INTERNATIONAL MONETARY FUND

WORLD ECONOMIC OUTLOOK

Steady but Slow: Resilience amid Divergence

2024
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Errata
April 30, 2024

This web version of the WEO has been updated to reflect the following changes to the version published online on April 16, 2024:

- On page 24, 2nd column, last sentence: "efficiency gains from loss of specialization" was corrected to "efficiency losses from declines in specialization"

- On page 28, 2nd column, 1st paragraph and sentence: "25 basis points above headline" was corrected to "25 basis points above baseline"

- On page 135, 1st column and line: "from 2024 onward to determine the price of oil and gas revenues but sets the benchmark" was corrected to "from 2024 onward but sets the benchmark"

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ASSUMPTIONS AND CONVENTIONS

A number of assumptions have been adopted for the projections presented in the *World Economic Outlook* (WEO). It has been assumed that *real effective exchange rates* remained constant at their average levels during January 30, 2024–February 27, 2024, except for those for the currencies participating in the European exchange rate mechanism II, which are assumed to have remained constant in nominal terms relative to the euro; that established *policies of national authorities* will be maintained (for specific assumptions about fiscal and monetary policies for selected economies, see Box A1 in the Statistical Appendix); that the average price of oil will be $78.61 a barrel in 2024 and $73.68 a barrel in 2025; that the *three-month government bond yield* for the United States will average 5.2 percent in 2024 and 4.1 percent in 2025, that for the euro area will average 3.5 percent in 2024 and 2.6 percent in 2025, and that for Japan will average 0.0 percent in 2024 and 0.1 percent in 2025; and that the *10-year government bond yield* for the United States will average 4.1 percent in 2024 and 3.7 percent in 2025, that for the euro area will average 2.5 percent in 2024 and 2.6 percent in 2025, and that for Japan will average 1.0 percent in 2024 and 1.1 percent in 2025. These are, of course, working hypotheses rather than forecasts, and the uncertainties surrounding them add to the margin of error that would, in any event, be involved in the projections. The estimates and projections are based on statistical information available through April 1, 2024.

The following conventions are used throughout the WEO:

- . . . to indicate that data are not available or not applicable;
- – between years or months (for example, 2023–24 or January–June) to indicate the years or months covered, including the beginning and ending years or months; and
- / between years or months (for example, 2023/24) 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).
- Data refer to calendar years, except in the case of a few countries that use fiscal years. Please refer to Table F in the Statistical Appendix, which lists the economies with exceptional reporting periods for national accounts and government finance data for each country.
- For some countries, the figures for 2023 and earlier are based on estimates rather than actual outturns. Please refer to Table G in the Statistical Appendix, which lists the latest actual outturns for the indicators in the national accounts, prices, government finance, and balance of payments for each country.

What is new in this publication:

- *Ecuador*'s fiscal sector projections are excluded from publication for 2024–29 because of ongoing program discussions.
- *Vietnam* has been removed from the Low-Income Developing Countries (LIDCs) group and added to the Emerging Market and Middle-Income Economies (EMMIEs) group.
- For *West Bank and Gaza*, data for 2022–23 previously excluded from publication pending methodological adjustments to statistical series are now included. Projections for 2024–29 are excluded from publication on account of the unusually high degree of uncertainty.

In the tables and figures, the following conventions apply:

- Tables and figures in this report that list their source as "IMF staff calculations" or "IMF staff estimates" draw on data from the WEO database.
- When countries are not listed alphabetically, they are ordered on the basis of economic size.
- Minor discrepancies between sums of constituent figures and totals shown reflect rounding.
- Composite data are provided for various groups of countries organized according to economic characteristics or region. Unless noted otherwise, country group composites represent calculations based on 90 percent or more of the weighted group data.
- The boundaries, colors, denominations, and any other information shown on maps do not imply, on the part of the IMF, any judgment on the legal status of any territory or any endorsement or acceptance of such boundaries.

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FURTHER INFORMATION

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PREFACE

The analysis and projections contained in the *World Economic Outlook* are integral elements of the IMF's surveillance of economic developments and policies in its member countries, of developments in international financial markets, and of the global economic system. The survey of prospects and policies is the product of a comprehensive interdepartmental review of world economic developments, which draws primarily on information the IMF staff gathers through its consultations with member countries. These consultations are carried out in particular by the IMF's area departments—namely, the African Department, Asia and Pacific Department, European Department, Middle East and Central Asia Department, and Western Hemisphere Department—together with the Strategy, Policy, and Review Department; the Monetary and Capital Markets Department; and the Fiscal Affairs Department.

The analysis in this report was coordinated in the Research Department under the general direction of Pierre-Olivier Gourinchas, Economic Counsellor and Director of Research. The project was directed by Petya Koeva Brooks, Deputy Director, Research Department, and Daniel Leigh, Division Chief, Research Department. Aqib Aslam, Division Chief, Research Department and Head of the Spillovers Task Force, supervised Chapter 4.

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Gemma Rose Diaz from the Communications Department led the editorial team for the report, with production and editorial support from Michael Harrup, and additional assistance from Lucy Scott Morales, James Unwin, Nancy Morrison, Grauel Group, and Absolute Service, Inc.

The analysis has benefited from comments and suggestions by staff members from other IMF departments, as well as by Executive Directors following their discussion of the report on April 3, 2024. However, estimates, projections, and policy considerations are those of the IMF staff and should not be attributed to Executive Directors or to their national authorities.

FOREWORD

Global Economy Remains Resilient despite Uneven Growth; Challenges Lie Ahead

The global economy remains remarkably resilient, with growth holding steady as inflation returns to target. The journey has been eventful, starting with supply-chain disruptions in the aftermath of the pandemic, a Russian-initiated war on Ukraine that triggered a global energy and food crisis, and a considerable surge in inflation, followed by a globally synchronized monetary policy tightening.

Yet, despite many gloomy predictions, the world avoided a recession, the banking system proved largely resilient, and major emerging market economies did not suffer sudden stops. Moreover, the inflation surge—despite its severity and the associated cost-of-living crisis—did not trigger uncontrolled wage-price spirals (see October 2022 *World Economic Outlook*). Instead, almost as quickly as global inflation went up, it has been coming down.

On a year-over-year basis, global growth bottomed out at the end of 2022, at 2.3 percent, shortly after median headline inflation peaked at 9.4 percent. According to our latest projections, growth for 2024 and 2025 will hold steady around 3.2 percent, with median headline inflation declining from 2.8 percent at the end of 2024 to 2.4 percent at the end of 2025. Most indicators point to a soft landing.

Markets reacted exuberantly to the prospect of central banks exiting from tight monetary policy. Financial conditions eased, equity valuations soared, capital flows to most emerging market economies excluding China have been buoyant, and some low-income countries and frontier economies regained market access (see the April 2024 *Global Financial Stability Report*).

Even more encouraging, we now estimate that there will be less economic scarring from the pandemic—the projected drop in output relative to prepandemic projections—for most countries and regions, especially for emerging market economies, thanks in part to robust employment growth. Astonishingly, the US economy has already surged past its prepandemic trend.

Resilient growth and faster disinflation point toward favorable supply developments, including the fading of earlier energy price shocks, the striking rebound in labor supply supported by strong immigration flows in many advanced economies. Decisive monetary policy actions, as well as improved monetary policy frameworks, especially in emerging market economies, have helped anchor inflation expectations. As Chapter 2 of this report argues, however, the transmission of monetary policy may have been more muted this time around in countries such as the United States, where an increased share of fixed-rate mortgages and lower household debt levels since the global financial crisis may have limited the drag on aggregate demand up to now.

Despite these welcome developments, numerous challenges remain, and decisive actions are needed.

First, while inflation trends are encouraging, we are not there yet. Somewhat worryingly, the most recent median headline and core inflation numbers are pushing upward. This could be temporary, but there are reasons to remain vigilant. Most of the progress on inflation came from the decline in energy prices and goods inflation below its historical average. The latter has been helped by easing supply-chain frictions, as well as by the decline in Chinese export prices. But services inflation remains high—sometimes stubbornly so—and could derail the disinflation path. Bringing inflation down to target remains the priority.

Second, the global view can mask stark divergence across countries. The exceptional recent performance of the United States is certainly impressive and a major driver of global growth, but it reflects strong demand factors as well, including a fiscal stance that is out of line with long-term fiscal sustainability (see April 2024 *Fiscal Monitor*). This raises short-term risks to the disinflation process, as well as longer-term fiscal and financial stability risks for the global economy since it risks pushing up global funding costs. Something will have to give.

In the euro area, growth will pick up this year, but from very low levels, as the trailing effects of tight

monetary policy and past energy costs, as well as planned fiscal consolidation, weigh on activity. Continued high wage growth and persistent services inflation could delay the return of inflation to target. However, unlike in the United States, there is scant evidence of overheating and the European Central Bank will also need to carefully calibrate the pivot toward monetary easing to avoid an excessive growth slowdown and inflation undershoot. While labor markets appear strong, that strength could prove illusory if European firms have been hoarding labor in anticipation of a pickup in activity that does not materialize.

China's economy is affected by the enduring downturn in its property sector. Credit booms and busts never resolve themselves quickly, and this one is no exception. Domestic demand will remain lackluster for some time unless strong measures and reforms address the root cause. Public debt dynamics are also of concern, especially if the property crisis morphs into a local public finance crisis. With depressed domestic demand, external surpluses could rise. The risk is that this will further exacerbate trade tensions in an already fraught geopolitical environment.

At the same time, many other large emerging market economies are performing strongly, sometimes even benefiting from a reconfiguration of global supply chains and rising trade tensions between China and the United States. As Chapter 4 of this report documents, these countries' footprint on the global economy is increasing, and they will play an ever larger role in supporting global growth in years to come.

A troubling development is the widening divergence between many low-income developing countries and the rest of the world. For these economies, growth is revised downward, whereas inflation is revised up. Worse, in contrast with most other regions, scarring estimates for low-income developing countries, including some large ones, have been revised up, suggesting that the poorest countries are still unable to turn the page from the pandemic and cost-of-living crises. In addition, conflicts continue to result in loss of human lives and raise uncertainty. For these countries, investing in structural reforms to promote growth-enhancing domestic and foreign direct investment, and strengthening domestic resource mobilization, can help manage borrowing costs and reduce funding needs while achieving development goals. Efforts must also be made to improve the human capital of their large young populations.

Third, even as inflation recedes, real interest rates have increased, and sovereign debt dynamics have become less favorable in particular for highly indebted emerging markets. Countries should turn their sights toward rebuilding fiscal buffers. Credible fiscal consolidations help lower funding costs and improve financial stability. In a world with more frequent adverse supply shocks and growing fiscal needs for safety nets, climate adaptation, digital transformation, energy security, and defense, this should be a policy priority. Yet this is never easy, as the April 2023 *World Economic Outlook* documented: fiscal consolidations are more likely to succeed when credible and when implemented while the economy is growing, rather than when markets dictate their conditions. In countries where inflation is under control, and that engage in a credible multiyear effort to rebuild fiscal buffers, monetary policy can help support activity. The successful 1993 US fiscal consolidation and monetary accommodation episode comes to mind as an example to emulate.

Fourth, medium-term growth prospects remain historically weak. Chapter 3 of this report takes an in-depth dive into the different drivers of the slowdown. The main culprit is lower total factor productivity growth. A significant part of the decline comes from increased misallocation of capital and labor within sectors and countries. Facilitating faster and more efficient resource allocation can help boost growth. Much hope rests on artificial intelligence (AI) delivering strong productivity gains in the medium term. It may do so, but the potential for serious disruptions in labor and financial markets is high. Harnessing the potential of AI for all will require that countries improve their digital infrastructure, invest in human capital, and coordinate on global rules of the road. Medium-term growth prospects are also harmed by rising geoeconomic fragmentation and the surge in trade restrictive and industrial policy measures since 2019. Global trade linkages are already changing as a result, with potential losses in efficiency. But the broader damage is to global cooperation and multilateralism.

Finally, huge global investments are needed for a green and climate-resilient future. Cutting emissions is compatible with growth, as is seen in recent decades during which growth has become much less emissions intensive. Nevertheless, emissions are still rising. A lot more needs to be done and done quickly. Green investment has expanded at a healthy pace in advanced

economies and China. Cutting harmful fossil fuel subsidies can help create the necessary fiscal room for further green investments. The greatest effort must be made by other emerging market and developing economies, which need to massively increase their green investment growth and reduce their fossil fuel investment. This will require technology transfer by other advanced economies and China, as well as substantial financing, much of it from the private sector, but some of it concessional.

On these questions, as well as on so many others, there is little hope for progress outside multilateral frameworks and cooperation.

Pierre-Olivier Gourinchas
Economic Counsellor

EXECUTIVE SUMMARY

Economic activity was surprisingly resilient through the global disinflation of 2022–23. As global inflation descended from its mid-2022 peak, economic activity grew steadily, defying warnings of stagflation and global recession. Growth in employment and incomes held steady, reflecting supportive demand developments—including greater-than-expected government spending and household consumption—and a supply-side expansion amid, notably, an unanticipated boost to labor force participation. The unexpected economic resilience, despite significant central bank interest rate hikes aimed at restoring price stability, also reflects the ability of households in major advanced economies to draw on substantial savings accumulated during the pandemic. In addition, as Chapter 2 explains, changes in mortgage and housing markets over the prepandemic decade of low interest rates moderated the near-term impact of policy rate hikes. As inflation converges toward target levels and central banks pivot toward policy easing in many economies, a tightening of fiscal policies aimed at curbing high government debt, with higher taxes and lower government spending, is expected to weigh on growth.

Global growth, estimated at 3.2 percent in 2023, is projected to continue at the same pace in 2024 and 2025. The forecast for 2024 is revised up by 0.1 percentage point from the January 2024 *World Economic Outlook* (WEO) *Update*, and by 0.3 percentage point from the October 2023 WEO. The pace of expansion is low by historical standards, owing to both near-term factors, such as still-high borrowing costs and withdrawal of fiscal support, and longer-term effects from the COVID-19 pandemic and Russia's invasion of Ukraine; weak growth in productivity; and increasing geoeconomic fragmentation. Global headline inflation is expected to fall from an annual average of 6.8 percent in 2023 to 5.9 percent in 2024 and 4.5 percent in 2025, with advanced economies returning to their inflation targets sooner than emerging market and developing economies. The latest forecast for global growth five years from now—at 3.1 percent—is at its lowest in decades. The pace of convergence toward higher living standards for middle- and lower-income countries has slowed, implying a persistence in global economic disparities. As Chapter 3 explains, the relatively weak medium-term outlook reflects lower growth in GDP per person stemming, notably, from persistent structural frictions preventing capital and labor from moving to productive firms. Chapter 4 indicates how dimmer prospects for growth in China and other large emerging market economies, given their increasing share of the global economy, will weigh on the prospects of trading partners.

Risks to the global outlook are now broadly balanced. On the downside, new price spikes stemming from geopolitical tensions, including those from the war in Ukraine and the conflict in Gaza and Israel, could, along with persistent core inflation where labor markets are still tight, raise interest rate expectations and reduce asset prices. A divergence in disinflation speeds among major economies could also cause currency movements that put financial sectors under pressure. High interest rates could have greater cooling effects than envisaged as fixed-rate mortgages reset and households contend with high debt, causing financial stress. In China, without a comprehensive response to the troubled property sector, growth could falter, hurting trading partners. Amid high government debt in many economies, a disruptive turn to tax hikes and spending cuts could weaken activity, erode confidence, and sap support for reform and spending to reduce risks from climate change. Geoeconomic fragmentation could intensify, with higher barriers to the flow of goods, capital, and people implying a supply-side slowdown. On the upside, looser fiscal policy than necessary and assumed in projections could raise economic activity in the short term, although risking more costly policy adjustment later on. Inflation could fall faster than expected amid further gains in labor force participation, allowing central banks to bring easing plans forward. Artificial intelligence and stronger structural reforms than anticipated could spur productivity.

As the global economy approaches a soft landing, the near-term priority for central banks is to ensure that inflation touches down smoothly, by neither easing policies prematurely nor delaying too long

and causing target undershoots. At the same time, as central banks take a less restrictive stance, a renewed focus on implementing medium-term fiscal consolidation to rebuild room for budgetary maneuver and priority investments, and to ensure debt sustainability, is in order. Cross-country differences call for tailored policy responses. Intensifying supply-enhancing reforms would facilitate inflation and debt reduction, allow economies to increase growth toward the higher prepandemic era average, and accelerate convergence toward higher income levels. Multilateral cooperation is needed to limit the costs and risks of geoeconomic fragmentation and climate change, speed the transition to green energy, and facilitate debt restructuring.

CHAPTER 1

GLOBAL PROSPECTS AND POLICIES

Disinflation amid Economic Resilience

Economic activity was surprisingly resilient during the global disinflation of 2022–23. Growth in employment and incomes has held steady as favorable demand and supply developments have supported major economies, despite rising central bank interest rates aimed at restoring price stability. As inflation converges toward target levels and central banks pivot toward policy easing, a tightening of fiscal policies aimed at curbing high government debt levels, with higher taxes and lower government spending, is expected to weigh on growth. The pace of expansion is also expected to remain low by historical standards as a result of factors including the long-term consequences of the COVID-19 pandemic, Russia's invasion of Ukraine, weak growth in productivity, and increasing geoeconomic fragmentation.

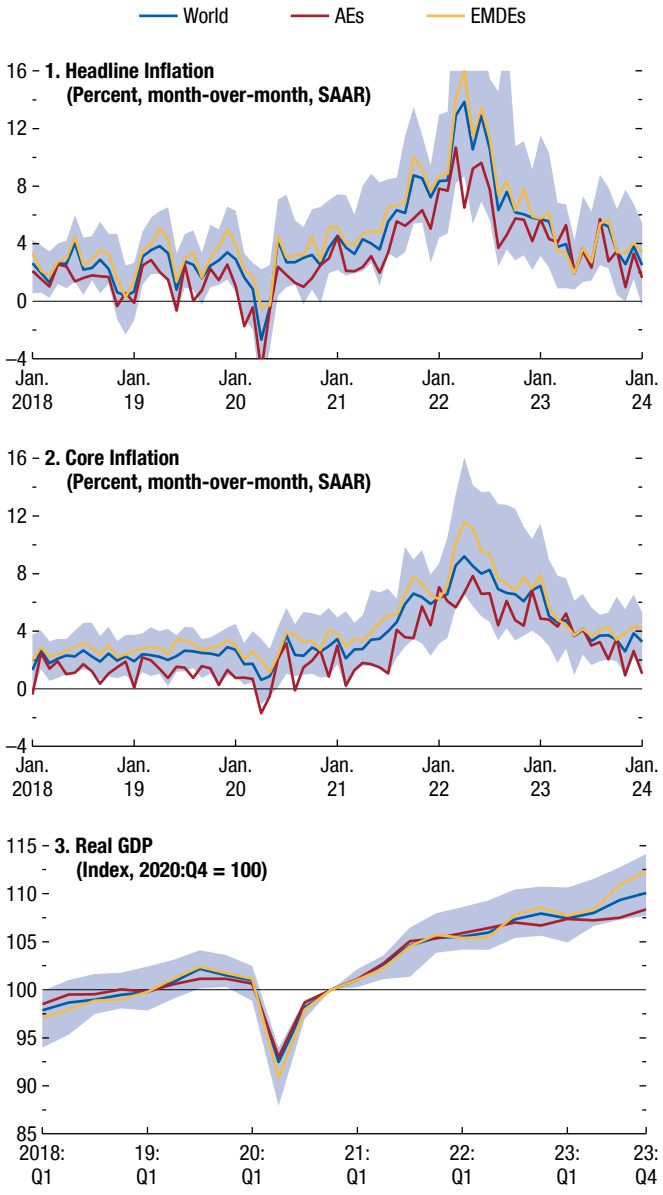
In late 2023, headline inflation neared its prepandemic level in most economies for the first time since the start of the global inflation surge (Figure 1.1). In the last quarter of 2023, headline inflation for advanced economies was 2.3 percent on a quarter-over-quarter annualized basis, down from a peak of 9.5 percent in the second quarter of 2022. For emerging market and developing economies, inflation was 9.9 percent in the last quarter of 2023, down from a peak of 13.7 percent in the first quarter of 2022, but this average was driven by high inflation in a few countries; for the median emerging market and developing economy, inflation declined to 3.9 percent. This progress notwithstanding, inflation is not yet at target in most economies.

As global inflation descended from its peak, economic activity grew steadily, defying warnings of stagflation and global recession. During 2022 and 2023, global real GDP rose by a cumulative 6.7 percent. That is 0.8 percentage point higher than the forecasts made at the time of the October 2022 *World Economic Outlook* (WEO) (Figure 1.2). The United States and several large emerging market and middle-income economies displayed the greatest overperformance, with aggregate demand supported by stronger-than-expected private consumption amid still-tight—though easing—labor markets. Households in advanced economies supported their spending by drawing down accumulated pandemic-era savings. Larger-than-expected government spending further supported the expansion of aggregate demand in most regions. The overall budgetary stance—measured by the structural fiscal balance—was more expansionary than expected, on average. Among large economies, the additional budgetary support, compared with October 2022 WEO forecasts, was estimated at 2 percent of GDP in the United States and 0.2 percent of GDP in the euro area, whereas in China,[1] the fiscal stance was mildly tighter than expected, by 0.7 percent of GDP. The euro area also displayed the smallest upside growth surprise, reflecting weak consumer sentiment and the lingering effects of high energy prices. In parallel, global headline inflation declined broadly in line with expectations, averaging just 0.1 percentage point more than predicted in the October 2022 WEO for 2022 and 2023. However, in lower-income countries, inflation was on average higher than expected, reflecting cases in which pass-through into domestic prices from international food, fuel, and fertilizer costs, as well as from currency depreciation, was greater than expected. Price pressures in some lower-income countries were significant. These factors also caused these economies to grow more slowly than expected, suggesting a negative supply shock. In China, inflation fell unexpectedly, with the decrease reflecting sharply lower domestic food prices and pass-through effects on underlying (core) inflation.

The resilience in global economic activity was compatible with falling inflation thanks to a postpandemic expansion on the supply side. A greater-than-expected rise in the labor force amid robust employment growth supported activity and disinflation in advanced economies and several large emerging market and middle-income economies. The labor force expansion reflected, in some economies, increased inflows of

[1]China's deficit and public debt numbers cover a narrower perimeter of the general government than the IMF staff's estimates in China Article IV reports (see IMF 2024 for a reconciliation of the two estimates).

