May 2010, Box 2
Fiscal Adjustment Requirements: Gross and Net Debt Targets	May 2010, Appendix 2
Government Debt and Growth	May 2010, Appendix 3

X. Private Debt

Debt: Use It Wisely	October 2016, Chapter 1
Debt Data Set	October 2016, Annex 1.1
Private and Public Debt and the Pace of Recovery	October 2016, Annex 1.2
Interlinkages between Public and Private Debt: Selected Summary of the Literature	October 2016, Annex 1.3
Private Deleveraging and the Role of Fiscal Policy	October 2016, Annex 1.4
Policies during Deleveraging Episodes	October 2016, Annex 1.5
Benefits of Targeted Fiscal Intervention during Times of Private Deleveraging	October 2016, Box 1.4

XI. Growth

Taxation and Growth: Details Matter	October 2013, Box 4
Debt Dynamics and the Interest Rate-Growth Differential	April 2011, Box 3.1
Interest Rate-Growth Differential	November 2010, Appendix 1
Government Debt and Growth	May 2010, Appendix 3

XII. Innovation, Entrepreneurship, Research, and Development

Fiscal Policies for Innovation and Growth	October 2016, Chapter 2
The Role of Patents for Innovation	October 2016, Box 2.1
Fiscal Policy and Green Innovation	October 2016, Box 2.2
Does Preferential Tax Treatment of Income from Intellectual Property Promote Innovation?	October 2016, Box 2.3
Innovation in Brazil, Russia, India, China, and South Africa	October 2016, Box 2.4
Programs for Young Innovators and Start-Ups	October 2016, Box 2.5
Fiscal Policy, Research and Development, and Total Factor Productivity Growth	October 2016, Annex 2.1
Corrective Fiscal Incentives for Research and Development	October 2016, Annex 2.2
Taxation and Entrepreneurship	October 2016, Annex 2.4

XIII. Interest Rates

The Dog That Didn't Bark (So Far): Low Interest Rates in the United States and Japan	September 2011, Chapter 3
Debt Dynamics and the Interest Rate-Growth Differential	April 2011, Box 3.1
Interest Rate-Growth Differential	November 2010, Appendix 1

XIV. Low-Income Countries

The Fiscal Implications of International Bond Issuance by Low-Income Developing Countries	October 2014, Box 1.2
Confronting Trade-Offs: Accommodating Spending Pressures in Low-Income Countries	September 2011, Chapter 6
Global Fuel and Food Price Shocks and Fiscal Performance in Low-Income Countries	September 2011, Box 8

XV. Policy and Reform

Debt: Use It Wisely	October 2016, Chapter 1
Policies during Deleveraging Episodes	October 2016, Annex 1.5
Benefits of Targeted Fiscal Interventions at Times of Private Deleveraging	October 2016, Box 1.4
An Active, Supportive Role for Fiscal Policy	April 2015, Chapter 1
Can Fiscal Policy Stabilize Output?	April 2015, Chapter 2
Public Expenditure Reform: Making Difficult Choices	April 2014, Chapter 2
Expenditure Rules: Effective Tools for Sound Fiscal Policy	April 2014, Appendix 1
The Future of the State: Testing the Wagner and Baumol Hypotheses	April 2014, Box 2.1
Fiscal Reforms to Unlock Economic Potential in the Arab Countries in Transition	October 2013, Box 2
Tricks of the Trade	October 2013, Box 5
How Can Fiscal Councils Strengthen Fiscal Performance?	April 2013, Box 1
Commonly Used Definitions of the Fiscal Balance	October 2012, Box 1
The "Two-Pack": Further Reforms to Fiscal Governance in the Euro Area	October 2012, Box 6
Measuring Fiscal Space: A Critical Review of Existing Methodologies	April 2012, Box 1
Anchoring Medium-Term Fiscal Credibility: The Second Generation of Fiscal Rules	April 2012, Chapter 6
The "Fiscal Compact": Reforming EU Fiscal Governance	April 2012, Box 5

Assessing the Cyclicality of Subnational Government Policies	April 2012, Box A3.2
"Fiscal Devaluation": What Is It—and Does It Work?	September 2011, Appendix 1
Fiscal Aspects of EU Economic Governance Reforms	April 2011, Box 4.1
Fiscal Transparency Under Pressure	April 2011, Appendix 2
The European Union: Reforming Fiscal Governance	November 2010, Box 3.2
Fiscal Rules—Recent Developments	May 2010, Box 7

XVI. Privatization, Public Enterprises

General Government Nonfinancial Assets: What Do We Know?	October 2012, Box 7
Government Shares in Publicly Listed Companies	April 2012, Box 3
United States: Government-Sponsored Enterprises and Contingent Liabilities	September 2011, Box 1
Adjusting Public Capital Stock for Investment Inefficiency	September 2011, Box 9
Insights for Privatization Plans from Previous Large Episodes	September 2011, Appendix 2

XVII. Revenue

Past, Present, and Future Patterns in Revenues	April 2015, Box 1.1
Assessing Potential Revenue: Two Approaches	October 2013, Appendix 2
Increasing Revenue from Real Property Taxes	October 2013, Appendix 3
Past Episodes of Sustained Fiscal Revenue Increases	May 2010, Box 6

XVIII. Social Expenditures

The Pressure of Age-Related Spending on Public Debt in Advanced Economies	April 2015, Box 1.3
Targeted Employer Social Security Contribution Cuts: Lessons from Experiences in Advanced Economies	October 2014, Box 2.1
Public Expenditure Reform: Making Difficult Choices	April 2014, Chapter 2
Moment of Truth: Unfunded Pension Liabilities and Public Debt Statistics	April 2014, Box 1.1
Structural Measures and Social Dialogue	April 2014, Box 2.2
Health System Inefficiencies	April 2014, Box 2.3
Recent Developments in Public Health Spending and Outlook for the Future	October 2013, Appendix 1
Confronting Trade-Offs: Accommodating Spending Pressures in Low-Income Countries	September 2011, Chapter 6
Potential Reform Strategies to Contain the Growth of Public Health Spending	April 2011, Box A1.1
The U.S. National Commission Report	April 2011, Box A5.1
Tackling the Challenge of Health Care Reform in Advanced Economies	April 2011, Appendix 1
Selected Spending and Tax Issues	November 2010, Chapter 5
Advanced Economies: The Outlook for Public Health Spending	November 2010, Box 3.1
Increasing Social Expenditures and Household Consumption in China	May 2010, Box 4
Health Care Reforms in the United States	May 2010, Box 5

XIX. Stabilization

Can Fiscal Policy Stabilize Output?	April 2015, Chapter 2
Fiscal Stabilization under Alternative Estimates of the Output Gap	April 2015, Box 2.1
Boosting the Effectiveness of Automatic Stabilizers	April 2015, Box 2.2

XX. Stimulus

The G-20 Economies: Crisis-Related Discretionary Fiscal Stimulus	November 2010, Box 1.1
Update on Crisis-Related Discretionary Fiscal Stimulus in G-20 Economies	May 2010, Appendix 1

XXI. Subsidies

Reforming Energy Subsidies	April 2015, Box 1.2
Reforming Petroleum Subsidies	April 2010, Appendix 5

XXII. Sustainability and Risk Management

Reassuring Markets about Fiscal Sustainability in the Euro Area	September 2011, Chapter 2
Assessing and Mitigating Fiscal Sustainability Risks	April 2011, Chapter 4
Assessing Fiscal Sustainability Risks: Deriving a Fiscal Sustainability Risk Map	April 2011, Appendix 3

XXIII. Taxes

Taxation and Foreign Direct Investment	October 2016, Annex 2.3
Taxation and Entrepreneurship	October 2016, Annex 2.4
Taxing Our Way out of—or into?—Trouble	October 2013, Chapter 2
Learning from the Crisis? Taxation and Financial Stability	October 2013, Box 3
Taxation and Growth: Details Matter	October 2013, Box 4
A One-Off Capital Levy?	October 2013, Box 6
Increasing Revenue from Real Property Taxes	October 2013, Appendix 3
Do Pensioners Get Special Treatment on Taxes?	October 2012, Box 5
Containing Tax Expenditures	April 2011, Appendix 5
Selected Spending and Tax Issues	November 2010, Chapter 5