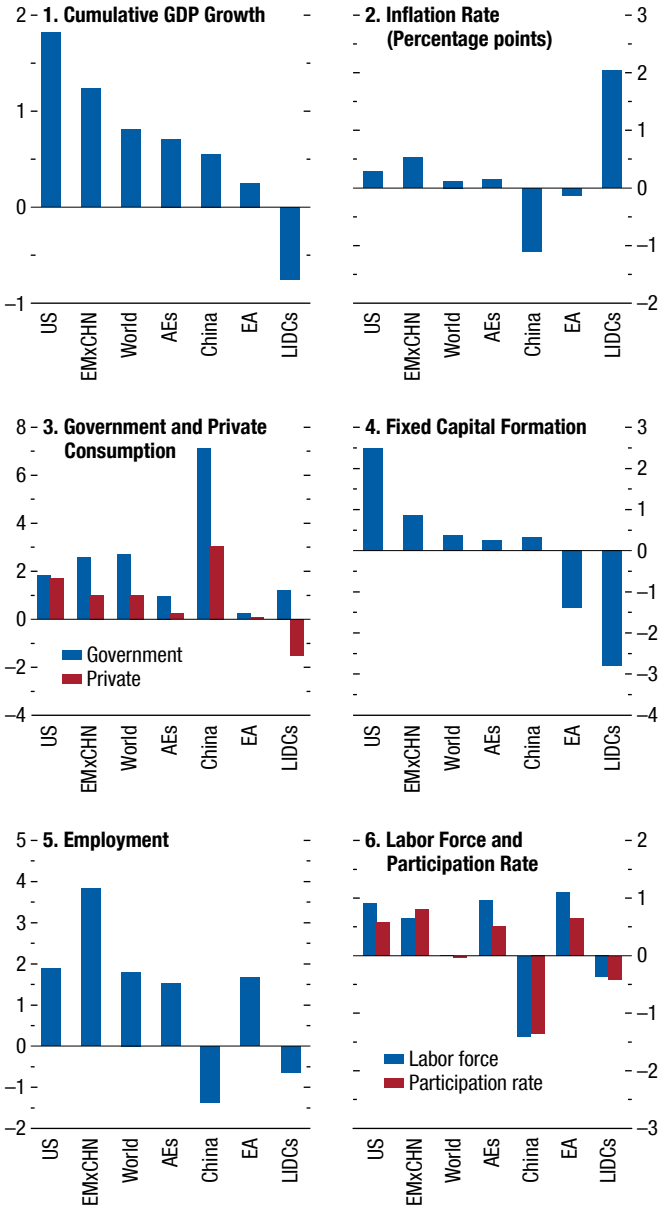
Figure 1.1. Global Inflation Falling as Output Grows



Sources: Haver Analytics; and IMF staff calculations.
Note: Panels 1 and 2 plot the median of a sample of 57 economies that accounts for 78 percent of *World Economic Outlook* world GDP (in weighted purchasing-power-parity terms) in 2023. Vertical axes are cut off at –4 percent and 16 percent. Panel 3 plots the median of a sample of 44 economies. The bands depict the 25th to 75th percentiles of data across economies. "Core inflation" is the percent change in the consumer price index for goods and services, excluding food and energy (or the closest available measure). AEs = advanced economies; EMDEs = emerging market and developing economies; SAAR = seasonally adjusted annual rate.

Figure 1.2. Performance in 2022–23 Compared with Projections at Time of Cost-of-Living Crisis

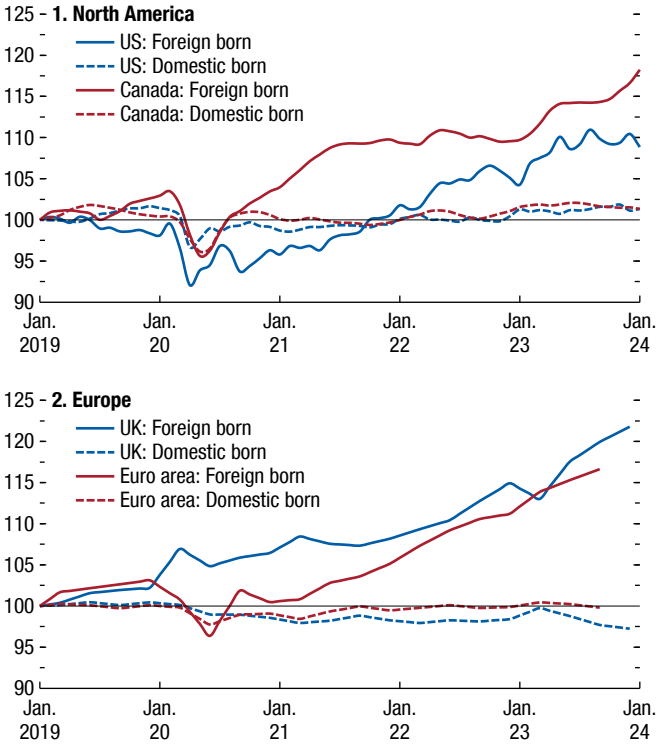
(Percent deviation from October 2022 WEO projection, unless noted otherwise)



Source: IMF staff calculations.
Note: Figure reports latest estimates for cumulative growth in 2022 and 2023 in deviation from October 2022 WEO forecast in all panels except panel 2, which reports the difference between average inflation in 2022 and 2023 and the corresponding October 2022 WEO forecasts. Panel 6 does not include India due to missing data. AEs = advanced economies; EA = euro area; EMxCHN = emerging market and middle-income economies excluding China; LIDCs = low-income developing countries; WEO = *World Economic Outlook*.

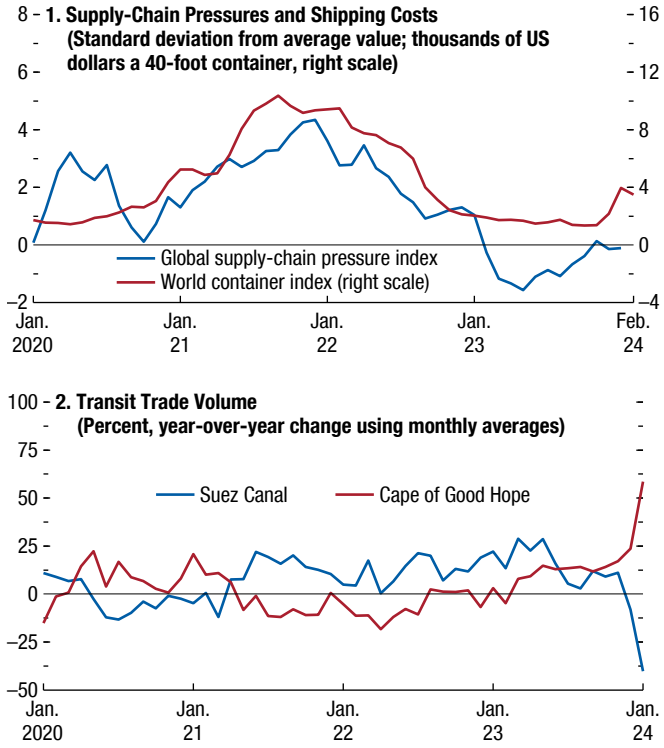
Figure 1.3. Domestic- and Foreign-Born Workers in the Labor Force

(Index, January 2019 = 100)



Sources: Eurostat; Haver Analytics; US Bureau of Labor Statistics; and IMF staff calculations.

Figure 1.4. Supply-Chain Pressures and Red Sea Tensions



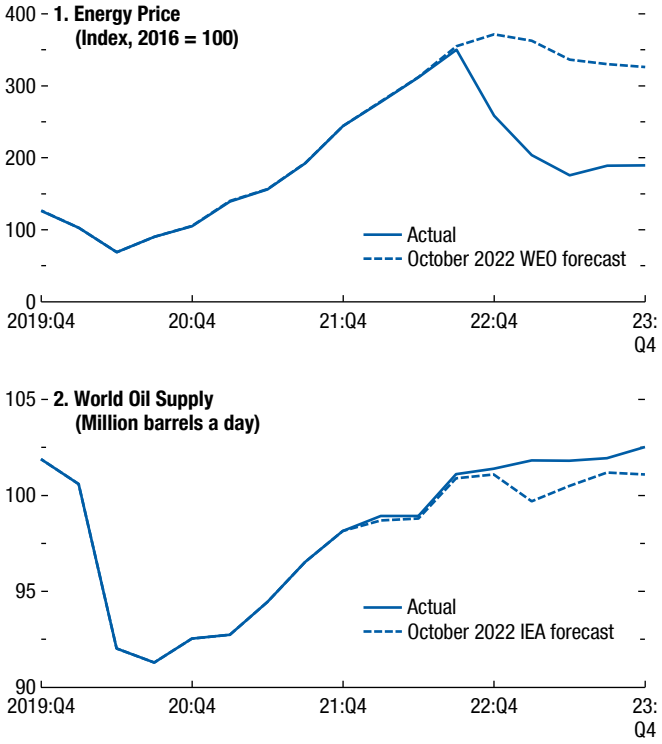
Sources: Federal Reserve Bank of New York; Haver Analytics; IMF, PortWatch; and IMF staff calculations.

migrants, with faster growth in the foreign-born than in the domestic-born labor force since 2021 (Figure 1.3), as well as higher labor force participation rates. Exceptions to this pattern include China, where labor market weakness, in the context of subdued demand, was broad based across sectors, and lower-income countries, where supply-side challenges held job creation back. Greater-than-expected additions to the stock of physical capital, with business investment responding to the strength in product demand, further bolstered the supply side in most regions, with exceptions including the euro area, where interest-rate-sensitive business investment, particularly in manufacturing, was subdued. A resolution of pandemic-era supply-chain problems allowed delivery times to decline and transportation costs to decrease (Figure 1.4). After attacks on commercial shipping in the Red Sea—through which 11 percent of global trade flows—global transportation costs increased, reflecting the rerouting of cargo from the Suez Canal to the Cape of Good Hope and continued trade disruptions from climate extremes in the Panama Canal, but remained well below their 2021–22 levels and have recently declined. The price of energy fell faster than expected from its peak (Figure 1.5), in part as a result of increased non-OPEC (Organization of the Petroleum Exporting Countries) oil production and increased natural gas output, most notably in the United States. Rising exports of Russian oil on account of the expanding non-Western-aligned oil tanker fleet carrying Russian oil and Russia's setting up its own maritime insurance added further to the world energy supply.

Inflation (and Expectations) in Decline

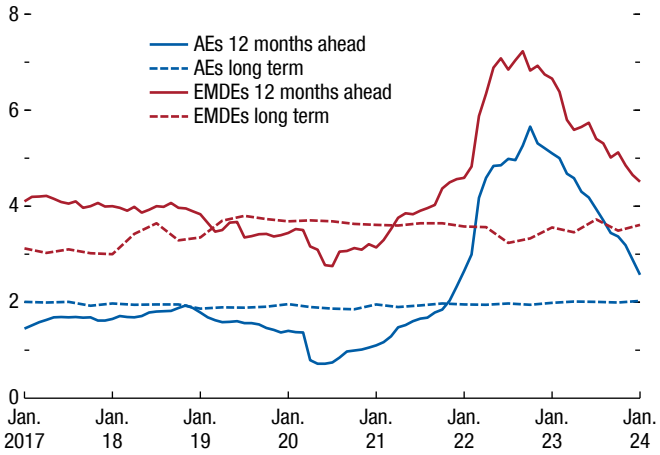
The fall in headline inflation since 2022 reflects the fading of relative price shocks—notably those to energy prices—as well as lower core inflation. The decline in energy prices reflects not only increased global energy supply, but also the effects of tight monetary policies. The monetary tightening by central banks in major advanced economies during 2022–23 may have contributed strongly to lowering energy prices owing to its high degree of synchronization and

Figure 1.5. Global Energy Price and Oil Supply



Sources: International Energy Agency (IEA); and IMF staff calculations.
Note: Forecasts for the energy price index and oil supply come from the October 2022 *World Economic Outlook* (WEO) and October 2022 IEA *Oil Market Report*, respectively.

Figure 1.6. Near-Term Inflation Expectations Falling
(Percent)



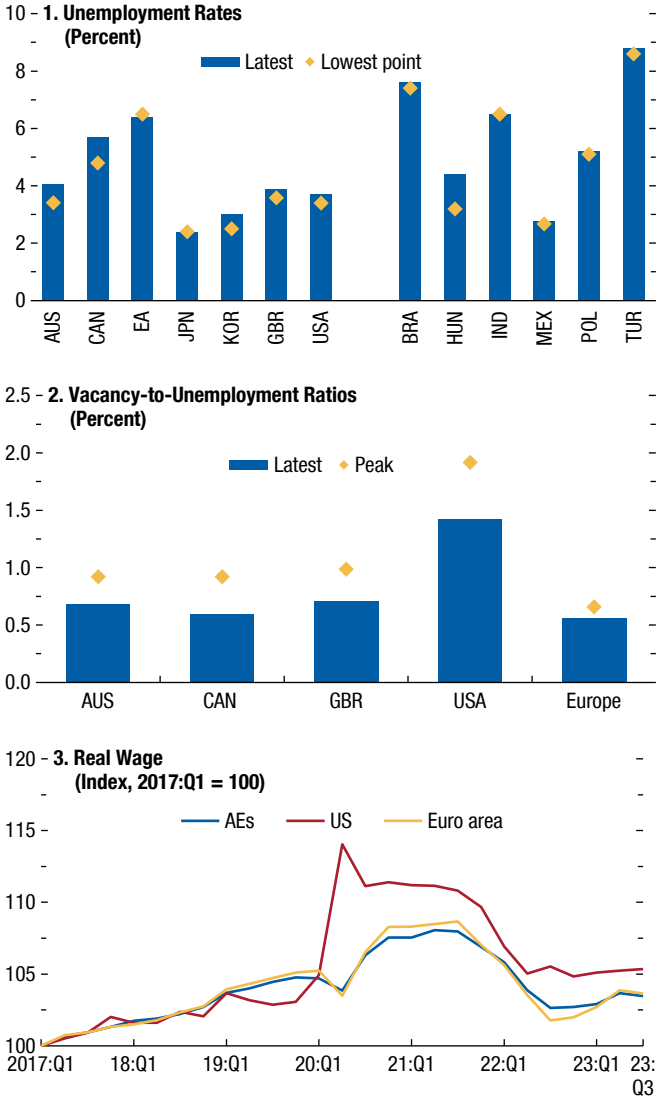
Sources: Consensus Economics; and IMF staff calculations.
Note: The figure shows median inflation expectations, computed based on Consensus Forecast surveys of professional forecasters, for respective groups of economies. The 12-month-ahead inflation expectations are constructed as the weighted sum of forecasts for the current and next calendar year (see Buono and Formai 2018). "Long term" denotes 10-year-ahead expectations. AEs = advanced economies; EMDEs = emerging market and developing economies.

the associated effect on curbing world energy demand (as in the analysis of Auclert and others 2023).

Core inflation has declined as a result of the fading of effects of pass-through from past shocks to headline inflation, as well as because labor market pressures have eased. Pass-through effects include the effects of past relative price shocks—notably those to the price of energy and supply shifts in various industries—on prices and costs in other industries through supply-chain inputs and wage demands. Near-term inflation expectations are an important pass-through channel because of their implications for both wage and price setting (see Chapter 2 of the October 2023 WEO) and have declined toward target levels in both advanced economies and emerging market and developing economies (Figure 1.6), although measures of financial-market-based inflation expectations have recently shown signs of a pickup in the US. Longer-term inflation expectations have remained anchored, despite the string of large shocks since 2020—with decisive communication and action by central banks safeguarding the credibility of their inflation targets—and contributed little to recent movements in core inflation. Labor markets remain tight, especially in the United States, but the recent decline in the ratio of vacancies to the number of unemployed people amid a rise in unemployment rates suggests an easing across several economies (Figure 1.7). Nominal wage growth has generally remained contained in advanced economies since 2022, especially in the euro area, implying a moderation in real (inflation-adjusted) wages. Real wages are now close to or slightly below the level they were on before the pandemic in these economies. Wage-price spirals—in which prices and wages accelerate together for a sustained period—have generally not taken hold. Nevertheless, wages at the bottom of the wage distribution have risen faster than the average since the start of the pandemic, compressing the distribution.

The roles of these factors in reducing core inflation have diverged across major economies. IMF staff analysis (Figure 1.8) suggests that the rapid fading of pass-through from past relative price movements—in particular from energy price shocks—has played a larger role in the euro area and the United Kingdom than in the United States in reducing core inflation (the staff's methodology was the same as that used in Dao and others 2023). In the United States, labor market tightness and, more broadly, strong macroeconomic

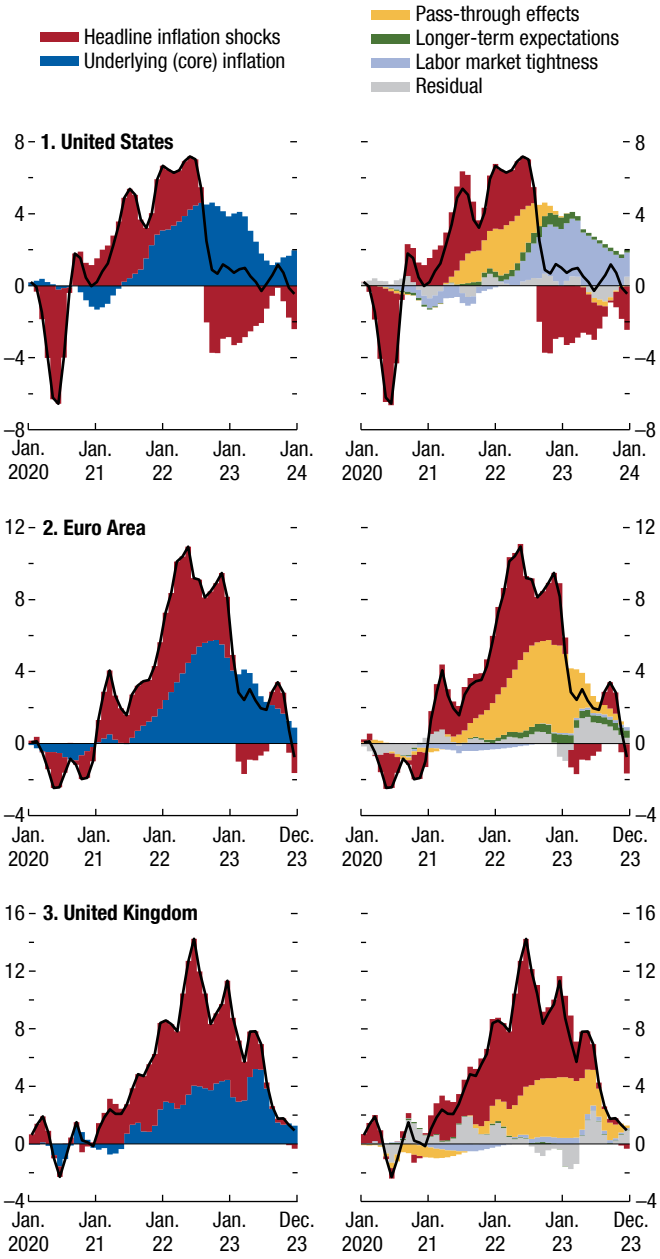
Figure 1.7. Labor Markets Cooling



Sources: Haver Analytics; International Labour Organization; Organisation for Economic Co-operation and Development; US Bureau of Economic Analysis; US Bureau of Labor Statistics; and IMF staff calculations.
Note: In panel 1, India's unemployment in urban areas is from Periodic Labor Force Survey data. In panel 2, Europe includes Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, The Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, and Sweden. In panel 3, the "real wage" is the nominal wage divided by the consumer price index and is defined on a per worker basis. Data labels in the figure use International Organization for Standardization (ISO) country codes except for EA (euro area). AEs = advanced economies.

Figure 1.8. Decomposition of Inflation Drivers

(Percentage point deviation from December 2019; three-month average inflation, annualized)



Source: IMF staff calculations.
Note: Underlying (core) inflation denotes weighted median inflation. Methodology is as in Dao and others (2023) and Ball, Leigh, and Mishra (2022).

conditions, which partly reflect the effects of earlier fiscal stimulus as well as strong private consumption, are the main source of remaining upward pressure on underlying inflation. In the United Kingdom, labor market tightness predating the pandemic may partly explain why inflation has been higher than in the US or euro area following the onset of the pandemic (see Haskel, Martin, and Brandt 2023). Accordingly, IMF staff estimates of the gap between actual and potential output levels in 2023 are positive for the United States, at 0.7 percent, and negative for the euro area and for the United Kingdom, at –0.3 percent.

Interest Rates Restrictive, but Set to Fall

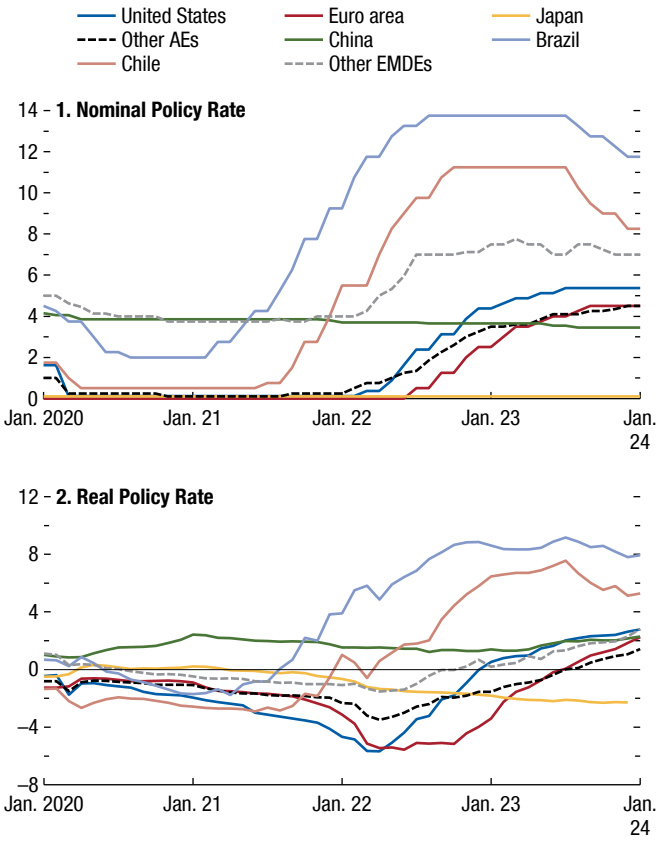
To counter rising inflation, major central banks have raised policy interest rates to levels estimated as restrictive. As a result, mortgage costs have increased and credit availability is generally tight, resulting in difficulties for firms refinancing their debt, rising corporate bankruptcies, and subdued business and residential investment in several economies. The commercial real estate sector, including office markets, is under especially strong pressure in some economies, with rising defaults and lower investment and valuations, reflecting the combined effects of higher borrowing costs and the shift toward remote work since the pandemic (see the April 2024 *Global Financial Stability Report*).

However, despite concerns, a global economic downturn caused by a sharp rise in policy rates has not materialized, for several reasons. First, some central banks—including the European Central Bank and the Federal Reserve—raised their nominal interest rates after inflation expectations started to rise, resulting in lower real rates that initially supported economic activity (Figure 1.9). The Bank of Japan has continued to keep policy rates near zero, resulting in a steady decline in real interest rates. By contrast, the central banks of Brazil, Chile, and several other emerging market and developing economies raised rates relatively quickly, resulting in earlier increases in real interest rates. Second, households in major advanced economies were able to draw on substantial savings accumulated during the pandemic to limit the impact of higher borrowing costs on their spending (Figure 1.10).[2] Third, as Chapter 2 explains, changes in mortgage and housing markets over the prepandemic decade of low interest rates have limited the drag of the recent rise in policy rates on household consumption in several economies. The average maturity and share of mortgages subject to fixed rates increased, moderating the near-term impact of rate hikes. At the same time, there is substantial heterogeneity in the degree of the monetary policy pass-through to mortgages and housing markets across countries.