IMF EXECUTIVE BOARD DISCUSSION OF THE OUTLOOK, SEPTEMBER 2016

The following remarks were made by the Chair at the conclusion of the Executive Board's discussion of the Fiscal Monitor, Global Financial Stability Report, *and* World Economic Outlook *on September 23, 2016.*

Executive Directors broadly shared the assessment of global economic prospects and risks. They observed that global growth is likely to remain modest this year, world trade growth is declining, and low inflation persists in many advanced economies. On the upside, commodity prices have firmed up, and financial market volatility following the U.K. vote to leave the European Union has generally been contained. Directors noted that, while global growth is expected to pick up somewhat next year, downside risks and uncertainty are elevated. The potential for another setback cannot be ruled out. Directors urged policymakers to employ all policy levers—individually and collectively—and enhance global cooperation, to avoid further growth disappointments, strengthen the foundations of the recovery, revive global trade, and ensure that the benefits of globalization are shared more broadly.

Directors noted that growth in advanced economies is projected to weaken this year and edge up slightly next year. Nevertheless, the overall outlook continues to be weighed down by remaining crisis legacy issues, persistently low inflation, weak demand, continued large external imbalances in some countries, low labor productivity growth, and population aging. At the same time, the full macroeconomic implications of the U.K. vote have yet to unfold. In emerging market and developing countries, growth is expected to strengthen gradually, on the back of improved external financing conditions, rising commodity prices, and a gradual stabilization in key economies currently in recession. Many countries have made steady progress in strengthening policy frameworks and resilience to shocks, and market sentiment has recently improved. Notwithstanding these positive developments, emerging market and developing economies remain exposed to spillovers from subdued growth in advanced economies, developments in China during its transition toward more sustainable growth, and volatility in capital flows and exchange rates, while domestic challenges remain to be addressed. Globally, concerns are growing about political discontent, income inequality, and populist policies, threatening to derail globalization.

Directors observed that, while financial markets have shown resilience to a number of shocks in the past six months, medium-term risks are rising. In advanced economies where weak growth calls for continued accommodative monetary policy, a prolonged period of low growth and low interest rates could add to banks' structural profitability challenges and put at risk the solvency of many life insurance companies and pension funds. These risks and challenges could, in turn, further weaken economic activity and financial stability more broadly. In many emerging market economies, high corporate leverage and the growing complexity of financial products continue to pose challenges.

Against this backdrop, Directors emphasized the urgent need for comprehensive, clearly articulated strategies—combining structural, macroeconomic, and financial policies—to lift actual and potential output, manage vulnerabilities, and enhance resilience. They recognized that the optimal policy mix will vary according to country contexts and the particular priorities. Directors also stressed that intensified multilateral cooperation is crucial to sustain global growth and improvements in living standards. Specifically, concerted efforts are needed to promote strong, sustainable, balanced, and inclusive growth; facilitate cross-border trade and investment flows; implement effective banking resolution frameworks; reduce policy uncertainty, including through clear communication; and sustain progress on global rebalancing. Strong global safety nets are also vital to deal with shocks, including those stemming from refugee flows, climate events, and domestic strife.

Directors broadly concurred that, in most advanced economies, policy action will need to continue to support demand in the short term and boost productivity

and potential output in the medium term. Continued monetary accommodation remains appropriate to lift inflation expectations, while being mindful of negative side effects, but monetary policy alone would not be sufficient for closing output gaps and achieving balanced and sustainable growth. Growth-friendly fiscal policy is therefore essential, calibrated to the amount of space available in each country while ensuring long-term debt sustainability, anchored in a credible medium-term framework. Sustained efforts to repair bank and corporate balance sheets would help improve the transmission of monetary policy to real activity, and proactive use of macroprudential policies would safeguard financial stability. Structural reforms need to be prioritized depending on country circumstances, with a focus on raising labor force participation rates, enhancing the efficiency of the labor market, reducing barriers to entry, and encouraging research and development. In the corporate sector, reforms should focus on eliminating debt overhangs, facilitating restructuring, and further improving governance.

Directors acknowledged that circumstances and challenges in emerging market and developing countries vary depending on their level of development and cyclical position. To achieve the common objective of converging to higher levels of income, structural reforms should focus on facilitating technology diffusion and job creation, and enhancing human capital. Directors encouraged taking advantage of the current relatively benign external financial conditions to press ahead with needed corporate deleveraging, through a comprehensive approach, where warranted. This should be complemented by continued efforts to strengthen financial sector oversight, upgrade regulatory and supervisory frameworks, and improve corporate governance practices. Directors stressed that a smooth adjustment in China's corporate and financial sectors is crucial for sustaining growth and stability in China and elsewhere.

Directors stressed the need for financial institutions, particularly in advanced economies, to adapt their business models to new realities and evolving regulatory standards. Greater vigilance by regulators and improved data collection on nonbank financial institutions are essential to preserve their financial health and monitor their role in monetary policy transmission. Policymakers can help reduce uncertainty by completing the regulatory reform agenda, without significantly increasing overall capital requirements, while preserving the integrity of a robust capital framework. Directors broadly agreed that, in countries facing a private sector debt overhang or where the financial system is seriously impaired but fiscal space is available, well-targeted fiscal measures—with the support of strong insolvency and bankruptcy procedures and safeguards to limit moral hazard—could help facilitate private debt restructuring. Many emerging market countries should continue to enhance resilience, including by curbing excessive private debt build-up and strengthening the government balance sheet in upturns.

Directors underscored that policy priorities in low-income countries are to address near-term macroeconomic challenges and make progress toward their Sustainable Development Goals. In commodity-dependent economies, building fiscal buffers will require increasing the contribution of the non-commodity sector to tax revenue, together with spending rationalization. For countries less dependent on commodities, countercyclical macroeconomic policies should be adopted where growth remains robust, and debt management practices strengthened to lower the impact of potential shifts in capital flows. More broadly, achieving robust, sustainable, and inclusive growth requires sustained efforts to diversify the economy, broaden the revenue base, improve the efficiency of government spending, and enhance financial deepening.

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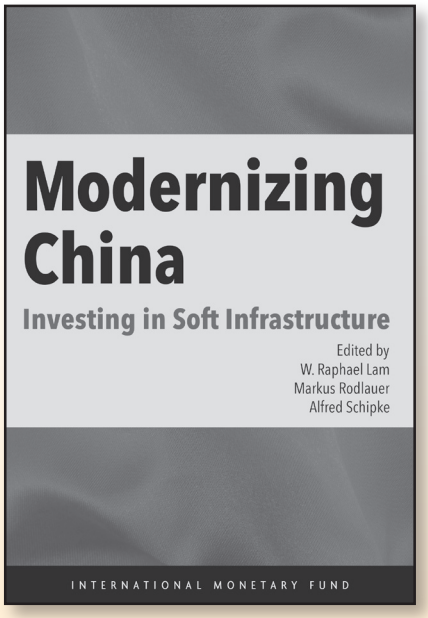

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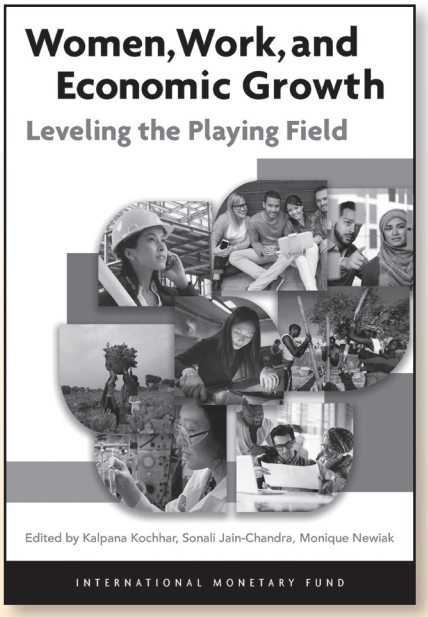