Nevertheless, the cooling effects of high policy rates are intensifying in several economies. Fixed-rate mortgages are resetting, the stock of pandemic savings available to soften the impact on households has declined in advanced economies, and with inflation expectations falling, real policy rates are rising even where central banks have not changed nominal rates.

At the same time, with inflation moving toward targets, market expectations that policy rates will decline have generally contributed to a decline in long-term borrowing rates, rising equity markets, and an easing in overall global financial conditions since last October, although funding is still more expensive than before the pandemic (see the April 2024 *Global Financial Stability Report*). Central banks that raised policy rates earlier, including those in Brazil and Chile, have already cut them substantially since

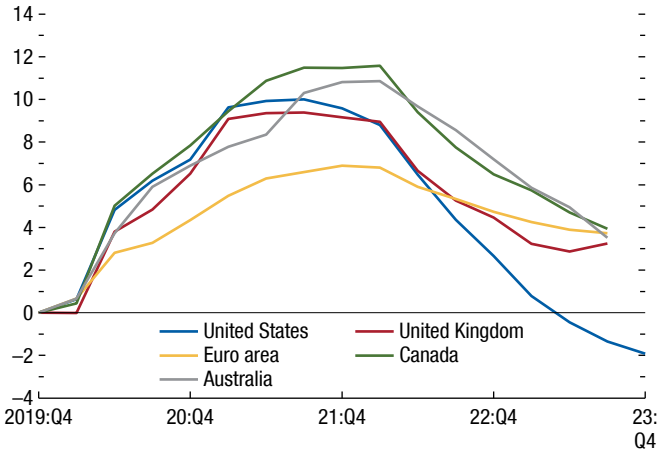
Figure 1.9. Monetary Tightening: Nominal and Real
(Percent)



Sources: Bank for International Settlements; Consensus Economics; Haver Analytics; and IMF staff calculations.
Note: Sample includes 16 AEs and 65 EMDEs. "Other" aggregates are medians. Real rates are calculated by subtracting 12-month-ahead inflation expectations, computed based on Consensus Forecast surveys of professional forecasters, from nominal policy rates. The 12-month-ahead inflation expectations are constructed as the weighted sum of forecasts for the current and next calendar years (see Buono and Formai 2018). AEs = advanced economies; EMDEs = emerging market and developing economies.

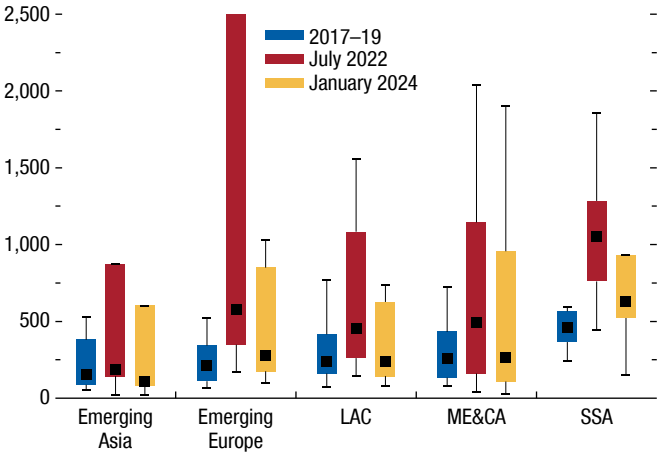
[2]Estimates of the stock of excess household savings—the accumulation of savings beyond the prepandemic trend—come with a range of uncertainty but generally show a consistent pattern across methodological approaches, with the stock declining in major advanced economies since 2022. Estimates based on a linear trend show a less pronounced drop in excess household savings for some economies.

Figure 1.10. Savings from the Pandemic: Declining
(Percent of GDP)



Sources: de Soyres, Moore, and Ortiz 2023; and IMF staff calculations.
Note: Excess savings are calculated as the deviation from the predicted saving rate using a Hamilton trend. Accumulation starts in the first quarter of 2020. Euro area comprises France, Germany, Italy, and Spain.

Figure 1.11. Sovereign Bond Spreads in Emerging Market and Developing Economies
(Basis points; distribution by economy group)



Sources: Bloomberg Finance L.P.; and IMF staff calculations.
Note: For each region, the box denotes upper and lower quartiles and black marker shows median. Whiskers show maximum and minimum values within the boundary of 1.5 times the interquartile range from the upper and lower quartiles. *Y*-axis is cut off at 2,500 basis points. LAC = Latin America and the Caribbean; ME&CA = Middle East and Central Asia; SSA = sub-Saharan Africa.

the second half of 2023. With expectations of lower interest rates in advanced economies, the appetite for assets in emerging market and developing economies has picked up, and sovereign spreads on risk-free government debt have fallen from their July 2022 peaks toward their prepandemic levels (Figure 1.11). Accordingly, more governments that earlier faced severe funding shortages are accessing international debt markets this year.

Elevated Debt Burdens

Debt-to-GDP ratios, which increased sharply during the pandemic, remain elevated, and large budget deficits continue to raise the debt burden in many economies (see the April 2024 *Fiscal Monitor*). Interest payments on debt have also increased as a share of government revenues (Figure 1.12), crowding out necessary growth-enhancing budgetary investments. In low-income countries, interest payments are estimated to average 14.3 percent of general government revenues in 2024, about double the level 15 years ago. To rebuild budgetary room for maneuver and curb the rising path of debt, the fiscal policy stance is expected to tighten in 2024 and beyond, with higher taxes and lower government spending in several advanced and emerging market and developing economies. This shift is expected to weigh on near-term economic activity.

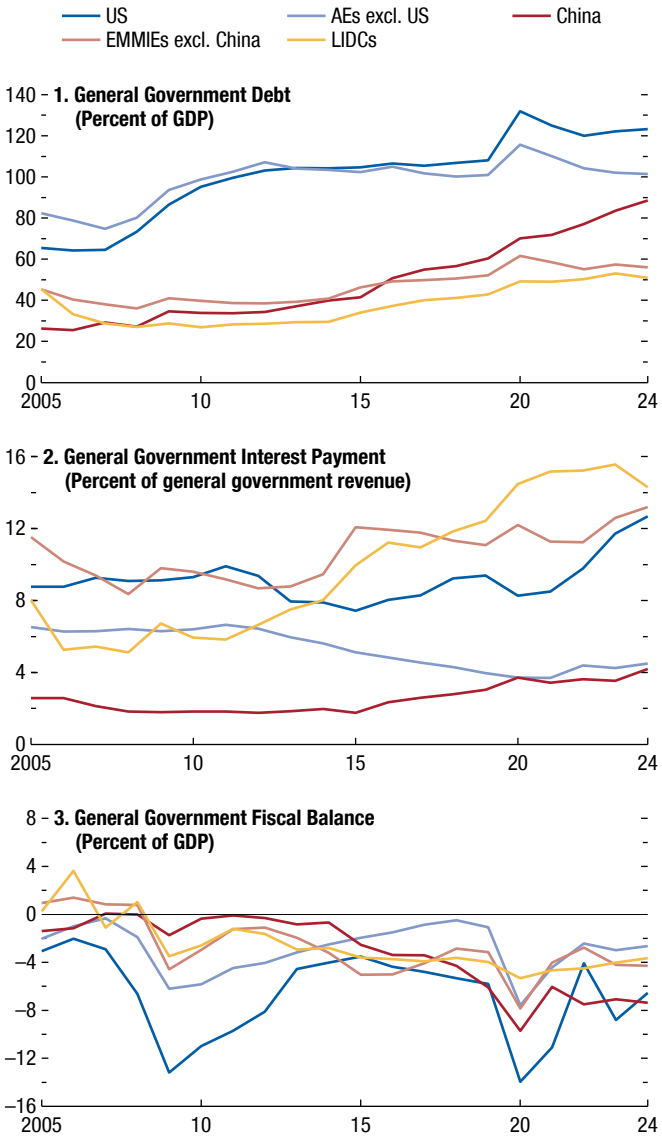
The Outlook: Steady Growth and Disinflation

Latest projections are for the global economy to continue growing at a similar pace as in 2023 during 2024–25 and for global headline and core inflation to decline steadily. There is little change in the forecast for global growth since the January 2024 WEO *Update,* with some adjustments for major economies (Tables 1.1 and 1.2), including a further strengthening in the projection for the United States, offset by modest downward revisions across several other economies. The forecast for global growth remains higher, however, than in the October 2023 WEO. The outlook for inflation is broadly similar to that in the October 2023 WEO, with a downward revision for advanced economies, offset by an upward revision for emerging market and developing economies. Medium-term prospects for growth in world output and trade remain the lowest in decades, with the pace of convergence toward higher living standards slowing for middle- and lower-income countries.

The baseline forecasts for the global economy are predicated on a number of projections for global commodity prices, interest rates, and fiscal policies (Figure 1.13):

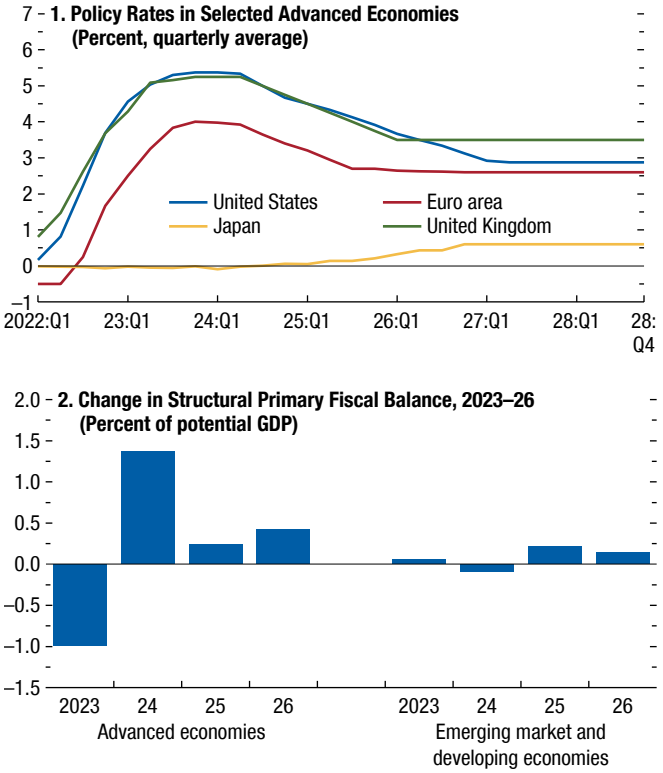
- *Commodity price projections:* As explained in the Commodity Special Feature in this chapter, prices of fuel commodities are projected to fall in 2024

Figure 1.12. Elevated Debt and Deficits



Source: IMF staff calculations.
Note: AEs = advanced economies; EMMIEs = emerging market and middle-income economies; excl. = excluding; LIDCs = low-income developing countries.

Figure 1.13. Monetary and Fiscal Policy Projections

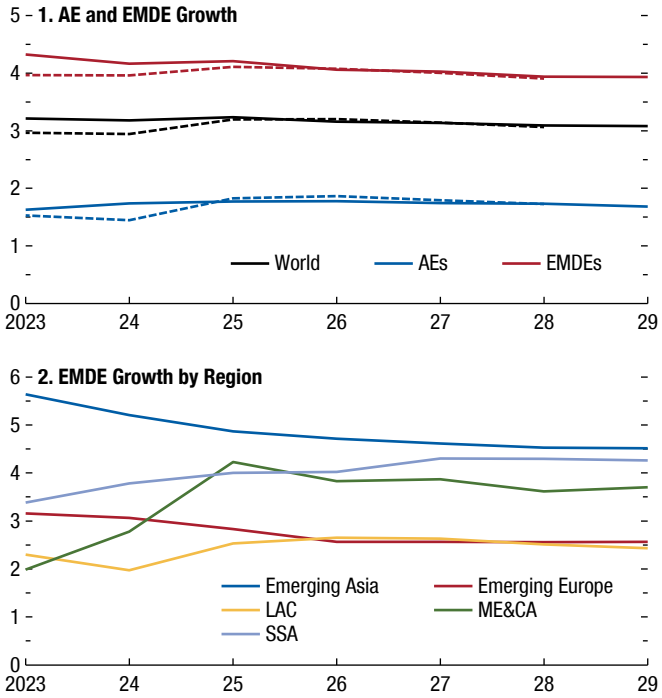


Source: IMF staff calculations.
Note: In panel 2, the structural primary fiscal balance is the cyclically adjusted primary balance corrected for a broader range of noncyclical factors, such as changes in asset and commodity prices.

by, on average, 9.7 percent, with oil prices falling by about 2.5 percent. The decreases reflect abundant spare capacity and strong non-OPEC+ (Organization of the Petroleum Exporting Countries plus selected nonmember countries, including Russia) supply growth. Coal and natural gas prices are expected to continue declining from their earlier peaks, by 25.1 percent for coal and 32.6 percent for natural gas in 2024, with the gas market becoming increasingly balanced on account of new supply, dampened demand, and high storage levels. The forecast for nonfuel commodity prices is broadly stable in 2024, with prices for base metals expected to fall by 1.8 percent, on account of weaker industrial activity in Europe and China. Food commodity prices are predicted to decline by 2.2 percent in 2024. Compared with those in the January 2024 WEO *Update*, forecasts for food prices have been revised slightly downward, driven by expectations of abundant global supplies for wheat and maize.

- *Monetary policy projections:* With inflation projected to continue declining toward targets and longer-term inflation expectations remaining anchored, policy rates of central banks in major advanced economies are generally expected to start declining in the second half of 2024 (Figure 1.13). Among major central banks, by the fourth quarter of 2024, the Federal Reserve's policy rate is expected to have declined from its current level of about

Figure 1.14. Growth Outlook: Broadly Stable
(Percent; solid = April 2024 WEO, dashes = October 2023 WEO)



Source: IMF staff calculations.
Note: AE = advanced economy; EMDE = emerging market and developing economy; LAC = Latin America and the Caribbean; ME&CA = Middle East and Central Asia; SSA = sub-Saharan Africa; WEO = *World Economic Outlook*.

5.4 percent to 4.6 percent, the Bank of England to have reduced its policy rate from about 5.3 percent to 4.8 percent, and the European Central Bank to have reduced its short-term rate from about 4.0 percent to 3.3 percent. For Japan, policy rates are projected to rise gradually, reflecting growing confidence that inflation will sustainably converge to target over the medium term despite Japan's history of deflation.

- *Fiscal policy projections:* Governments in advanced economies are expected to tighten fiscal policy in 2024 (Figure 1.13) and, to a lesser extent, in 2025–26. Among major advanced economies, the structural fiscal-balance-to-GDP ratio is expected to rise by 1.9 percentage points in the United States and by 0.8 percentage point in the euro area in 2024. In emerging market and developing economies, the projected fiscal stance is expected to be, on average, broadly neutral in 2024, with a tightening of about 0.2 percentage point projected for 2025.

Growth Outlook: Stable but Slow

Global growth, estimated at 3.2 percent in 2023, is projected to continue at the same pace in 2024 and 2025 (Table 1.1). The projection for 2024 is revised up by 0.1 percentage point from the January 2024 WEO *Update*, and by 0.3 percentage point with respect to the October 2023 WEO forecast (Figure 1.14). Nevertheless, the projection for global growth in 2024 and 2025 is below the historical (2000–19) annual average of 3.8 percent, reflecting restrictive monetary policies and withdrawal of fiscal support, as well as low underlying productivity growth. Advanced economies are expected to see growth rise slightly, with the increase mainly reflecting a recovery in the euro area from low growth in 2023, whereas emerging market and developing economies are expected to experience stable growth through 2024 and 2025, with regional differences.

Growth Forecast for Advanced Economies

For *advanced economies*, growth is projected to rise from 1.6 percent in 2023 to 1.7 percent in 2024 and 1.8 percent in 2025. The forecast is revised upward by 0.2 percentage point for 2024 compared with the January 2024 WEO *Update* projections and remains the same for 2025. The 2024 upgrade reflects a revision to US growth, while an upward revision to the US broadly offsets a similar downward revision to the euro area in 2025.

- In the *United States*, growth is projected to increase to 2.7 percent in 2024, before slowing to 1.9 percent in 2025, as gradual fiscal tightening and a softening in labor markets slow aggregate demand. For 2024, an upward revision of 0.6 percentage point since the January 2024 WEO *Update* reflects largely statistical carryover effects from a stronger-than-expected growth outcome in the fourth quarter of 2023, with, in addition, some of the stronger momentum expected to persist into 2024.
- Growth in the *euro area* is projected to recover from its low rate of an estimated 0.4 percent in 2023, which reflected relatively high exposure to the war in Ukraine, to 0.8 percent in 2024 and 1.5 percent in 2025. Stronger household consumption, as the effects of the shock to energy prices subside and a fall in inflation supports growth in real income, is expected to drive the recovery. The pace of recovery

Table 1.1. Overview of the *World Economic Outlook* Projections

(Percent change, unless noted otherwise)

		Projections		Difference from January 2024 WEO *Update*[1]		Difference from October 2023 WEO[1]	
	2023	2024	2025	2024	2025	2024	2025
World Output	**3.2**	**3.2**	**3.2**	**0.1**	**0.0**	**0.3**	**0.0**
Advanced Economies	**1.6**	**1.7**	**1.8**	**0.2**	**0.0**	**0.3**	**0.0**
United States	2.5	2.7	1.9	0.6	0.2	1.2	0.1
Euro Area	0.4	0.8	1.5	–0.1	–0.2	–0.4	–0.3
Germany	–0.3	0.2	1.3	–0.3	–0.3	–0.7	–0.7
France	0.9	0.7	1.4	–0.3	–0.3	–0.6	–0.4
Italy	0.9	0.7	0.7	0.0	–0.4	0.0	–0.3
Spain	2.5	1.9	2.1	0.4	0.0	0.2	0.0
Japan	1.9	0.9	1.0	0.0	0.2	–0.1	0.4
United Kingdom	0.1	0.5	1.5	–0.1	–0.1	–0.1	–0.5
Canada	1.1	1.2	2.3	–0.2	0.0	–0.4	–0.1
Other Advanced Economies[2]	1.8	2.0	2.4	–0.1	–0.1	–0.2	0.1
Emerging Market and Developing Economies	**4.3**	**4.2**	**4.2**	**0.1**	**0.0**	**0.2**	**0.1**
Emerging and Developing Asia	5.6	5.2	4.9	0.0	0.1	0.4	0.0
China	5.2	4.6	4.1	0.0	0.0	0.4	0.0
India[3]	7.8	6.8	6.5	0.3	0.0	0.5	0.2
Emerging and Developing Europe	3.2	3.1	2.8	0.3	0.3	0.9	0.3
Russia	3.6	3.2	1.8	0.6	0.7	2.1	0.8
Latin America and the Caribbean	2.3	2.0	2.5	0.1	0.0	–0.3	0.1
Brazil	2.9	2.2	2.1	0.5	0.2	0.7	0.2
Mexico	3.2	2.4	1.4	–0.3	–0.1	0.3	–0.1
Middle East and Central Asia	2.0	2.8	4.2	–0.1	0.0	–0.6	0.3
Saudi Arabia	–0.8	2.6	6.0	–0.1	0.5	–1.4	1.8
Sub-Saharan Africa	3.4	3.8	4.0	0.0	–0.1	–0.2	–0.1
Nigeria	2.9	3.3	3.0	0.3	–0.1	0.2	–0.1
South Africa	0.6	0.9	1.2	–0.1	–0.1	–0.9	–0.4
Memorandum							
World Growth Based on Market Exchange Rates	2.7	2.7	2.7	0.1	0.0	0.3	0.0
European Union	0.6	1.1	1.8	–0.1	–0.1	–0.4	–0.3
ASEAN-5[4]	4.1	4.5	4.6	–0.2	0.2	0.0	0.1
Middle East and North Africa	1.9	2.7	4.2	–0.2	0.0	–0.7	0.3
Emerging Market and Middle-Income Economies[5]	4.4	4.1	4.1	0.0	0.0	0.2	0.1
Low-Income Developing Countries[5]	4.0	4.7	5.2	–0.2	–0.1	–0.3	–0.1
World Trade Volume (goods and services)	**0.3**	**3.0**	**3.3**	**–0.3**	**–0.3**	**–0.5**	**–0.4**
Imports							
Advanced Economies	–1.0	2.0	2.8	–0.7	–0.4	–1.0	–0.4
Emerging Market and Developing Economies	2.0	4.9	4.1	0.0	–0.3	0.5	–0.6
Exports							
Advanced Economies	0.9	2.5	2.9	–0.1	–0.3	–0.6	–0.4
Emerging Market and Developing Economies	–0.1	3.7	3.9	–0.4	–0.4	–0.5	–0.3
Commodity Prices (US dollars)							
Oil[6]	–16.4	–2.5	–6.3	–0.2	–1.5	–1.8	–1.4
Nonfuel (average based on world commodity import weights)	–5.7	0.1	–0.4	1.0	0.0	2.8	–0.3
World Consumer Prices[7]	**6.8**	**5.9**	**4.5**	**0.1**	**0.1**	**0.1**	**–0.1**
Advanced Economies[8]	4.6	2.6	2.0	0.0	0.0	–0.4	–0.2
Emerging Market and Developing Economies[7]	8.3	8.3	6.2	0.2	0.2	0.5	0.0

Source: IMF staff estimates.

Note: Real effective exchange rates are assumed to remain constant at the levels prevailing during January 30, 2024—February 27, 2024. Economies are listed on the basis of economic size. The aggregated quarterly data are seasonally adjusted. WEO = *World Economic Outlook*.

[1] Difference based on rounded figures for the current, January 2024 WEO *Update*, and October 2023 WEO forecasts.

[2] Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

[3] For India, data and forecasts are presented on a fiscal year basis, and GDP from 2011 onward is based on GDP at market prices with fiscal year 2011/12 as a base year.

[4] Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

[5] Vietnam is removed from the Low-Income Developing Countries group and added to the Emerging Market and Middle-Income Economies group. The reported differences from January 2024 and October 2023 are for Low-Income Developing Countries excluding Vietnam and Emerging Market and Middle-Income Economies including Vietnam.

Table 1.1. Overview of the *World Economic Outlook* Projections *(continued)*
(Percent change, unless noted otherwise)

	Q4 over Q4[9]						
		Projections		Difference from January 2024 WEO *Update*[1]		Difference from October 2023 WEO[1]	
	2023	2024	2025	2024	2025	2024	2025
World Output	**3.2**	**3.2**	**3.1**	**0.1**	**0.0**	**0.0**	**. . .**
Advanced Economies	**1.6**	**1.9**	**1.7**	**0.3**	**0.0**	**0.4**	**. . .**
United States	3.1	2.1	1.8	0.6	–0.1	0.7	. . .
Euro Area	0.1	1.4	1.4	–0.1	–0.2	0.0	. . .
Germany	–0.2	0.7	1.8	–0.4	–0.1	–1.0	. . .
France	0.7	1.1	1.5	–0.3	–0.3	–0.4	. . .
Italy	0.6	0.7	0.6	–0.6	–0.4	–0.5	. . .
Spain	2.0	1.9	2.1	0.1	0.0	–0.1	. . .
Japan	1.3	1.7	0.5	0.1	0.0	0.7	. . .
United Kingdom	–0.2	1.5	1.3	0.9	–0.5	0.7	. . .
Canada	0.9	1.8	2.3	–0.1	0.1	–0.3	. . .
Other Advanced Economies[2]	1.7	2.2	2.5	–0.4	0.5	0.0	. . .
Emerging Market and Developing Economies	**4.5**	**4.3**	**4.1**	**0.0**	**0.0**	**–0.4**	**. . .**
Emerging and Developing Asia	5.7	5.1	4.6	–0.4	–0.1	–0.4	. . .
China	5.4	4.4	4.1	0.0	0.1	–0.3	. . .
India[3]	6.8	6.4	6.4	–1.4	–0.3	–1.3	. . .
Emerging and Developing Europe	4.1	3.2	2.8	1.2	–0.1	0.7	. . .
Russia	4.8	2.6	1.2	1.2	0.2	1.4	. . .
Latin America and the Caribbean	1.5	2.1	2.6	0.4	0.0	–1.1	. . .
Brazil	2.2	3.0	1.5	0.4	0.1	0.2	. . .
Mexico	2.5	1.9	1.8	0.0	0.4	0.0	. . .
Middle East and Central Asia	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Saudi Arabia	–4.3	3.1	5.9	0.3	0.5	–0.9	. . .
Sub-Saharan Africa	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nigeria	2.9	3.5	2.5	0.2	–0.4	–0.1	. . .
South Africa	0.9	1.3	1.2	0.1	–0.1	–0.7	. . .
Memorandum							
World Growth Based on Market Exchange Rates	2.7	2.7	2.6	0.2	0.0	0.1	. . .
European Union	0.4	1.7	1.7	0.3	–0.6	0.1	. . .
ASEAN-5[4]	4.2	5.2	3.1	0.0	–0.4	0.6	. . .
Middle East and North Africa	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Emerging Market and Middle-Income Economies[5]	4.5	4.3	4.1	0.0	–0.1	–0.4	. . .
Low-Income Developing Countries[5]	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Commodity Prices (US dollars)							
Oil[6]	–4.4	–6.0	–5.5	0.1	–0.6	–0.3	. . .
Nonfuel (average based on world commodity import weights)	–0.2	0.8	0.4	–0.7	0.2	0.1	. . .
World Consumer Prices[7]	**5.8**	**5.4**	**3.6**	**0.1**	**–0.2**	**0.6**	**. . .**
Advanced Economies[8]	3.1	2.4	2.0	0.1	0.0	–0.2	. . .
Emerging Market and Developing Economies[7]	8.0	8.0	5.0	0.3	–0.2	1.4	. . .

[6] Simple average of prices of UK Brent, Dubai Fateh, and West Texas Intermediate crude oil. The average price of oil in US dollars a barrel was $80.59 in 2023; the assumed price, based on futures markets, is $78.61 in 2024 and $73.68 in 2025.

[7] Excludes Venezuela. See the country-specific note for Venezuela in the "Country Notes" section of the Statistical Appendix.

[8] The assumed inflation rates for 2024 and 2025, respectively, are as follows: 2.4 percent and 2.1 percent for the euro area, 2.2 percent and 2.1 percent for Japan, and 2.9 percent and 2.0 percent for the United States.

[9] For world output, the quarterly estimates and projections account for approximately 90 percent of annual world output at purchasing-power-parity weights. For emerging market and developing economies, the quarterly estimates and projections account for approximately 85 percent of annual emerging market and developing economies' output at purchasing-power-parity weights.

is revised downward by 0.3 percentage point for Germany for both 2024 and 2025 amid persistently weak consumer sentiment, although this adjustment is largely offset by upgrades for several smaller economies, including Belgium and Portugal.

- Among other advanced economies, growth in the *United Kingdom* is projected to rise from an estimated 0.1 percent in 2023 to 0.5 percent in 2024, as the lagged negative effects of high energy prices wane, then to 1.5 percent in 2025, as disinflation allows financial conditions to ease and real incomes to recover. In *Japan*, output is projected to slow from an estimated 1.9 percent in 2023 to 0.9 percent in 2024 and 1 percent in 2025, owing to fading of one-off factors that supported growth in 2023, including a surge in inbound tourism.

Table 1.2. Overview of the *World Economic Outlook* Projections at Market Exchange Rate Weights
(Percent change)

		Projections		Difference from January 2024 WEO *Update*[1]		Difference from October 2023 WEO[1]	
	2023	2024	2025	2024	2025	2024	2025
World Output	**2.7**	**2.7**	**2.7**	**0.1**	**0.0**	**0.3**	**0.0**
Advanced Economies	**1.6**	**1.8**	**1.8**	**0.3**	**0.1**	**0.4**	**0.0**
Emerging Market and Developing Economies	**4.2**	**4.0**	**4.0**	**0.0**	**0.0**	**0.2**	**0.1**
Emerging and Developing Asia	5.4	5.0	4.6	0.1	0.0	0.4	0.0
Emerging and Developing Europe	2.9	3.1	2.8	0.3	0.3	1.0	0.3
Latin America and the Caribbean	2.2	1.9	2.5	0.1	0.1	–0.3	0.2
Middle East and Central Asia	1.6	2.6	4.3	–0.2	0.1	–0.8	0.4
Sub-Saharan Africa	3.2	3.6	4.0	–0.1	–0.1	–0.3	–0.1
Memorandum							
European Union	0.5	0.9	1.7	–0.1	–0.1	–0.4	–0.3
Middle East and North Africa	1.4	2.5	4.3	–0.3	0.1	–0.9	0.4
Emerging Market and Middle-Income Economies[2]	4.2	4.0	3.9	0.1	0.0	0.2	0.1
Low-Income Developing Countries[2]	4.0	4.7	5.2	–0.2	–0.1	–0.3	–0.1

Source: IMF staff estimates.

Note: The aggregate growth rates are calculated as a weighted average, in which a moving average of nominal GDP in US dollars for the preceding three years is used as the weight. WEO = *World Economic Outlook*.

[1] Difference based on rounded figures for the current, January 2024 WEO *Update*, and October 2023 WEO forecasts.

[2] Vietnam is removed from the Low-Income Developing Countries group and added to the Emerging Market and Middle-Income Economies group. The reported differences from January 2024 and October 2023 are for Low-Income Developing Countries excluding Vietnam and Emerging Market and Middle-Income Economies including Vietnam.

Growth Forecast for Emerging Market and Developing Economies

In *emerging market and developing economies*, growth is expected to be stable at 4.2 percent in 2024 and 2025, with a moderation in emerging and developing Asia offset mainly by rising growth for economies in the Middle East and Central Asia and for sub-Saharan Africa. *Low-income developing countries* are expected to experience gradually increasing growth, from 4.0 percent in 2023 to 4.7 percent in 2024 and 5.2 percent in 2025, as some constraints on near-term growth ease.

- Growth in *emerging and developing Asia* is expected to fall from an estimated 5.6 percent in 2023 to 5.2 percent in 2024 and 4.9 percent in 2025, a slight upward revision compared with the January 2024 WEO *Update*. Growth in *China* is projected to slow from 5.2 percent in 2023 to 4.6 percent in 2024 and 4.1 percent in 2025 as the positive effects of one-off factors—including the postpandemic boost to consumption and fiscal stimulus—ease and weakness in the property sector persists. Growth in *India* is projected to remain strong at 6.8 percent in 2024 and 6.5 percent in 2025, with the robustness reflecting continuing strength in domestic demand and a rising working-age population.
- Growth in *emerging and developing Europe* is projected at 3.2 percent in 2023 and 3.1 percent in 2024, with an easing to 2.8 percent in 2025, an upward revision of 0.5 percentage point for 2023 and 0.3 percentage point for 2024 and 2025 since January. The moderation reflects a prospective decline of growth in *Russia* from 3.2 percent in 2024 to 1.8 percent in 2025 as the effects of high investment and robust private consumption, supported by wage growth in a tight labor market, fade. In *Türkiye*, growth is projected at 3.1 percent in 2024 and 3.2 percent in 2025, with economic activity strengthening in the second half of 2024 as monetary tightening ends and consumption starts to recover.
- In *Latin America and the Caribbean*, growth is projected to decline from an estimated 2.3 percent in 2023 to 2.0 percent in 2024 before rising again to 2.5 percent in 2025, an upward revision of 0.1 percentage point for 2024 since January. In *Brazil*, growth is expected to moderate to 2.2 percent in 2024 on the back of fiscal consolidation, lagged effects of still-tight monetary policy, and a smaller contribution from agriculture. In *Mexico*, growth is projected at 2.4 percent in 2024, supported by a fiscal expansion, before declining to 1.4 percent in 2025 as the government is expected to tighten the fiscal stance. The forecast for Mexico is revised downward on account of weaker-than-expected outcomes for end-2023 and early 2024, with a contraction in manufacturing.

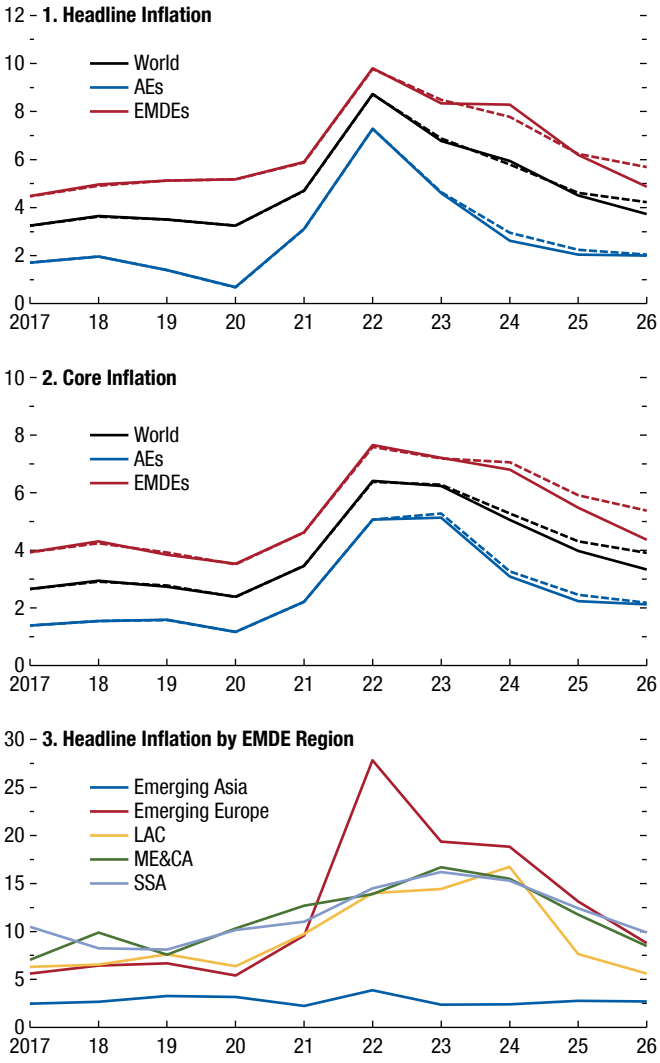
- Growth in the *Middle East and Central Asia* is projected to rise from an estimated 2.0 percent in 2023 to 2.8 percent in 2024 and 4.2 percent in 2025, with a downward revision of 0.1 percentage point for 2024 from the January 2024 projections. The revision reflects a downward adjustment in the 2024 growth forecast for *Iran* driven by lower non-oil activity and oil revenues, as well as for a number of smaller economies.
- In *sub-Saharan Africa*, growth is projected to rise from an estimated 3.4 percent in 2023 to 3.8 percent in 2024 and 4.0 percent in 2025, as the negative effects of earlier weather shocks subside and supply issues gradually improve. The forecast is unchanged for 2024 from the January 2024 WEO *Update*, as a downward revision to *Angola* owing to a contraction in the oil sector is broadly offset by an upward revision to *Nigeria*.

Inflation Outlook: Declining at Different Speeds

Global headline inflation is expected to fall from an annual average of 6.8 percent in 2023 to 5.9 percent in 2024 and 4.5 percent in 2025 (Table 1.1). A more front-loaded decline is expected for advanced economies, with inflation falling by 2.0 percentage points in 2024, while it declines in 2025 only in emerging market and developing economies. Advanced economies are also expected to return sooner to rates near their prepandemic (2017–19) average, with inflation averaging 2.0 percent in 2025, about a year before emerging market and developing economies are expected to return to their prepandemic average near 5.0 percent (Figure 1.15). At the same time, a great deal of differentiation is expected among emerging market and developing economies, with the inflation forecast ranging—among the five regions—from only 2.4 percent for emerging and developing Asia, reflecting subdued inflation in China as well as in Thailand, to 18.8 percent for emerging and developing Europe, reflecting elevated inflation in Türkiye.

The global inflation forecast is revised upward by 0.1 percentage point in 2024 from the January 2024 projections. This reflects unchanged projections for advanced economies—with decreases in the euro area, Japan, and the United Kingdom compensated by an increase in the United States—and an upside revision of 0.2 percentage point in emerging market and developing economies, mainly on account of increases in Iran and a few other low-income countries.

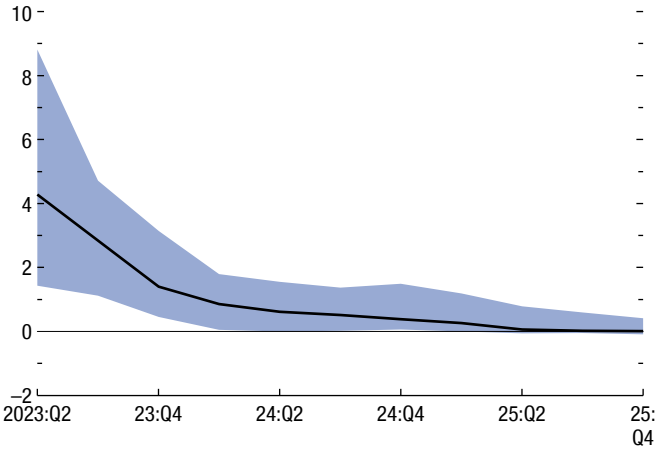
Figure 1.15. Inflation Outlook: Falling
(Percent; solid = April 2024 WEO, dashes = October 2023 WEO)



Source: IMF staff calculations.
Note: Core inflation excludes volatile food and energy prices. AEs = advanced economies; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; ME&CA = Middle East and Central Asia; SSA = sub-Saharan Africa; WEO = W*orld Economic Outlook*.

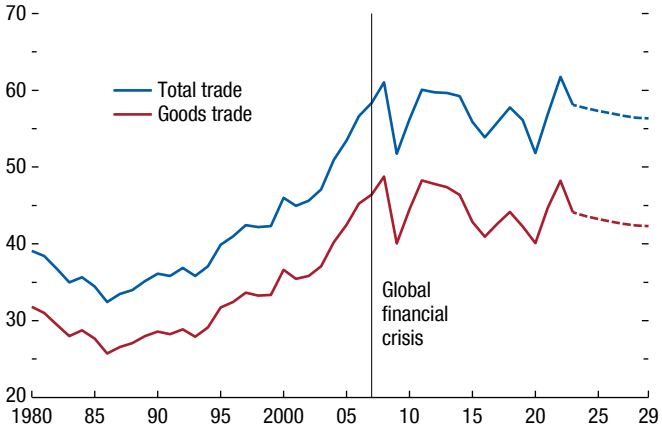
The fall in global inflation in 2024 reflects a broad-based decline in global core inflation. This dynamic differs from that in 2023, when global core inflation fell a little on an annual average basis and headline inflation declined mainly on account of lower fuel and food price inflation. In 2024, core inflation is expected to fall by 1.2 percentage points after contracting by just 0.2 percentage point in 2023. As is the case for headline inflation, the fall in core inflation is faster for advanced economies. The drivers of declining core inflation differ by country but include

Figure 1.16. Inflation Closer to Target
(Percentage points; distribution of deviation from inflation target)



Sources: Central bank websites; Haver Analytics; and IMF staff calculations.
Note: The figure shows the distribution of the deviations of year-over-year inflation from the inflation target or the inflation target midpoint for 61 economies. The line shows the median, and the shaded area indicates the interquartile range.

Figure 1.17. Global Trade Outlook: Stable
(Percent of GDP)



Source: IMF staff calculations.
Note: Trade is defined as sum of exports and imports. Global trade and GDP for ratio calculation are in current US dollars. Dashes indicate April 2024 *World Economic Outlook* forecasts.

the effects of still-tight monetary policies, a related softening in labor markets, and fading pass-through effects from earlier declines in relative prices, notably in that of energy.

Among economies with an inflation target, headline inflation is projected to be 0.5 percentage point above target (or the midpoint of the target range) for the median economy by the third quarter of 2024 on a quarter-over-quarter basis (Figure 1.16). For advanced economies, however, the median gap between actual and target is expected to be just 0.3 percentage point by the third quarter of 2024, implying a faster return to target levels than in emerging market and developing economies. Most economies are expected to reach levels within a quarter of a percentage point of their targets (or the midpoints of their target ranges) by the second quarter of 2025.

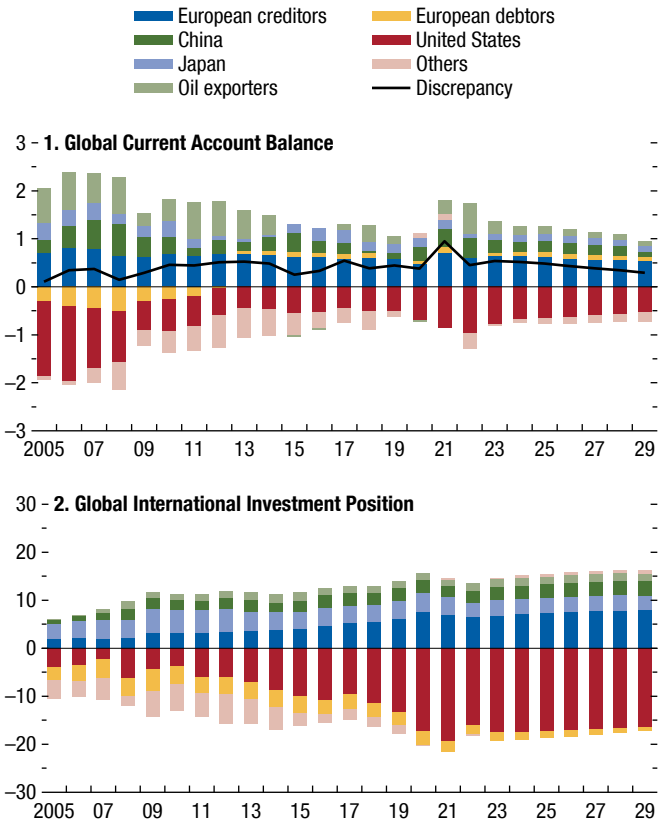
World Trade Outlook: Stable, in Line with Output

World trade growth is projected at 3.0 percent in 2024 and 3.3 percent in 2025, with revisions of a 0.3 percentage point decrease for 2024 and 2025 compared with January 2024 projections. Trade growth is expected to remain below its historical (2000–19) annual average growth rate of 4.9 percent over the medium term, at 3.2 percent in 2029. This projection implies, in the context of the relatively low outlook for economic growth, a ratio of total world trade to GDP (in current dollars) that averages 57 percent over the next five years, broadly in line with the evolution in trade since the global financial crisis (Figure 1.17).

Even as world trade-to-GDP ratios remain relatively stable, significant shifts in trade patterns are taking place, with increasing fractures along geopolitical lines, especially since the start of the war in Ukraine in February 2022. IMF staff analysis indicates that growth in trade flows between geopolitical blocs has declined significantly since then compared with growth of trade within blocs (Box 1.1). This reallocation of trade flows is occurring in the context of rising cross-border trade restrictions, with about 3,200 new restrictions on trade in 2022 and about 3,000 in 2023, up from about 1,100 in 2019, according to Global Trade Alert data, and increased concerns about supply-chain resilience and national security.

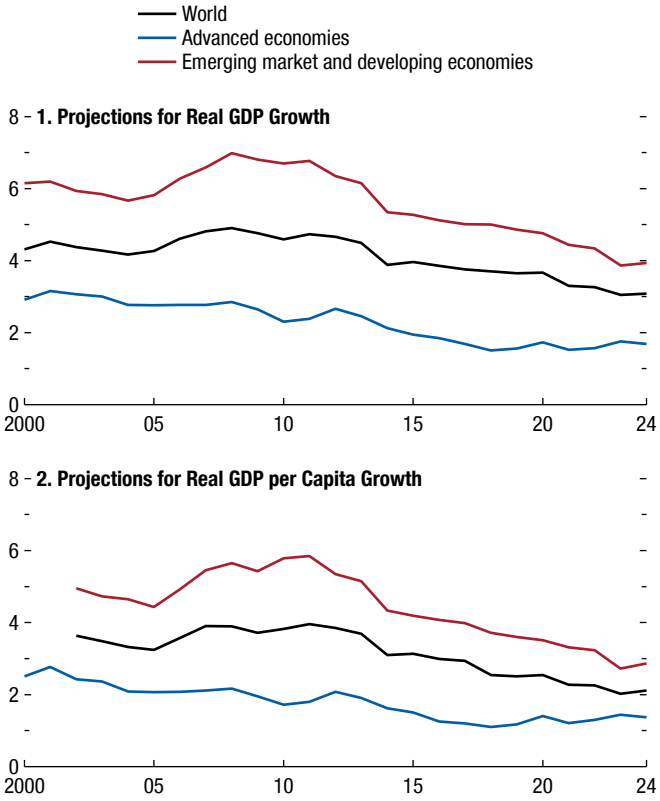
Meanwhile, global current account balances—the sums of absolute surpluses and deficits—are expected to continue narrowing in 2024, as in 2023, following their significant increase in 2022 (Figure 1.18). The rise in current account balances in 2022 reflected contributions from elevated commodity prices, triggered by Russia's invasion of Ukraine, the uneven recovery from the pandemic, and the rapid tightening of US monetary policy. Over the medium term, global balances are expected to narrow gradually as the contribution of these factors wanes. Creditor and debtor stock positions are estimated to have increased in 2023,

Figure 1.18. Current Account and International Investment Positions
(Percent of global GDP)



Source: IMF staff calculations.
Note: European creditors are Austria, Belgium, Denmark, Finland, Germany, Luxembourg, The Netherlands, Norway, Sweden, and Switzerland; European debtors are Cyprus, Greece, Ireland, Italy, Portugal, Slovenia, and Spain; oil exporters are Algeria, Azerbaijan, Iran, Kazakhstan, Kuwait, Nigeria, Oman, Qatar, Russia, Saudi Arabia, the United Arab Emirates, and Venezuela.

Figure 1.19. Forecasts for Global GDP and GDP per Capita
(Percent; five-year-ahead projections)



Source: IMF staff calculations.
Note: Horizontal axis refers to the year in which the five-year-ahead forecasts are made. Each forecast is from the *World Economic Outlook* published in April of the corresponding year.

with valuation losses in debtor economies and gains in creditor economies more than offsetting narrowing current account balances. These positions are expected to stabilize over the medium term. In some economies, gross external liabilities remain large from a historical perspective and pose risks of external stress.

Medium-Term Growth Outlook: Low by Historical Standards

The latest forecast for global growth in 2029 is 3.1 percent. This medium-term forecast—unchanged since the October 2023 WEO—is at its lowest in decades (Figure 1.19). It is lower than the medium-term projection of 3.6 percent made just before the onset of the pandemic (at the time of the January 2020 WEO *Update*), the 4.9 percent medium-term projection made just before the onset of the global financial crisis (at the time of the April 2008 WEO), and the historical (2000–19) annual average 3.8 percent for actual global growth.[3]

The gradual erosion in global growth prospects reflects factors beyond a more slowly rising global population. The bulk of the decline reflects a fall in prospective growth in GDP per person, which is down from a medium-term forecast of 3.9 percent made before the global financial crisis to 2.1 percent in the latest projections (Figure 1.19, panel 2).