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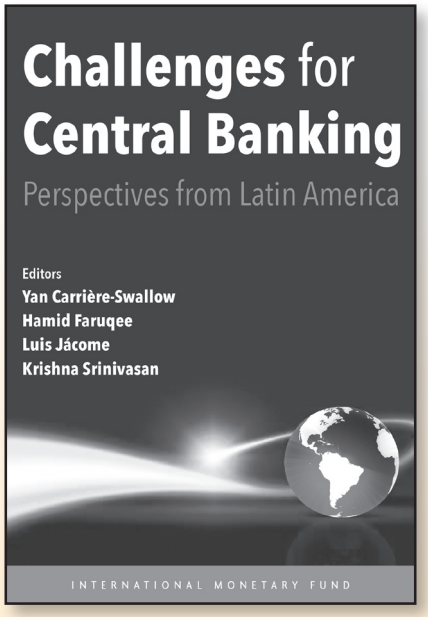

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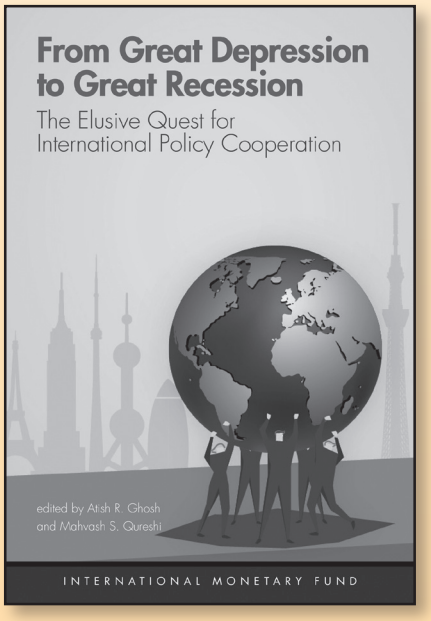

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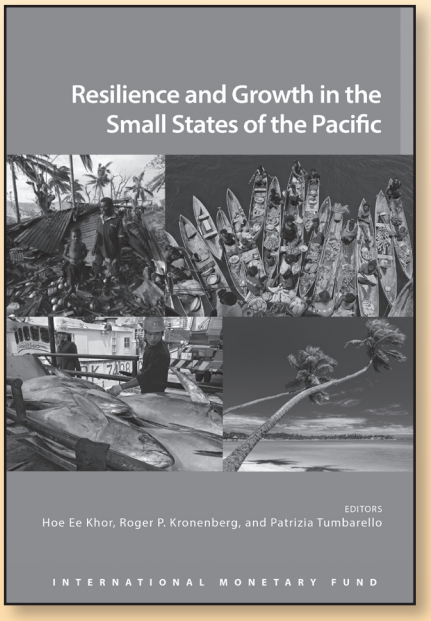

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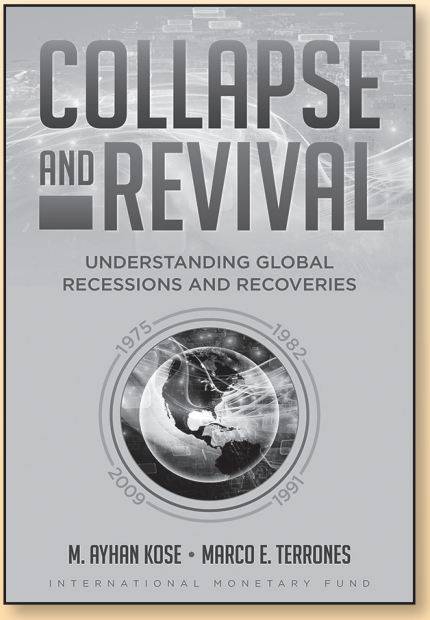

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