[3]The latest projection of global growth over the medium term, which is based on the aggregation of IMF staff forecasts at the country level, is broadly consistent with the assessment in Chapter 3 based on an analysis of recent trends in global capital and labor accumulation and in total factor productivity.

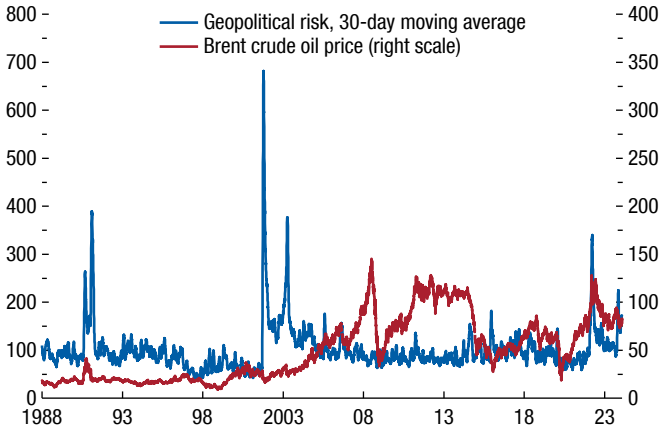
The contraction in per person growth prospects is especially pronounced for emerging market and developing economies, implying a slower pace of convergence toward higher per person income and persistent global disparities in living standards. Among advanced economies, the decline in medium-term prospects is driven by countries other than the United States.

Chapter 3 diagnoses the slowdown in global growth over the past two decades and concludes that most of it reflects lower growth in total factor productivity (efficiency in the use of labor and capital). Among major economies, the drivers of this slowdown include declining labor force participation amid population aging, weaker business investment, and—most important—a drag on growth resulting from persistent structural frictions that prevent resources from being allocated to more productive firms. As Chapter 4 explains, dimmer prospects for growth in China and other large emerging market economies that together make up an increasing share of the global economy will weigh on the prospects of trading partners and transmit through the world's highly integrated supply chains. Ongoing geoeconomic fragmentation—the policy-driven reversal of cross-border economic integration—is expected to affect the medium-term outlook by limiting international flows of goods, services, capital, and workers and so reduce scope for efficiency gains from specialization, economies of scale, and competition (see Aiyar and others 2023 and Gopinath and others 2024).

Risks to the Outlook: Broadly Balanced

Risks to the global economic landscape have diminished since October 2023, leading to a broadly balanced distribution of possible outcomes around the baseline projection for global growth, from a clear downside tilt in the April 2023 WEO and the October 2023 WEO. With inflationary pressures abating more swiftly than expected in many countries, risks to the inflation outlook are now also broadly balanced. Overall, there is scope for further favorable surprises, but numerous adverse risks pull the distribution of outcomes in the opposite direction. Prominent risks and uncertainties surrounding the outlook are now discussed, and a model-based analysis that quantifies risks to the global outlook and plausible scenarios follows in Box 1.2.

Figure 1.20. Geopolitical Risk and Oil Prices
(Index, 1985–2019 = 100; US dollars a barrel, right scale)



Sources: Caldara and Iacoviello 2022; and Haver Analytics.
Note: The Geopolitical Risk Index is constructed by Caldara and Iacoviello (2022) to measure adverse geopolitical events and associated risks based on automated text search results of the electronic archives of several newspapers covering geopolitical tensions.

Downside Risks

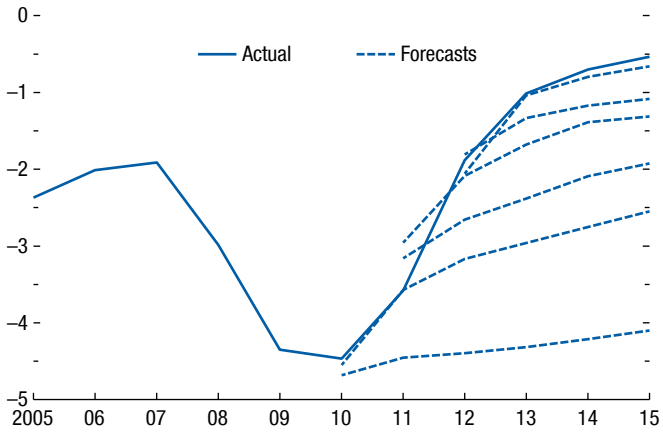
Despite the surprisingly resilient global economic performance since October 2023, several adverse risks to global growth remain plausible:

- *New commodity price spikes amid regional conflicts:* The conflict in Gaza and Israel could escalate further into the wider region. Continued attacks in the Red Sea and the ongoing war in Ukraine risk generating additional supply shocks adverse to the global recovery, with spikes in food, energy, and transportation costs. Further geopolitical tensions—including a possible reescalation of the war in Ukraine—could also constrain cross-border flows of food, fuel, and fertilizer, causing additional price volatility and undermining business and consumer sentiment (Figure 1.20). As the risk analysis in Box 1.2 highlights, such geopolitical shocks could complicate the ongoing disinflation process and delay central bank policy easing, with negative effects on global economic growth. Overall, such adverse supply shocks may affect countries asymmetrically, with particularly acute effects on lower-income countries where food and energy constitute a large share of household expenditure.
- *Persistent inflation and financial stress:* A slower-than-expected decline in core inflation in major economies as a result, for example, of persistent labor market tightness or renewed tensions

in supply chains could trigger a rise in interest rate expectations and a fall in asset prices, as in early 2023. Furthermore, as Chapter 2 explains, the risk that the cooling effects of past monetary tightening are yet to come is plausible, especially where fixed-rate mortgages are resetting and household debt is high. Such developments could increase defaults in many sectors—notably including commercial real estate and firms—and raise risks to financial stability (see Chapter 1 of the April 2024 *Global Financial Stability Report*). They could also trigger flight-to-safety capital flows, tighten global financial conditions, and strengthen the US dollar and so reduce global growth.

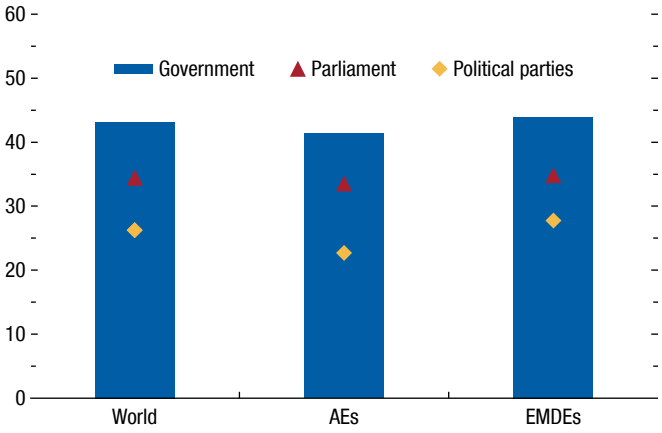
- *China's recovery faltering:* In the absence of a comprehensive restructuring policy package for the troubled property sector in China, a larger and more prolonged drop in real estate investment could occur, accompanied by expectations of future house prices declining, reduced housing demand, and a further weakening in household confidence and spending, with implications for global growth. Unintended fiscal tightening on account of local government financing constraints could amplify the impact. As Box 1.2 illustrates, in such a scenario, the slowdown in domestic demand could cause disinflationary pressures to intensify, resulting in sustained low inflation or deflation. Spillovers to China's trading partners in such a scenario are estimated to be, on balance, negative, with effects through weaker demand for trading-partner products outweighing gains from lower commodity prices; global current account imbalances may increase as a result. The authorities' policy responses could significantly mitigate the economic costs of such developments if they include accelerating the exit of nonviable property developers, promoting the completion of housing projects, and resolving the debt risks of local governments. Additional monetary policy easing, especially through lower interest rates, as well as expansionary fiscal measures—including funding of unfinished housing and support to vulnerable households—could further support demand and ward off deflationary risks.
- *Disruptive fiscal adjustment and debt distress:* Fiscal consolidation is necessary in many advanced and emerging market and developing economies to curb debt-to-GDP ratios and rebuild capacity for weathering future shocks. But an excessively sharp shift to tax hikes and spending cuts, beyond what is currently envisaged, could result in slower-than-expected growth and reduce reform momentum. Countries that lack a credible medium-term consolidation plan could face adverse market reactions or increased risks of debt distress that force harsh adjustment. The experience of euro area economies during 2010–15 illustrates how concerns about debt sustainability can cause significant cuts to budget deficits that exceed initial projections (Figure 1.21), with significant negative consequences on growth. Despite recent improvement in international bond market conditions, the risk of debt distress in low-income countries continues to constrain scope for necessary growth-enhancing investment. The share of low-income countries (54 percent) and emerging markets (16 percent) in or at high risk of debt distress in 2024 remains elevated.
- *Distrust of government eroding reform momentum:* Across broad income groups, confidence in government, legislative bodies, and political parties is below 50 percent, by some measures (Figure 1.22). Low confidence in governments and institutions, amid political polarization in some cases, could sap support for structural reforms, complicate the adoption of and adaptation to technological advances, create resistance to raising the revenue needed to finance necessary investments, and in some cases increase the risk of social unrest.

Figure 1.21. Sharper-than-Expected Fiscal Adjustment in the Euro Area, 2010–15
(Structural balance; percent of potential GDP)



Source: IMF staff calculations.
Note: Solid line denotes structural balance from April 2024 WEO, and dashed lines denote structural balance forecasts from April and October WEOs in 2010, 2011, and 2012. WEO = *World Economic Outlook*.

Figure 1.22. Confidence in Government, Parliament, and Political Parties
(Percent of survey respondents reporting having confidence)



Sources: Joint European Value Study and World Value Survey, 2017–22; and IMF staff calculations.
Note: Bar height and different markers report share of respondents who say they have "quite a lot" or "a great deal" of confidence in their governments, parliaments, or political parties. AEs = advanced economies; EMDEs = emerging market and developing economies.

IMF staff research shows that discontent with state institutions, often rooted in perceptions of government policy failures in addressing inequality and fostering inclusive growth, has fueled social unrest and contributed to conflict (see Abdel-Latif and El-Gamal 2024 for analysis based on data for sub-Saharan Africa).

- *Geoeconomic fragmentation intensifying:* The separation of the world economy into blocs amid Russia's war in Ukraine and other geopolitical tensions could accelerate. Such a development could generate more restrictions on trade and cross-border movements of capital, technology, and workers and could hamper international cooperation. IMF research suggests that intensified geoeconomic fragmentation could reduce portfolio and foreign direct investment flows, slow the pace of innovation and technology adoption, and constrain the flow of commodities across fragmented blocs, resulting in large output losses and commodity price volatility (see Aiyar and others 2023; Chapter 4 of the April 2023 WEO; Chapter 3 of the April 2023 *Global Financial Stability Report;* and Chapter 3 of the October 2023 WEO). In the context of upcoming elections in numerous countries, moves to raise barriers to the international flow of workers could reverse the supply-side gains of recent years, exacerbate labor market tightness and skill shortages, and raise inflationary pressures. Tariff increases could trigger retaliatory responses, raise costs, and harm both business profitability and consumer well-being.

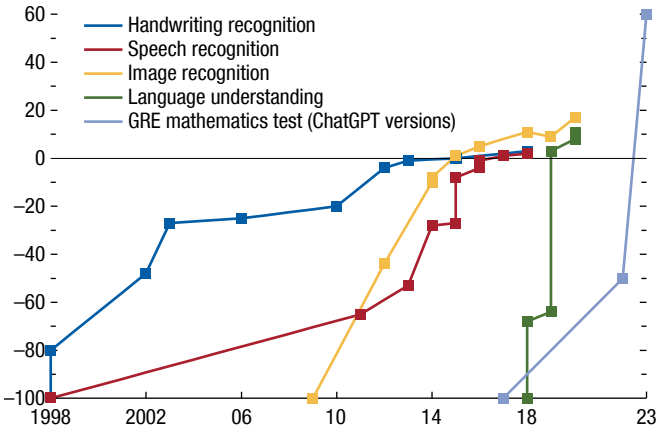
Upside Risks

More favorable outcomes for the global economy than expected could arise from several sources:

- *Short-term fiscal boost in the context of elections:* Many countries are expected to elect their national governments in 2024—a "Great Election Year." In this context, policymakers may postpone fiscal adjustment or commit to new expansionary measures. Studies suggest that fiscal deficits typically rise during elections and that governments do not tend to unwind the increases thereafter (Brender and Drazen 2007; Dubois 2016; de Haan, Ohnsorge, and Yu 2023; Chapter 1 of the April 2024 *Fiscal Monitor*). In the near term, new expansionary measures such as tax cuts, increased fiscal transfers, and infrastructure investment could boost economic activity, especially in economies in which sovereign risk is perceived as low, and raise global growth above current projections. However, such fiscal expansions could add to inflationary pressures—especially in countries with overheated economies and steep inflation-unemployment trade-offs—and result in higher interest rates, which would increase the challenge of curbing debt. A more disruptive policy adjustment could follow, with a negative impact on growth.
- *Further supply-side surprises, allowing for faster monetary policy easing:* Downside surprises to core inflation on account of a faster-than-expected fading of pass-through effects from past relative price shocks and the easing of global supply constraints are plausible in several cases. A faster-than-envisaged compression of profit margins to absorb past cost increases is also plausible. In the United States, for example, where the labor market remains especially tight, a stronger-than-expected downward shift toward the prepandemic ratio of vacancies to unemployed persons could ease labor market conditions and alleviate underlying inflationary pressures. Such developments could lead to a greater-than-expected decline in inflation expectations and allow central banks to bring forward their policy-easing plans, which would reduce borrowing costs, raise consumer confidence, and reinforce global growth.

- *Spurs to productivity from artificial intelligence:* Recent advances in artificial intelligence, notably the emergence of large language models and of generative pretrained transformers, have marked a leap in the ability of technology to outperform humans in several cognitive areas, as illustrated for selected tasks in Figure 1.23. At the same time, as during the introduction of past general-purpose technologies, the impact of artificial intelligence on economic outcomes, as well as its timing, remains highly uncertain. In the near term, the rollout of artificial intelligence could boost investment in some cases, with firms allocating more resources to integrate innovative tools and refine production processes. IMF staff analysis suggests that over the medium term, artificial intelligence could raise worker productivity and incomes and contribute to growth but also cause job displacement and inequality (Cazzaniga and others 2024). Advanced economies stand to benefit from artificial intelligence sooner than emerging market and developing economies, given the greater emphasis on cognitive-intensive roles in the employment structures of the former. In advanced economies, artificial intelligence could affect about 60 percent of workers, with about half of those exposed achieving higher productivity and earning higher incomes and half seeing lower demand for their labor and lower wages. Artificial intelligence could affect about 40 percent of jobs in emerging market economies and 26 percent of jobs in low-income countries, implying a smaller near-term labor market disruption and less scope for related productivity improvements in economies in those two groups.
- *Structural reform momentum gathering:* Faster-than-expected implementation of macrostructural reforms could boost productivity growth and contribute to higher medium-term growth than in baseline forecasts, helping to heal some of the "scarring" output losses from the pandemic (Box 1.2). Reforms aimed at increasing labor participation, reducing resource misallocation, and improving the allocation of talent could revive economic activity and reverse the past two decades of slower global growth, as Chapter 3 illustrates. IMF staff analysis also suggests that in emerging market and developing economies with constrained policy environments, faster progress on implementing supply-enhancing reforms—including those in the areas of governance, business regulation, and external sector policies—could spark greater-than-expected domestic and foreign investment and growth (Budina and others 2023). Stepped-up efforts to narrow gaps in labor market participation by gender—beyond present policy trends—would amplify the returns of such reforms (Badel and Goyal 2023).

Figure 1.23. AI Performance on Human Tasks
(Human benchmark = 0; initial AI performance = –100)



Sources: Kiela and others 2021; OpenAI; and IMF staff calculations.
Note: Figure is based on a number of tests in which human and AI performance were evaluated in five different domains, from handwriting recognition to language understanding. For the GRE mathematics test, the human benchmark is set at the median percentile, with –100 in 2017 reflecting the publication of the seminal paper on GPTs. AI = artificial intelligence; GPT = generative pretrained transformer; GRE = Graduate Record Examination.

Globally Consistent Risk Assessment of the *World Economic Outlook* Forecast

The risk of a hard landing has faded since the October 2023 WEO, as the quantitative analysis in Box 1.2, based on the IMF's Group of Twenty (G20) Model, illustrates. The estimated probability that global growth in 2024 will fall below 2.0 percent—an outcome that has occurred only five times since 1970—is now at about 10 percent, consistent with an approximately symmetric risk distribution. This estimated likelihood is down from an estimated 15 percent at the time of the October 2023 WEO. For 2025, the probability of such an outcome is also about 10 percent. A contraction in global per capita real GDP—which often happens in a global recession—in 2024 has an estimated probability below 5 percent. At the same time, the probability of global growth's exceeding the 3.8 percent historical average

during 2000–19 is slightly above 20 percent for 2024, highlighting the relatively weak baseline outlook for global growth. Turning to prices, the probability that core inflation in 2024 will be higher than that in 2023, instead of declining to 4.9 percent in 2024 from 6.2 percent in 2023, is assessed at less than 10 percent, consistent with a high level of confidence that disinflation will continue.

Policies: From Fighting Inflation to Restocking Fiscal Arsenals

As the global economy approaches a soft landing, the near-term priority for central banks is to ensure that inflation comes down smoothly; they should neither ease policies prematurely nor delay too long and risk causing target undershoots. At the same time, as central banks take a less restrictive stance, a renewed focus on implementing medium-term fiscal consolidation is in order to rebuild room for budgetary maneuver and priority investments and to ensure debt sustainability. Intensifying supply-enhancing reforms would facilitate both inflation and debt reduction, allow economies to increase growth toward the higher prepandemic era average, and accelerate convergence toward higher income levels. Multilateral cooperation is needed to limit the costs and risks of geoeconomic fragmentation and climate change, to accelerate the transition to green energy, and to encourage debt restructuring.

Delivering a Smooth Landing

With inflation receding and central banks considering the right timing of policy easing, ensuring that wage and price pressures are clearly dissipating before announcing moves to a less restrictive stance will guard against having to tighten again later if inflation surprises on the upside. Where core inflation persists above target-consistent levels, higher real interest rates may be necessary to achieve price stability. At the same time, where near-term inflation expectations and underlying inflation gauges are clearly declining toward target, delays in nominal policy rate cuts risk causing in practice a policy tightening, with rising real policy rates and, considering long transmission lags, economic weakness and target undershoots. In those cases, moving rates gradually toward a more neutral policy stance, while continuing to signal commitment to price stability, is appropriate. In emerging market economies in which a relatively early start to monetary tightening has already allowed central banks to adjust interest rates to lower but still-restrictive levels, it is appropriate to proceed cautiously, guided by incoming data on inflation expectations, currency movements, and wage and price pressures.

As central bank policies become less synchronous, divergence in rates among countries may spur capital flow movements and renewed strength in the US dollar, which remains stronger than at any time in the prepandemic decade and a half. Unexpectedly persistent US inflation could, for example, trigger an upward revision to US interest rate expectations and cause a US dollar appreciation. In some cases, such developments could put the financial sector under pressure. Relatedly, the still-high borrowing costs in numerous economies imply the need for strengthened supervision (through implementation of Basel III, among other measures) to anticipate banking sector stress. In some cases, a recalibration of macroprudential policies may be necessary in response to a fast-evolving housing market.

In this context, the IMF's Integrated Policy Framework provides guidance on the appropriate policy response, depending on country-specific circumstances. For countries with deep foreign exchange markets and low foreign currency debt, adjusting the policy rate and allowing exchange rate flexibility are appropriate. Deploying—promptly and forcefully—tools that provide liquidity support, while mitigating the risk of moral hazard, would limit contagion where market strains emerge. If foreign exchange markets are shallow and countries have large foreign currency debts, a tightening of global financial conditions may be associated with "taper tantrums," as portfolio-constrained investors sell domestic currency assets, and with systemic financial stability risks and tail risks in growth outcomes. In such cases, it may be appropriate to conduct foreign exchange intervention or implement capital flow management measures while keeping monetary and fiscal policy at their appropriate settings. Macroprudential policies should help reduce financial vulnerabilities from large exposures to foreign-currency-denominated debt. When there is a risk of de-anchoring of inflation expectations owing to a sharp exchange rate movement, foreign exchange interventions can support monetary policy, provided that there are enough reserves and the costs from monetary policy alone are too high. Countries at risk of external shocks can make full use of the global

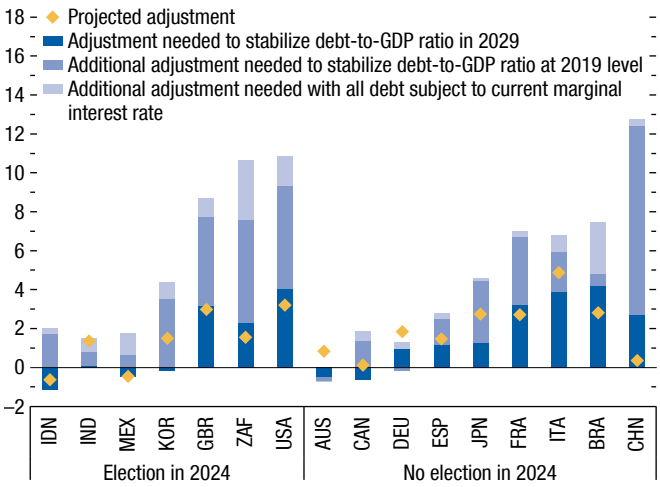
financial safety net afforded by international financial institutions, including IMF precautionary financial arrangements.

Rebuilding Room for Budgetary Maneuver and Ensuring Debt Sustainability

A renewed focus on fiscal consolidation to rebuild budgetary room to deal with future shocks and curb the rise of public debt is appropriate, since major central banks are expected to ease monetary policy this year and economies are in a better position to absorb the economic effects of fiscal tightening. The size of the fiscal adjustment needed to ensure government debt sustainability is large in numerous cases (see the April 2024 *Fiscal Monitor)*. To illustrate this point, Figure 1.24 compares the latest projections for the rise in the general government primary fiscal balance between 2023 and 2029 for selected G20 economies with the increase needed to stabilize the general government debt-to-GDP ratio in 2029. The figure also reports the additional adjustment needed to reduce debt to its 2019 level in 2029. At the interest rates currently envisaged to hold on to the total stock of debt, which includes debt issued during the prepandemic low-interest environment, the currently foreseen adjustment over 2023–29 is sufficient to stabilize the debt-to-GDP ratio in 2029 in most—although not all—cases. However, the projected adjustment is generally not sufficient to return debt to 2019 levels. As the figure illustrates, the adjustment needed to achieve such a debt reduction is even more challenging when assessed at the interest rates that currently apply to newly issued debt. With elections in a number of countries in 2024, ensuring that any new tax cuts or spending increases are funded and do not expand budget deficits is necessary to preserve the envisaged fiscal adjustment path.

- *Calibrating the pace of adjustment:* Fiscal adjustment should be gradual and sustained, where possible, given its generally negative effects on economic activity in the near term. Avoiding an abrupt adjustment is warranted to avert the risk that sharp expenditure cutbacks or tax increases will set off a negative cycle of slowing activity and rising debt ratios and undercut political support for fiscal reforms, which can often take time to implement. Front-loaded adjustment may be necessary to reduce the likelihood of a debt crisis, especially in economies that have lost market access. For countries with elevated inflation, fiscal consolidation can, by reducing aggregate demand and reinforcing the overall credibility of disinflation strategies, further ease inflation. Supply-enhancing structural reforms and protecting targeted support for the most vulnerable, as well as priority investments during the adjustment, can mitigate the impact on economic activity and support debt reduction efforts over the medium term (see Chapter 3 of the April 2023 WEO and Aligishiev and others 2023).
- *Building credibility with well-specified plans and a strong institutional framework:* To reduce policy uncertainty, committing to measures sufficient to meet medium-term targets based on realistic assumptions about the short-term growth effects of fiscal consolidation, interest rates, and the budgetary yield of revenue and spending policy changes is essential. With energy prices returning to prepandemic levels, phasing out untargeted fiscal measures, especially those that blunt price signals, is warranted. Backing medium-term plans with binding legislation and fiscal frameworks, as well as clear contingencies for how governments will respond to unexpected

Figure 1.24. Medium-Term Fiscal Adjustment
(Percentage points; cumulative rise in primary-fiscal-balance-to-GDP ratio between 2023 and 2029)

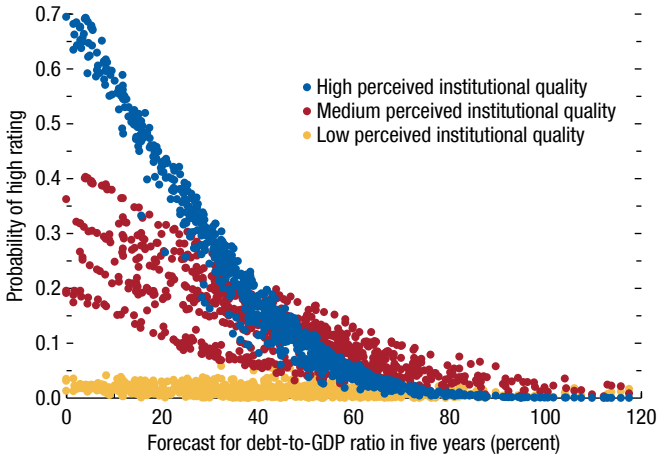


Source: IMF staff calculations.
Note: Unless noted otherwise, the adjustments needed to stabilize debt-to-GDP ratios are computed using the effective rate, which measures the government's average interest rate on its total current debt stock. The marginal interest rate denotes the real interest rate based on the currently prevailing rate at the 10-year bond maturity (as of March 31, 2024). China's deficit and public debt numbers cover a narrower perimeter of the general government than the IMF staff's estimates in China Article IV reports (see IMF 2024 for a reconciliation of the two estimates). Korea's policy lending, which contributes to its fiscal deficit and public debt, is not included in the calculation of needed fiscal adjustment. Data labels in the figure use International Organization for Standardization (ISO) country codes.

growth and interest rate movements—or to other country-specific developments—can bolster credibility. IMF staff analysis that builds on Blanchard (2022) indicates that agencies that rate sovereign debt reward reductions in debt-to-GDP ratios but that they also place a high premium on institutional quality (see Figure 1.25). At the same time, promises of future adjustment alone are unlikely to build credibility, and a steady pace of fiscal consolidation with a nontrivial first installment is warranted.

- *Addressing debt distress:* For countries in debt distress, debt restructuring, conducted in an orderly manner, may be necessary. Progress in improving international sovereign debt resolution frameworks is moving in the right direction. The G20 Common Framework has started to deliver, with each successive case building on previous experiences to achieve faster coordination. The Global Sovereign Debt Roundtable is helping foster greater common understanding of processes and principles for facilitating more timely and predictable restructurings. It is important to continue to build on this progress and to improve the efficiency of creditor coordination in cases that are not eligible for treatment under the Common Framework.

Figure 1.25. Drivers of Sovereign Debt Ratings in Emerging Market and Developing Economies
(Probability of high rating as a function of debt-to-GDP ratio and institutional quality)



Sources: *International Country Risk Guide* (ICRG); and IMF staff calculations.
Note: Methodology builds on Blanchard (2022). Figure reports estimated probability of high credit rating, defined as being in the top 10 percent of S&P Global sovereign credit ratings in the sample. Estimated probability is based on an ordered probit regression of ratings on five-year-ahead debt-to-GDP ratio forecast from successive issues of the IMF *World Economic Outlook* for different subsamples based on low, medium, and high institutional quality measured by the ICRG Political Risk Index. High, medium, and low institutional quality are based on full-sample top (fourth) quartile, third quartile, and lower two quartiles, respectively. Sample includes 52 emerging market and developing economies during 2002–22. Per capita income and unemployment rate are included as controls in the probit regression.

Fostering Faster Productivity Growth

Structural reforms can support productivity growth and reverse declining medium-term growth prospects if they are targeted and carefully sequenced. Prioritizing reforms that relax the most binding constraints on economic activity can lead to output and productivity gains, even in the short term (Budina and others 2023). Reforms that address the persistent misallocation of resources can play a central role in boosting productivity, as the scenarios in Chapter 3 illustrate. In this vein, narrowing gender gaps to correct the misallocation of women's talents and abilities would further contribute to enhancing aggregate productivity (Sayeh, Badel, and Goyal 2023).

The particular steps needed are country specific and in several cases include reforms that strengthen governance, reduce excessive business regulation and restrictions on trade, and improve access to foreign capital. These reforms can pave the way to deeper structural changes—including those necessary for a transition to cleaner energy sources—by fostering job and income growth and strengthening public support. Bundling reforms and appropriate sequencing of other reforms, such as labor market and credit market reforms, can front-load gains. Harnessing the potential of artificial intelligence will require developing adequate regulatory frameworks and investing in foundational infrastructure and digital skills training. Complementary reforms would be needed to support misplaced workers and their retraining. Industrial policies can be pursued where clearly identifiable externalities or important market failures are well established and other more effective policy options are unavailable, but the policies should avoid protectionist provisions and need to be consistent with World Trade Organization (WTO) rules.

Speeding the Green Transition and Building Climate Resilience

Large global policy action gaps persist for reaching greenhouse gas emissions reduction goals consistent with limiting global average temperature increases to 1.5–2.0°C above preindustrial levels. To achieve

emissions reduction targets, countries need a holistic set of mitigation instruments, ideally including carbon pricing, public infrastructure investment in clean energy sources, sectoral policies, regulations, and reductions in fossil-fuel subsidies. Carbon border-adjustment mechanisms and incentive programs for green investments can speed the green transition but need to be designed to be consistent with WTO rules. Fiscal incentives to shift to clean energy sources are also needed. The energy transition will need to be managed carefully to address risks over the longer term to the energy security of some countries if the scaling back of investments in fossil fuels is not adequately matched by corresponding increases in alternative clean energy supplies. In parallel, investments in climate adaptation activities and infrastructure are needed, especially for regions most vulnerable to climate shocks. Enhancing climate-risk-monitoring systems and risk management frameworks and stronger safety nets and insurance are also needed to enhance climate resilience (see Chapter 1 of the October 2023 *Fiscal Monitor)*. Mobilizing climate finance for both adaptation and mitigation in low-income countries will require coordinated efforts by international organizations, private investors, country authorities, and donors.

Strengthening Cross-Border Cooperation

Multilateral cooperation is necessary to mitigate fragmentation and strengthen the resilience of the international monetary system. Policymakers should maintain stable and transparent trade policies and avoid discriminatory policies that induce trade and investment distortions. An intergovernmental dialogue on—or a consultation framework for—industrial policies could help improve data and information sharing and identify the impact of policies, including their unintended consequences across borders. Over time, steady lines of communication could help in developing international rules and norms on the appropriate use and design of industrial policies, making it easier for firms to adjust to the new environment. Cooperation is also required for the orderly resolution of debt problems to clear a path through an increasingly complex creditor landscape. Furthermore, international coordination is vital to mitigate the effects of climate change and facilitate the transition to green energy, building on recent agreements at the 2023 Conference of the Parties to the UN Framework Convention on Climate Change. Safeguarding the transportation of critical minerals, restoring the WTO's ability to settle trade disputes, and ensuring the responsible use of potentially disruptive new technologies such as artificial intelligence by, among other things, upgrading domestic regulatory frameworks and harmonizing global principles are priorities. Establishing the free flow of low-carbon technologies—which facilitate emissions reductions—from advanced economies to emerging market and developing economies would further support meeting climate targets.

Box 1.1. Fragmentation Is Already Affecting International Trade

Geoeconomic fragmentation could weigh on world trade and income growth in the coming years. Data on bilateral goods trade before and after Russia's invasion of Ukraine in February 2022 confirm that fragmentation is already underway (see also World Trade Organization 2023).

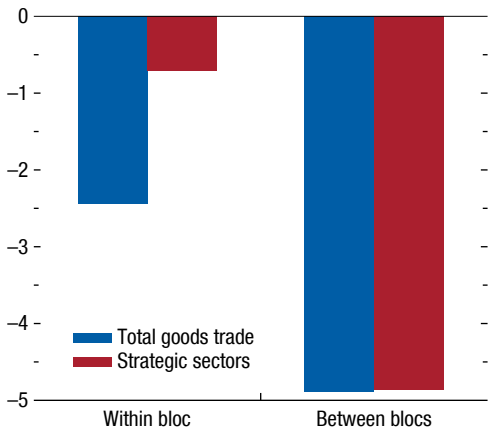
Trade between economies in politically distant blocs has slowed more than trade between those within blocs since the start of the war in Ukraine. To shed light on the evolution of trade fragmentation, the analysis illustrated in Figure 1.1.1 assigns countries to a hypothetical bloc including Australia, Canada, the European Union, New Zealand, and the United States or a hypothetical bloc comprising China, Russia, and countries that sided with Russia during the March 2, 2022, UN General Assembly vote on Ukraine, with all other countries considered nonaligned. The analysis compares the average growth rate of trade flows between members of each bloc during two periods: the period after Russia's invasion of Ukraine (from the second quarter of 2022 to the third quarter of 2023) and the five years leading up to the invasion (from the first quarter of 2017 to the first quarter of 2022).

Growth in goods trade between the two blocs has been significantly weaker since the start of the war than growth in goods trade within blocs. Total goods trade has slowed by about 2.4 percentage points more between countries not in the same bloc than among those in the same bloc. The relationship is especially strong for trade in strategic sectors, such as chemicals and machinery, in which trade has slowed by about 4 percentage points more among countries not in the same bloc. Gopinath and others (2024) provide further corroborating evidence based on gravity models of trade. Additional analysis suggests that these results are robust to alternative bloc definitions and are not driven exclusively by China and the United States. They hold based on a subsample of bilateral trade flows excluding pairs of economies in which one partner is either China or the United States (Gopinath and others 2024).

Another aspect of fragmentation is that trade links are weakening between China and the United States. Since the onset of China–US trade tensions in 2017, with tariffs rising on trade between the two countries, China's share of US goods imports has fallen by almost 8 percentage points (from 22 percent in 2017 to 14 percent in 2023, according to US Census Bureau data). At the same time, some evidence suggests that US sourcing was partly reallocated away from China and towards other countries during 2017-2022, including Mexico and Vietnam (Alfaro and Chor 2023; Freund and others 2023; Wang and Hannan 2023). As a result, supply chains are lengthening, with possible losses in efficiency (Qiu, Shin, and Zhang 2023).

If fragmentation continues, with countries imposing additional restrictions on trade, efficiency losses from declines in specialization, smaller gains from economies of scale, and reduced competition could be significant (see Aiyar and others 2023).

Figure 1.1.1. Fragmentation Affecting Trade
(Percentage points; difference in trade growth before and after war)



Sources: Trade Data Monitor; and IMF staff calculations.
Note: Bilateral quarterly growth rates are computed as the difference in log bilateral trade averaged using weights equal to the bilateral nominal trade. Strategic sectors include the following Harmonized System two-digit chapters: 28, 29, 30, 38, 84, 85, 87, 88, 90, and 93. Before the war is between 2017:Q1 and 2021:Q4. The bloc definition is based on a hypothetical bloc comprising Australia, Canada, Europe, New Zealand, and the US and a hypothetical bloc including China, Russia, and countries siding with Russia during the March 2, 2022, UN General Assembly vote on the war in Ukraine. Other countries are considered nonaligned.

The authors of this box are Andrea Presbitero and Petia Topalova.

Box 1.2. Risk Assessment Surrounding the *World Economic Outlook*'s Baseline Projections

The IMF's Group of Twenty (G20) Model is used in this box to derive confidence bands around the World Economic Outlook *(WEO) forecast and to quantify alternative scenarios.*

Risks to global growth are considered broadly balanced. Uncertainty about 2024 has decreased since the October 2023 WEO, as the outturns for 2023 are now known. The risk that global growth will fall below 2 percent—an outcome that has occurred on only five occasions since 1970—in 2024 is assessed at less than 10 percent, compared with 15 percent in October. Risks for inflation in 2024 have also receded. The risk that core inflation will be higher in 2024 than in 2023 is now assessed at less than 10 percent, compared with 15 percent in the October 2023 WEO. The scenarios quantify several risks to the outlook: (1) the extent of healing from the COVID-19 pandemic, (2) changes in fiscal policy, (3) deflation in China, (4) geopolitical risk, and (5) greater global divergence.

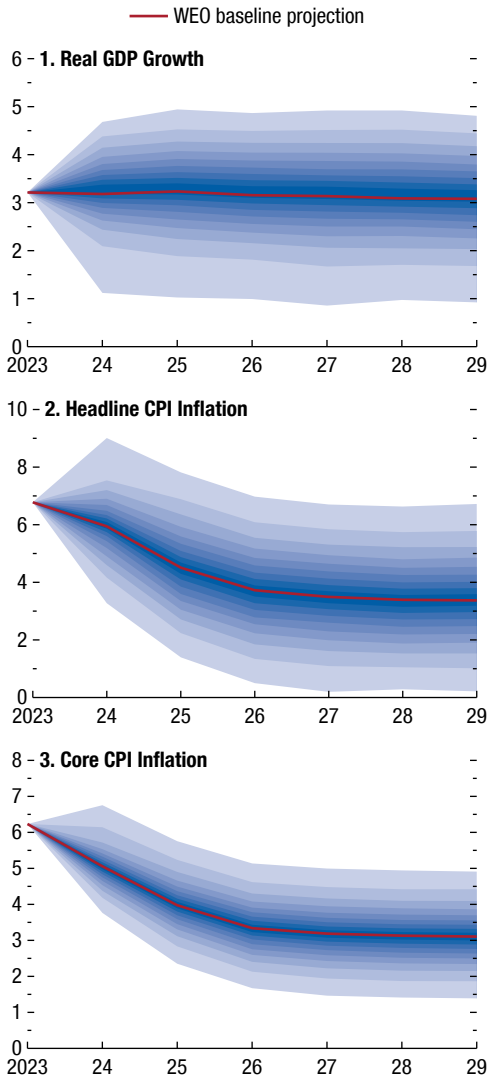
Confidence Bands

The methodology for producing confidence bands is based on Andrle and Hunt (2020) and has been used in previous WEO reports. The G20 model, presented in Andrle and others (2015) is used to interpret historical data on output, inflation, policy rates, and international commodity prices to recover the implied economic shocks to aggregate demand and supply. The recovered shocks are sampled through nonparametric methods and fed back through the model to generate predictive distributions around the WEO projections. Shocks are sampled uniformly, consistent with balanced risks to the outlook. A difference relative to October is that 2023 outturns are now known for most countries, which narrows the distribution around 2024 projections.

Figure 1.2.1 shows the resulting distributions for global growth and inflation projections. Each shade of blue represents a 5 percentage point interval, and each band covers 90 percent of the distribution. Regarding global growth, there is a 70 percent probability that growth will be between 2.4 percent and 4.1 percent in 2024—a narrower range than in October—and a 70 percent probability that growth will be between 2.2 percent and 4.3 percent in 2025.

The authors of this box are Jared Bebee, Dirk Muir, and Rafael Portillo.

Figure 1.2.1. Distribution of Forecast Uncertainty around Global GDP Growth and Inflation Projections
(Percent)



Source: IMF staff calculations.
Note: The figure shows the distribution of forecast uncertainty around the baseline projection as a fan. Each shade of blue represents a 5 percentage point probability interval. CPI = consumer price index; WEO = *World Economic Outlook*.

Box 1.2 *(continued)*

Regarding global inflation, uncertainty around 2024 outcomes has also narrowed since the previous WEO report. There is a 70 percent probability that 2024 headline inflation will be about 1.3 percentage points higher or lower than currently projected, with the resulting band smaller than the 1.8 percent band estimated in October. The probability that headline inflation will be higher in 2024 than in 2023 is about 20 percent, compared with 25 percent in October. Similarly, the probability that core inflation will be higher in 2024 than in 2023 is assessed at less than 10 percent, compared with 15 percent back in October.

Scenarios

The G20 model is also used to quantify several risk scenarios relevant for the current outlook. The scenarios assume that monetary policy and automatic fiscal stabilizers respond endogenously to macro developments, unless explicitly stated otherwise.

Greater-than-expected healing from the pandemic. Persistent positive surprises to growth forecasts from emerging market economies, and some advanced economies, over the past year have led to upward reassessments of potential output. At the same time, current WEO projections for most G20 countries include durable scarring effects from the pandemic and other recent shocks, which are most visible in labor productivity and labor force participation rates that remain below prepandemic trends. The scenario assumes the supply-side surprises continue over the medium term, with greater normalization (healing) over 2024–26 than in the baseline, implying additional increases in potential output. Country-specific improvements in total factor productivity help close the labor productivity gap by half relative to prepandemic forecasts: For the median G20 country, total factor productivity increases by about 2 percent over this period. Labor force participation also improves over the same period, fully closing the gap that opened through COVID-19, back to the prepandemic trend—and implying a 0.7 percentage point increase in labor force participation for the median G20 country. Normalization in the scenario is greater in emerging markets excluding China than in advanced economies, as current projections imply greater scarring for the former group. The scenario does not assume supply-side improvement (relative to baseline) for China or the United States.

Fiscal policy. Current WEO projections include modest fiscal tightening in many countries, mainly advanced economies, but also some emerging markets, with structural primary deficits in the median G20 country decreasing from about 1.5 percent of potential GDP in 2023 to zero by 2028 and most of the decrease in the first or second year. The scenario assumes that the fiscal tightening envisaged for 2024–25 does not take place. Structural primary deficits remain at their 2023 levels in 2024 and increase further in 2025, implying some fiscal stimulus relative to the baseline in both years, as shown in Table 1.2.1. The stimulus is greater in countries with larger expected fiscal withdrawal, such as the United States and the euro area in 2024 and Japan in 2025, while no stimulus is assumed for China. Lack of fiscal consolidation generates an increase in global borrowing costs starting in 2025. Advanced economies with debt levels above 100 percent of GDP experience increases in both term and sovereign premiums that peak at 100 basis points by 2026, while emerging markets experience increases in both premiums that peak at 150 basis points, also by 2026. A fiscal consolidation eventually takes place, in 2026–27; it is larger than in current projections to partly offset the effects of the initial expansion (and higher premiums) on debt accumulation. It is assumed that fiscal expansions and contractions are implemented through changes in targeted and general transfers in equal parts and that automatic stabilizers are turned off.

Table 1.2.1. Fiscal Impulse Relative to Baseline
(Percent, year-over-year change in structural primary deficit in percent of potential GDP)

	2024	2025	2026	2027
Advanced Economies	0.9	0.8	–2.0	–1.5
Emerging Market and Developing Economies Excluding China	0.1	0.3	–0.4	–0.4

Source: IMF staff calculations.

Deflation in China. The October 2023 WEO included a downside scenario for China, featuring deeper-than-expected contraction in the real estate sector absent swift action to restructure property developers and weaker consumption in the context of subdued confidence. A similar if somewhat greater downside is analyzed here. The main difference relative to October is that the scenario leads to greater deflationary pressures, on account of larger-than-realized economy-wide slack and excess

Box 1.2 *(continued)*

capacity in the goods sector, and greater sensitivity of inflation to supply-demand imbalances (a steeper Phillips curve). Core inflation in China declines relative to baseline by 1 percentage point in 2024 and 2 percentage points in 2025 and 2026, resulting in negative core inflation outturns in 2025–26. China's export price inflation decreases further, by 2 percentage points in 2024 and 4 percentage points in 2025 and 2026, respectively. The fall in inflation is persistent but ultimately temporary: monetary and fiscal policy accommodation help the initial shock to demand fade, and China's inflation gradually converges back to baseline after 2026.

Geopolitical risk. The scenario assumes that an escalation of conflict in the Middle East leads to a surge in oil prices and in shipping costs. Oil prices are 15 percent higher, a moderate increase by historical standards. Average container prices rise by 150 percent in 2024–25, an increase similar to that following recent incidents in the Red Sea. Most of the increase in the cost of shipping is concentrated in Asia-to-Europe routes. Oil prices and container costs return to baseline in 2026.

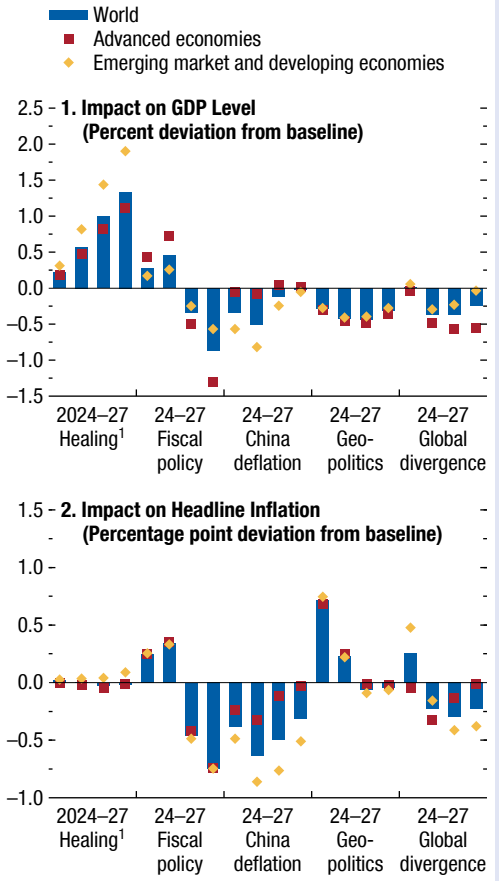
Divergence and global financial conditions. The final scenario assumes greater-than-expected divergence among advanced economies. US aggregate demand surprises to the upside, with domestic demand increasing by 1.5 percent in 2024 relative to current projections, while domestic demand decreases by 0.5 percent in Japan and 1 percent in the euro area in 2024. Diverging shocks to demand lead to divergence in monetary policy—tighter in the US and looser in the euro area—while monetary policy in Japan is unchanged relative to baseline. With US policy rates 70 basis points higher than baseline in 2024, global financial conditions tighten unexpectedly. Sovereign premiums in emerging markets and developing countries excluding China increase by 150 basis points in 2024–25; corporate premiums increase in emerging market and advanced economies by 75 basis points over the same period. Premiums return to long-term averages in 2026.

Impact on World Output and Inflation

Figure 1.2.2 presents the effects from all five scenarios. Panel 1 shows the effects on the *level* of GDP during 2024–27, while panel 2 shows the effects on inflation over the same period. Effects on GDP are presented as percent deviations from baseline, whereas effects on headline inflation are presented as percentage point deviations from baseline.[1] Global aggregates are shown by the bars in the figure; aggregates are shown by red squares for advanced economies and by yellow diamonds for emerging market and developing economies.

The ***healing* scenario** generates a gradual and permanent increase in activity over the WEO horizon, with global GDP increasing cumulatively by 1.3 percent by 2027 relative to current projections. Both advanced economies and emerging markets see an

Figure 1.2.2. Impact of Scenarios on GDP Level and Headline Inflation



Source: IMF staff calculations.
Note: *X*-axis labels denote five distinct scenarios.
[1]In the healing scenario, results are shown for emerging market and developing economies excluding China.

[1]The impact on growth rates can be approximated by subtracting the effects on the level of output from the previous year.

Box 1.2 *(continued)*

expansion, but the increase is larger in the latter group, especially emerging markets excluding China (shown in Figure 1.2.2 instead of the emerging markets aggregate). The effect on inflation is close to zero, reflecting two offsetting forces. Output increases somewhat less than potential, which leads to mild declines in core inflation. At the same time, the expansion in global activity pushes oil prices up gradually over the WEO horizon, adding to headline inflation.

The ***fiscal scenario*** generates a whipsaw-like movement in activity, inflation, and policy rates. Global output initially increases relative to baseline, peaking at 0.5 percent in 2025. Activity in advanced economies rises by more than that in emerging markets, as most of the fiscal expansion takes place in the former. Global inflation is about 30 basis points higher, on average, during 2024–25. Monetary policy is correspondingly tighter; for example, policy rates in the US increase by 100 basis points relative to baseline by 2025. As borrowing costs rise and fiscal policy goes from stimulus to withdrawal, there is a great reversal in global activity in 2026–27. The reversal is more pronounced in advanced economies, with growth falling by about 1 percent relative to current projections in both 2026 and 2027. As a result, global inflation is about 60 basis points lower during 2026–27. Monetary policy turns accommodative during that period; for reference, US policy rates are 75 basis points lower than baseline by 2027.

The ***China deflation*** **scenario** results in lower global activity, with global GDP falling cumulatively by 0.5 percent relative to current projections by 2025. The impact is smaller than in the October 2023 scenario and mostly results from the direct impact on China's GDP. Activity spillovers to advanced economies and other emerging markets are close to zero, with two forces broadly offsetting each other. While lower activity in China reduces global demand, the large decrease in Chinese export prices benefits the rest of the world by improving terms of trade, lowering inflation, and raising purchasing power outside China. Inflation in advanced economies and emerging markets excluding China is 20 basis points lower, on average, during the 2024–26 period for both headline and core measures. Policy rates outside China are also lower, with US rates 40 basis points lower than baseline by 2025.

The ***geopolitical risk*** scenario results in a negative global supply shock. Global headline inflation increases by close to 70 basis points in 2024 and remains 25 basis points above baseline in 2025. While much of the increase reflects the direct effect of higher oil prices, core inflation also increases by about 20–30 basis points in 2024–25, reflecting second-round effects from higher oil prices and higher production costs from disruptions to international shipping. Monetary policy tightens relative to baseline, with rates in both advanced economies and emerging markets about 30 to 40 basis points higher in 2025. The hit to purchasing power and tighter monetary policy lower global activity by as much as 0.4 percent by 2025. The impact on inflation and activity is broadly similar in advanced economies and emerging markets; within advanced economies the effect is slightly larger in Europe than in the United States, on account of the greater impact from shipping costs.

Finally, the global impact from ***greater global divergence*** builds over time. In advanced economies, upside surprises to activity and inflation in the United States are initially offset by downside surprises in other countries. The increase in US output is smaller than the initial shock, as the dollar appreciates against currencies in advanced and emerging market economies by 2 and 5 percent, respectively, in nominal terms in 2024 and global demand for US exports falls. In emerging markets, the depreciation provides support to export demand, and initially offsets the impact from tighter domestic financial conditions, while also leading to a modest increase in inflation. The global negative implications become more visible in 2025, as tighter financial conditions increasingly affect activity in advanced economies (outside of the United States) and emerging markets. Global output falls by 0.4 percent in 2025, and global headline inflation falls by about 25 basis points below baseline over the same period.

Commodity Special Feature: Market Developments and the Power of Prices

Primary commodity prices declined slightly between August 2023 and February 2024, driven by a decrease in oil prices. Supply growth in the Americas surprised on the upside, buffering the impact of geopolitical tensions in the Middle East. Food and beverage prices increased, driven by the impact of El Niño on tropical crops. Iron ore prices rebounded due to record steel production in China. Gold prices were supported by safe haven demand. This Special Feature analyzes price elasticities of commodity demand and supply in depth.

Commodity Market Developments

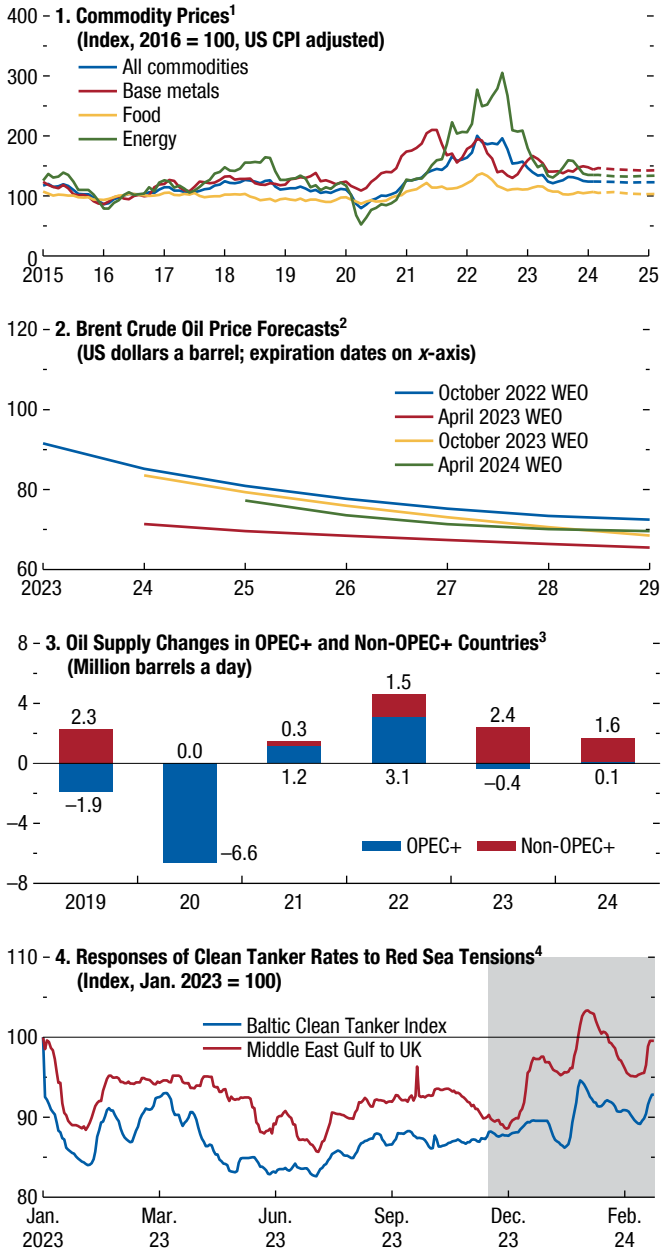
Oil prices decreased despite Middle East tensions. After breaking $95 a barrel in late September, oil prices decreased by 4.2 percent between August 2023 and February 2024, when they stood at a monthly average of $80.70. On the demand side, weaker expectations about global demand growth have contributed to downward price pressures. On the supply side, the implementation of output curbs by OPEC+ (Organization of the Petroleum Exporting Countries plus selected nonmember countries, including Russia) was more than offset by strong output growth in Iran and non-OPEC countries, led by the United States, Brazil, and Guyana (Figure 1.SF.1, panel 3).

Red Sea tensions have led to a 50 percent rise in global freight rates of oil product tankers. Among the main routes affected is the one from the Middle East to Europe (Figure 1SF.1, panel 4), for which prices increased by 200 percent from mid-November 2023 to mid-March 2024. The higher costs and the implied rerouting have only had a minor impact on crude oil prices. Russian oil, primarily exported to China and India, was mostly above the Group of Seven price cap since the second half of 2023, at a $15–$20 discount (based on Argus data).

Futures markets suggest that oil prices will slide by 2.5 percent year over year to average $78.60 per barrel in 2024 and will continue to fall to $67.50 in 2029. Risks to this price outlook are balanced. Upside price risks could arise from an escalation

The contributors of this Special Feature are Christian Bogmans, Andrea Pescatori (Team Lead), Ervin Prifti, and Martin Stuermer, with research assistance from Wenchuan Dong, Joseph Moussa, and Tianchu Qi. The consultant was Ivan Petrella. This Special Feature is based on Bogmans and others (2024).

Figure 1.SF.1. Commodity Market Developments



Sources: Bloomberg, L.P.; Haver Analytics; IMF, Primary Commodity Price System; International Energy Agency (IEA); Refinitiv Datastream; and IMF staff calculations.
[1]Last actual consumer price index (CPI) value is applied to the forecast.
[2]Forecasts are based on the *World Economic Outlook* (WEO).
[3]OPEC+ represents the member countries of the Organization of the Petroleum Exporting Countries plus some other oil-producing countries. Data are from the IEA.
[4]Lines represent logs of rates, which are normalized to January 2023. Shaded area represents the time since the first ship was seized by the Houthi rebels.

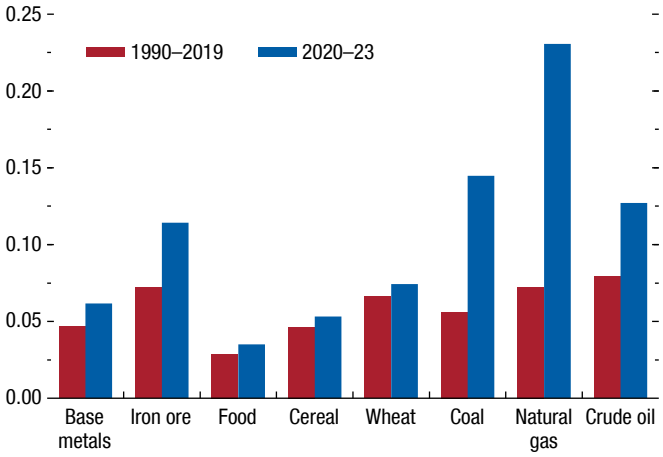
of the Middle East conflict and attacks on Russian oil infrastructure. Downside risks could arise from a slowdown in Chinese oil demand and strong non-OPEC supply growth, possibly coupled with a rise in OPEC+ oil supply to regain market share. The outlook for demand growth is highly uncertain.

Natural gas prices continued to decline amid ample supplies. Title Transfer Facility (TTF) trading hub prices in Europe fell 24.4 percent from August 2023 to $8.10 a million British thermal units (MMBtu) in February 2024—within the upper range of historical prices. Mild weather, low industrial demand in Europe, and ample liquefied natural gas (LNG) supplies have led to high gas storage levels and lower prices (see also Albrizio and others 2022, 2023). Asian prices for LNG declined by 24.9 percent. US Henry Hub prices decreased by 32.3 percent. Futures markets suggest that TTF prices will average $9.45 in 2024, decreasing to $8.73 in 2029. Henry Hub prices may rise from an average of $2.66 per MMBtu in 2024 to $3.63 in 2029, as US export capacity is expected to almost double from 11.4 billion cubic feet a day (bcf/d) to 21.1 bcf/d until 2027, according to the US Energy Information Administration. Risks around this outlook are balanced.

Metals prices rebounded. After declining during the summer, the IMF's base metals price index rose by 4.7 percent from August 2023 to February 2024. Iron ore prices increased by 14.9 percent due to record steel production in China. Uranium prices rose by 75.3 percent to their highest level since 2007 due to supply disruptions from major producers, a potential ban on Russian exports, and better prospects for nuclear power production to combat climate change. Geopolitical tensions and expectations of monetary policy easing raised gold prices by 5.5 percent.

Agricultural commodity prices rebounded. Between August 2023 and February 2024, the IMF's food and beverages price index gained 6.0 percent, masking heterogeneity. Prices for cereals and vegetable oils continued to decline, by 7.2 percent and 10.9 percent, respectively, on the back of abundant global supplies. Concerns related to El Niño put upward pressure on the prices of certain tropical crops, including cocoa (64.2 percent) and coffee (18.2 percent). Coffee prices, especially those for Robusta, experienced upward price pressure from tensions in the Red Sea, which led some consumer countries to switch from Asian to Brazilian imports. Rubber prices jumped 39.8 percent as global output declined in 2023 following the outbreak of a novel leaf disease in Asia. Seafood prices surged 25.9 percent as demand outstripped supply growth, partly because of stricter environmental legislation in some countries. Risks to the price outlook are balanced. Upside risks stem from further trade disruptions in the Black Sea and new food export restrictions. Larger-than-expected harvests constitute the most important downside risk.

Figure 1.SF.2. Volatility of Commodity Prices
(Standard deviation of log differences)



Sources: IMF Primary Commodity Price System; and IMF staff calculations.
Note: Volatility is the standard deviation of log differences in monthly prices over the respective periods. Base metals, food, cereal, coal, and natural gas are price indices. The crude oil price refers to the IMF average petroleum spot price.

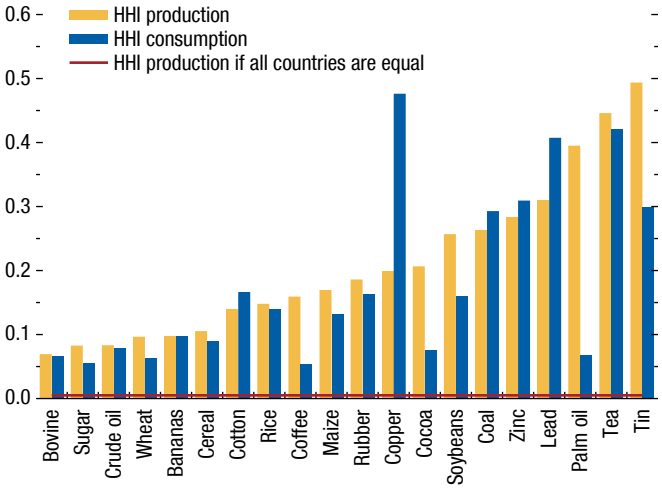
The Power of Prices: How Fast Do Commodity Markets Adjust to Shocks?

The pandemic, the war in Ukraine, and the conflict in Gaza and Israel generated shocks that led to a surge in commodity price volatility (Figure 1.SF.2). This volatility destabilized inflation, and made fiscal and monetary policy more difficult, especially for low-income and commodity-exporting countries.

Geoeconomic fragmentation and climate change could lead to more commodity market turbulences. The resulting price volatility could crucially hinge on the price elasticities of demand and supply. The lower those elasticities, the more prices react to unexpected changes in supply and demand (see Albrizio and others 2022, 2023).

It is therefore essential to understand to what extent commodity supply and demand are slow to react. Is demand more price sensitive than supply?

Figure 1.SF.3. Herfindahl Index by Commodity, 2021



Sources: Bems and others 2023; Food and Agriculture Organization; International Energy Agency; International Historical Statistics; Stuermer 2017; World Bureau of Metal Statistics; and IMF staff calculations.
Note: For each commodity, the Herfindahl-Hirschman index (HHI) is calculated by summing the squares of each country's share in global production (consumption). The HHI ranges between indicating perfectly equal production across the 195 countries in our sample and 1 (indicating perfect inequality).

Do the quantities supplied and demanded adjust more strongly over the long term? Are the elasticities different across energy, agricultural, and mineral commodities? What policies make commodity supply and demand more reactive?

This Special Feature presents a consistently identified and estimated set of price elasticities of demand and supply for a broad range of commodities.[1] Based on a granular instrumental variable approach (Gabaix and Koijen, forthcoming), an annual cross-country data set on agricultural goods, energy, and metals from 1960 to 2021 is employed.[2]

[1]This feature is based on Bogmans and others (2024). It fills a gap in the literature because surveys such as Dahl (2020) and Fally and Sayre (2018) mix estimates based on different methodologies. This is a major pitfall when models include several commodities (see, for example, Fally and Sayre 2018 and Bolhuis, Chen, and Kett 2023). The estimates are often based on correlations and suffer from biases (Roberts and Schlenker 2013). This feature also contributes to the literature estimating elasticities using vector autoregressive models (see Kilian 2022, Baumeister and Hamilton 2022, and Kilian and Zhou 2023).

[2]Online Annex 1.1 provides data descriptions and the methodology. Data sources are World Bank (2024), IEA (2024), FAO (2023), Bems and others (2023), and Schwerhoff and Stuermer (2020), among others. The online annex is available at www.imf.org/en/Publications/WEO.

Commodity Shocks

The methodology uses idiosyncratic changes in commodity production and consumption in individual countries to estimate average global price elasticities. This works only if these shocks are large enough to affect global prices, which, in turn, manifests as high market concentration.

Most commodity markets are in fact highly concentrated in their production and consumption, as elevated Herfindahl-Hirschman indices (HHIs) in Figure 1.SF.3 show. For example, for palm oil the production HHI is 0.4, roughly 80 times higher than the value of the HHI if all 195 countries in the world had the same market share (red line). This means that an idiosyncratic shock in palm oil production most likely affects palm oil prices globally.

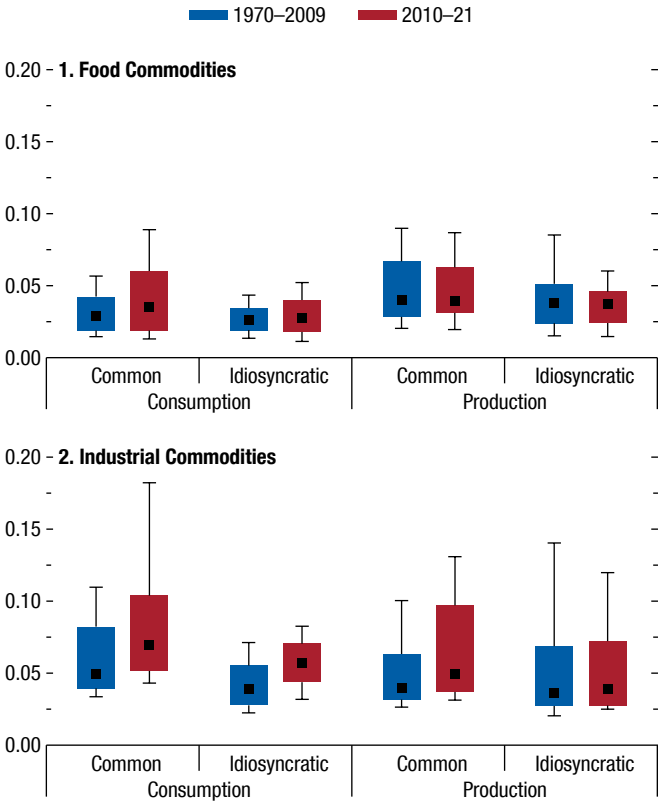
Figure 1.SF.4 shows that these country-specific idiosyncratic shocks are a substantial driver of fluctuations in global commodity production and consumption. Still, common factors are, on average, the stronger driver. One explanation is global supply chains. For example, shocks to shipping can manifest as a common factor across countries on the supply side. In line with this explanation, common factors have increased particularly in their role in the output of industrial commodities over the past decade. Common factors have also gained significance in the consumption of both food and industrial commodities (see also Jacks and Stuermer 2021). More synchronized global business cycles may offer an explanation (de Soyres and Gaillard 2020).

For food commodities idiosyncratic shocks in production are bigger than those in consumption. This is not the case for industrial commodities. Agricultural production can be affected more by idiosyncratic country-specific shocks such as droughts, flooding, or pests that can affect local yields.

Commodities Are Mostly Inelastic

In terms of supply elasticities, results show that metals, especially copper and zinc, tend to have the lowest elasticities, while agricultural commodities have the highest (see Figure 1.SF.5). For example, copper and zinc have a supply elasticity close to zero. In contrast, the results for cereals show a supply elasticity of about 0.6, implying that a 10 percent increase in prices raises output by 6 percent within a year. This is in line with the fact that crop switching, or the application of more fertilizer is possible within a year, whereas the

Figure 1.SF.4. Common versus Idiosyncratic Factors in Commodity Demand and Supply



Sources: Bems and others 2023; Food and Agriculture Organization; Stuermer 2017; World Bureau of Metal Statistics; and IMF staff calculations.
Note: The *y*-axis shows the standard deviation of the common and idiosyncratic components of the country-specific residuals. The residuals are obtained from panel regressions using countries' commodity consumption or production as dependent variables and time fixed effects as controls. Whiskers indicate the 10th and 90th percentiles; the bars show the 25th and the 75th percentiles; black markers indicate the median.

expansion and opening of mines is subject to longer lead times.

A distinction exists between perennial crops such as coffee, palm oil, and cocoa, on one hand, and annual crops like soybeans on the other. Perennial crops are characterized by smaller short-term supply elasticities compared with those for annual crops. It takes an extended period for new trees to produce fruit: typically, two years for palm oil and five years for cocoa. The supply elasticities of energy commodities tend to be between those for mineral and agricultural commodities.

Elasticities on the demand side are determined less by commodity groups. Instead, commodity-specific characteristics seem to play a larger role. This is in line with several mechanisms that allow for demand-side adjustment across all commodities: substitution by other commodities, more efficient use, and substitution of other products for downstream products.

For agricultural goods, rice is atypical, showing a price elasticity of demand close to zero, probably reflecting that only about 10 percent of output is internationally traded. Rice prices are also typically subsidized in Asia. Elasticities for tea, cotton, and wheat are above 0.4. For crude oil and coal, the results show demand elasticities below 0.2, in line with the difficulties of switching fuels over the short term because of technical constraints. Finally, copper and zinc have demand elasticities close to zero, whereas those for lead and tin are between 0.2 and 0.3. The former metals are essential for electrical appliances and steel production, respectively. Lead and tin are easier to substitute.

Supply and Demand Become More Responsive over Time

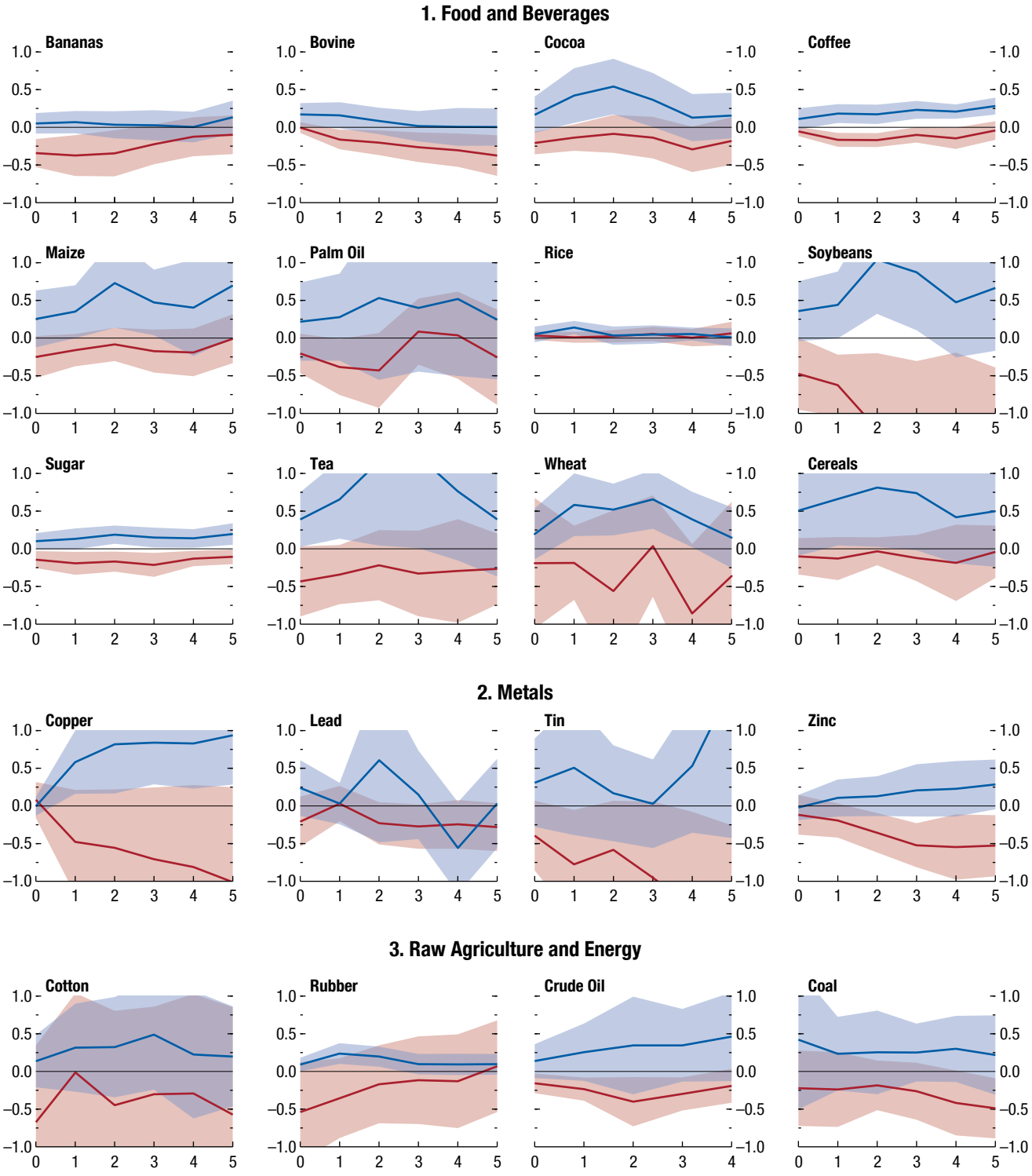
Commodity supply and demand become more responsive over time as markets adjust to shocks (Figure 1.SF.5). However, long-term multipliers show notable differences across commodities at different horizons. Results for most agricultural commodities indicate that supply responses are flat over a five-year horizon. Elasticities for perennial crops like coffee, cocoa, and rubber still show a statistically significant strong peak about two to three years after a shock. For most metals and energy, supply elasticities are upward sloping, but only the one for copper is statistically significant. On the demand side, results are generally not very precisely estimated. Metals show the largest increases in the multipliers over longer horizons. At the same time, for most agricultural commodities, the demand multipliers do not become larger.

Demand and supply for agricultural goods seem generally more responsive to shocks than those for minerals and energy commodities. This is consistent with the smaller price volatility observed for agricultural goods, compared with that for metals and energy commodities (Figure 1.SF.2). Agricultural commodities also see the least increase in their responsiveness after a couple of years, whereas mineral commodities become more responsive.

Conclusions and Policy Implications

This Special Feature estimated a broad set of supply and demand elasticities for commodities based on a consistent identification methodology and a unique data set. The results show that commodity demand

Figure 1.SF.5. Cumulative Supply and Demand Responses to a 1 Percent Price Increase
(Percent)



Sources: Food and Agriculture Organization; World Bureau of Metal Statistics; and IMF staff calculations.
Note: Impulse response functions (IRFs) show the change in the quantity supplied (blue line) or demanded (red line) as a result of a 1 percent increase in prices as a function of time measured in years. IRFs are based on a combination of local projections and the granular instrumental variable approach (Gabaix and Koijen, forthcoming). Figure shows 90 percent confidence intervals.

and supply are generally price inelastic, but that differences exist. The supply of agricultural perennial crops is more inelastic than that of annual crops. This may explain why wheat prices, which spiked at the start of the war in Ukraine, have now come down below prewar levels. Demand elasticities may have also played a role, since within cereals, cross-elasticities of demand allow for substitution. Supply and demand of mineral commodities are particularly inelastic. Those for energy commodities are between those for agricultural commodities and those for metals. At the same time, supply and demand become more elastic for mineral and energy commodities over time.

Countries exposed to commodity markets with relatively low elasticities, especially metals, could build fiscal buffers and monetary policy space to prepare for the larger impact of possible shocks. As elasticities ultimately reflect adjustments made by final consumers and producers, replacing energy and agricultural subsidies with targeted transfers would help increase the demand and supply elasticities of many commodities and could reduce their price volatility. International trade can also play a prominent role in smoothing out commodity shocks and buffer against their economic impact (see Albrizio and others 2022, 2023; and Alvarez and others 2023). This will be even more relevant in the context of increasing geopolitical tensions and trade fragmentation as well as in the case of critical minerals for the energy transition.

Annex Table 1.1.1. European Economies: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2023	2024	2025	2023	2024	2025	2023	2024	2025	2023	2024	2025
Europe	**1.4**	**1.6**	**2.0**	**10.6**	**8.5**	**6.0**	**2.4**	**2.4**	**2.4**	. . .	. . .	. . .
Advanced Europe	**0.5**	**0.8**	**1.5**	**5.7**	**2.4**	**2.0**	**3.0**	**3.1**	**3.0**	**5.9**	**6.0**	**5.8**
Euro Area[4,5]	0.4	0.8	1.5	5.4	2.4	2.1	1.9	2.3	2.3	6.5	6.6	6.4
Germany	–0.3	0.2	1.3	6.0	2.4	2.0	6.8	7.0	6.9	3.0	3.3	3.1
France	0.9	0.7	1.4	5.7	2.4	1.8	–0.7	–0.6	–0.6	7.4	7.4	7.0
Italy	0.9	0.7	0.7	5.9	1.7	2.0	0.2	0.8	1.3	7.7	7.8	8.0
Spain	2.5	1.9	2.1	3.4	2.7	2.4	2.6	2.5	2.4	12.1	11.6	11.3
The Netherlands	0.1	0.6	1.3	4.1	2.7	2.1	10.2	9.1	8.8	3.6	3.9	4.2
Belgium	1.5	1.2	1.2	2.3	3.6	2.0	–0.1	–0.5	–0.4	5.5	5.5	5.5
Ireland	–3.2	1.5	2.5	5.2	2.4	2.0	9.9	10.4	9.6	4.3	4.4	4.5
Austria	–0.7	0.4	1.6	7.7	3.9	2.8	1.8	2.1	2.1	5.1	5.4	5.2
Portugal	2.3	1.7	2.1	5.3	2.2	2.0	1.4	1.6	1.5	6.6	6.5	6.3
Greece	2.0	2.0	1.9	4.2	2.7	2.1	–6.9	–6.5	–5.3	10.9	9.4	8.7
Finland	–1.0	0.4	1.9	4.3	1.2	1.9	–1.0	–0.6	–0.4	7.2	7.6	7.4
Slovak Republic	1.1	2.1	2.6	11.0	3.6	3.9	–2.1	–4.4	–3.6	5.8	5.9	5.9
Croatia	2.8	3.0	2.7	8.4	3.7	2.2	1.2	1.5	0.9	6.2	5.8	5.5
Lithuania	–0.3	2.2	2.5	8.7	1.5	2.3	2.6	1.3	1.3	6.6	6.3	6.1
Slovenia	1.6	2.0	2.5	7.4	2.7	2.0	4.5	2.7	2.1	3.7	3.7	3.8
Luxembourg	–1.1	1.3	2.9	2.9	2.5	3.1	7.4	7.4	7.6	5.2	6.0	6.0
Latvia	–0.3	1.7	2.4	9.1	2.0	3.6	–4.0	–3.8	–3.9	6.5	6.5	6.5
Estonia	–3.0	–0.5	2.2	9.1	4.2	2.5	–1.7	–3.4	–2.7	6.4	8.1	7.7
Cyprus	2.5	2.7	2.9	3.9	2.3	2.0	–9.3	–8.6	–8.5	6.1	5.9	5.7
Malta	5.6	5.0	4.0	5.7	2.9	2.1	1.9	2.5	2.7	2.5	2.5	2.5
United Kingdom	0.1	0.5	1.5	7.3	2.5	2.0	–2.2	–2.6	–2.8	4.0	4.2	4.1
Switzerland	0.8	1.3	1.4	2.1	1.5	1.2	7.6	8.2	7.6	2.0	2.3	2.4
Sweden	–0.2	0.2	2.2	5.9	2.6	2.0	6.2	6.0	5.3	7.7	8.4	8.2
Czech Republic	–0.4	0.7	2.0	10.7	2.1	2.0	1.2	0.6	1.0	2.6	2.6	2.5
Norway	0.5	1.5	1.9	5.5	3.3	2.6	17.7	19.5	20.7	3.6	3.8	3.8
Denmark	1.8	2.1	1.5	3.4	1.5	2.0	10.9	9.9	9.7	4.9	4.9	4.9
Iceland	4.1	1.7	2.0	8.7	5.6	3.4	1.0	1.0	0.8	3.4	3.8	4.1
Andorra	2.3	1.8	1.5	5.6	4.3	2.4	17.3	17.5	17.5	1.5	1.5	1.5
San Marino	2.3	1.3	1.3	6.1	2.3	2.0	4.1	2.9	2.1	4.0	3.9	3.9
Emerging and Developing Europe[6]	**3.2**	**3.1**	**2.8**	**19.4**	**18.8**	**13.1**	**–0.5**	**–0.3**	**–0.5**	. . .	. . .	. . .
Russia	3.6	3.2	1.8	5.9	6.9	4.5	2.5	2.7	2.7	3.2	3.1	3.2
Türkiye	4.5	3.1	3.2	53.9	59.5	38.4	–4.1	–2.8	–2.2	9.4	9.6	9.6
Poland	0.2	3.1	3.5	11.4	5.0	5.0	1.6	0.7	–0.2	2.8	2.9	3.0
Romania	2.1	2.8	3.6	10.4	6.0	4.0	–7.1	–7.1	–6.8	5.6	5.6	5.4
Ukraine[7]	5.0	3.2	6.5	12.9	6.4	7.6	–5.5	–5.7	–8.2	19.1	14.5	13.8
Hungary	–0.9	2.2	3.3	17.1	3.7	3.5	0.3	–0.2	–0.3	4.1	4.4	4.2
Belarus	3.9	2.4	1.1	5.0	6.3	6.5	–0.1	–0.5	–1.3	3.5	3.0	2.9
Bulgaria	1.8	2.7	2.9	8.6	3.4	2.7	0.3	–0.3	–1.2	4.4	4.3	4.2
Serbia	2.5	3.5	4.5	12.4	4.8	3.1	–2.6	–3.9	–4.7	9.5	9.4	9.3

Source: IMF staff estimates.

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of economies with exceptional reporting periods.

[1] Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix.

[2] Percent of GDP.

[3] Percent. National definitions of unemployment may differ.

[4] Current account position corrected for reporting discrepancies in intra-area transactions.

[5] Based on Eurostat's harmonized index of consumer prices except for Slovenia.

[6] Includes Albania, Bosnia and Herzegovina, Kosovo, Moldova, Montenegro, and North Macedonia.

[7] See the country-specific note for Ukraine in the "Country Notes" section of the Statistical Appendix.

Annex Table 1.1.2. Asian and Pacific Economies: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2023	2024	2025	2023	2024	2025	2023	2024	2025	2023	2024	2025
Asia	**5.0**	**4.5**	**4.3**	**2.6**	**2.4**	**2.7**	**1.9**	**1.7**	**1.7**	**. . .**	**. . .**	**. . .**
Advanced Asia	**2.2**	**1.7**	**1.8**	**3.6**	**2.5**	**2.2**	**4.5**	**4.6**	**4.6**	**2.8**	**2.9**	**3.0**
Japan	1.9	0.9	1.0	3.3	2.2	2.1	3.4	3.5	3.5	2.6	2.5	2.5
Korea	1.4	2.3	2.3	3.6	2.5	2.0	2.1	2.9	3.4	2.7	3.0	3.1
Australia	2.1	1.5	2.0	5.6	3.5	3.0	1.2	0.5	–0.2	3.7	4.2	4.5
Taiwan Province of China	1.4	3.1	2.7	2.5	1.9	1.6	13.1	13.9	13.9	3.7	3.7	3.7
Singapore	1.1	2.1	2.3	4.8	3.0	2.5	19.8	18.0	17.8	1.9	1.9	1.9
Hong Kong SAR	3.2	2.9	2.7	2.1	2.3	2.3	9.4	8.8	8.3	2.9	2.8	2.7
New Zealand	0.6	1.0	2.0	5.7	3.1	2.5	–6.9	–6.0	–5.4	3.7	5.0	5.4
Macao SAR	80.5	13.9	9.6	0.9	1.7	2.3	30.2	32.5	34.8	2.7	2.0	1.9
Emerging and Developing Asia	**5.6**	**5.2**	**4.9**	**2.4**	**2.4**	**2.8**	**1.0**	**0.7**	**0.7**	**. . .**	**. . .**	**. . .**
China	5.2	4.6	4.1	0.2	1.0	2.0	1.5	1.3	1.4	5.2	5.1	5.1
India[4]	7.8	6.8	6.5	5.4	4.6	4.2	–1.2	–1.4	–1.6	. . .	. . .	. . .
Indonesia	5.0	5.0	5.1	3.7	2.6	2.6	–0.1	–0.9	–1.3	5.3	5.2	5.1
Thailand	1.9	2.7	2.9	1.2	0.7	1.2	1.3	1.7	2.0	1.2	1.1	1.0
Vietnam	5.0	5.8	6.5	3.3	3.7	3.4	5.1	2.3	2.0	2.0	2.1	2.0
Philippines	5.6	6.2	6.2	6.0	3.6	3.0	–2.6	–2.2	–1.6	4.4	5.1	5.2
Malaysia	3.7	4.4	4.4	2.5	2.8	2.5	1.2	2.4	2.7	3.6	3.5	3.5
Other Emerging and Developing Asia[5]	**4.0**	**5.4**	**5.7**	**11.6**	**9.2**	**6.2**	**–0.1**	**–0.9**	**–2.2**	**. . .**	**. . .**	**. . .**
Memorandum												
ASEAN-5[6]	4.1	4.5	4.6	3.5	2.5	2.4	3.0	2.6	2.5	. . .	. . .	. . .
Emerging Asia[7]	5.7	5.2	4.8	2.0	2.1	2.6	1.0	0.7	0.8	. . .	. . .	. . .

Source: IMF staff estimates.

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of economies with exceptional reporting periods.

[1] Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix.

[2] Percent of GDP.

[3] Percent. National definitions of unemployment may differ.

[4] See the country-specific note for India in the "Country Notes" section of the Statistical Appendix.

[5] Other Emerging and Developing Asia comprises Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Fiji, Kiribati, Lao P.D.R., Maldives, the Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, Nepal, Palau, Papua New Guinea, Samoa, the Solomon Islands, Sri Lanka, Timor-Leste, Tonga, Tuvalu, and Vanuatu.

[6] Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

[7] Emerging Asia comprises China, India, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam.

Annex Table 1.1.3. Western Hemisphere Economies: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2023	2024	2025	2023	2024	2025	2023	2024	2025	2023	2024	2025
North America	**2.5**	**2.6**	**1.9**	**4.2**	**3.0**	**2.1**	**–2.7**	**–2.2**	**–2.2**	**. . .**	**. . .**	**. . .**
United States	2.5	2.7	1.9	4.1	2.9	2.0	–3.0	–2.5	–2.5	3.6	4.0	4.2
Mexico	3.2	2.4	1.4	5.5	4.0	3.3	–0.3	–0.8	–0.8	2.8	2.8	3.2
Canada	1.1	1.2	2.3	3.9	2.6	1.9	–0.6	0.3	0.4	5.4	6.3	6.3
Puerto Rico[4]	–0.7	–0.2	0.0	2.8	1.9	2.3	. . .	. . .	. . .	6.9	6.7	6.6
South America[5]	**1.5**	**1.4**	**2.7**	**19.7**	**24.7**	**10.1**	**–1.7**	**–1.2**	**–1.4**	**. . .**	**. . .**	**. . .**
Brazil	2.9	2.2	2.1	4.6	4.1	3.0	–1.3	–1.4	–1.5	8.0	8.0	7.9
Argentina	–1.6	–2.8	5.0	133.5	249.8	59.6	–3.5	0.9	0.9	6.6	8.0	7.5
Colombia	0.6	1.1	2.5	11.7	6.4	3.6	–2.7	–3.0	–3.3	10.1	9.9	9.6
Chile	0.2	2.0	2.5	7.6	3.2	3.0	–3.5	–3.9	–3.7	8.8	8.7	8.1
Peru	–0.6	2.5	2.7	6.3	2.3	2.0	0.6	–1.1	–1.4	6.8	6.6	6.5
Ecuador	2.3	0.1	0.8	2.2	1.4	1.5	1.2	0.9	1.2	3.7	4.2	4.0
Venezuela	4.0	4.0	3.0	337.5	100.0	150.0	3.4	4.7	4.0	. . .	. . .	. . .
Bolivia	2.5	1.6	2.2	2.6	4.5	4.2	–5.0	–5.7	–5.8	4.9	5.0	5.1
Paraguay	4.5	3.8	3.8	4.6	3.8	4.0	0.2	0.6	1.5	6.2	6.0	6.0
Uruguay	0.4	3.7	2.9	5.9	5.8	5.5	–3.9	–3.6	–3.2	8.3	8.1	8.0
Central America[6]	**4.2**	**3.9**	**3.8**	**4.1**	**3.0**	**3.3**	**–0.5**	**–1.5**	**–1.8**	**. . .**	**. . .**	**. . .**
Caribbean[7]	**8.3**	**9.7**	**6.9**	**12.8**	**6.8**	**5.6**	**2.6**	**3.0**	**2.1**	**. . .**	**. . .**	**. . .**
Memorandum												
Latin America and the Caribbean[8]	2.3	2.0	2.5	14.4	16.7	7.7	–1.2	–1.0	–1.2	. . .	. . .	. . .
Eastern Caribbean Currency Union[9]	4.8	4.3	3.3	3.9	2.3	2.0	–12.3	–11.2	–9.9	. . .	. . .	. . .

Source: IMF staff estimates.

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of economies with exceptional reporting periods.

[1] Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix. Aggregates exclude Venezuela.

[2] Percent of GDP.

[3] Percent. National definitions of unemployment may differ.

[4] Puerto Rico is a territory of the United States, but its statistical data are maintained on a separate and independent basis.

[5] See the country-specific notes for Argentina and Venezuela in the "Country Notes" section of the Statistical Appendix.

[6] Central America refers to CAPDR (Central America, Panama, and the Dominican Republic) and comprises Costa Rica, the Dominican Republic, El Salvador, Guatemala, Honduras, Nicaragua, and Panama.

[7] The Caribbean comprises Antigua and Barbuda, Aruba, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, and Trinidad and Tobago.

[8] Latin America and the Caribbean comprises Mexico and economies from the Caribbean, Central America, and South America. See the country-specific notes for Argentina and Venezuela in the "Country Notes" section of the Statistical Appendix.

[9] Eastern Caribbean Currency Union comprises Antigua and Barbuda, Dominica, Grenada, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines, as well as Anguilla and Montserrat, which are not IMF members.

Annex Table 1.1.4. Middle East and Central Asia Economies: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2023	2024	2025	2023	2024	2025	2023	2024	2025	2023	2024	2025
Middle East and Central Asia	**2.0**	**2.8**	**4.2**	**16.7**	**15.5**	**11.8**	**4.0**	**1.8**	**1.4**	**. . .**	**. . .**	**. . .**
Oil Exporters[4]	**2.1**	**2.8**	**4.4**	**11.4**	**10.3**	**9.1**	**6.4**	**4.0**	**3.1**	**. . .**	**. . .**	**. . .**
Saudi Arabia	–0.8	2.6	6.0	2.3	2.3	2.0	3.9	0.5	–0.6	. . .	. . .	. . .
Iran	4.7	3.3	3.1	41.5	37.5	32.5	4.4	3.6	3.4	9.0	8.9	8.8
United Arab Emirates	3.4	3.5	4.2	1.6	2.1	2.0	9.3	7.8	6.9	. . .	. . .	. . .
Kazakhstan	5.1	3.1	5.6	14.6	8.7	7.0	–3.8	–4.5	–2.7	4.8	4.8	4.8
Algeria	4.2	3.8	3.1	9.3	7.6	6.4	2.2	0.1	–1.5	. . .	. . .	. . .
Iraq	–2.2	1.4	5.3	4.4	4.0	4.0	2.6	–3.6	–5.1	. . .	. . .	. . .
Qatar	1.6	2.0	2.0	3.1	2.6	2.4	18.7	15.6	13.2	. . .	. . .	. . .
Kuwait	–2.2	–1.4	3.8	3.6	3.2	2.7	32.8	30.1	27.1	. . .	. . .	. . .
Oman	1.3	1.2	3.1	0.9	1.3	1.5	1.8	2.7	2.1	. . .	. . .	. . .
Azerbaijan	1.1	2.8	2.3	8.2	3.5	5.0	9.9	8.5	8.1	5.6	5.5	5.5
Turkmenistan	2.0	2.3	2.3	–1.7	5.0	7.9	4.8	4.1	2.8	. . .	. . .	. . .
Bahrain	2.6	3.6	3.2	0.1	1.4	1.8	6.3	6.9	5.3	. . .	. . .	. . .
Oil Importers[5,6]	**1.8**	**2.7**	**4.0**	**25.7**	**24.5**	**16.3**	**–2.9**	**–4.6**	**–3.5**	**. . .**	**. . .**	**. . .**
Egypt	3.8	3.0	4.4	24.4	32.5	25.7	–1.2	–6.3	–2.4	7.2	7.1	7.0
Pakistan	–0.2	2.0	3.5	29.2	24.8	12.7	–0.7	–1.1	–1.2	8.5	8.0	7.5
Morocco	3.0	3.1	3.3	6.1	2.2	2.5	–1.5	–2.6	–2.9	13.0	12.0	11.5
Uzbekistan	6.0	5.2	5.4	10.0	11.6	9.7	–4.9	–4.9	–4.5	8.4	7.9	7.4
Sudan[7]	–18.3	–4.2	5.4	171.5	145.5	62.7	–5.4	–6.9	–11.0	46.0	49.5	48.2
Tunisia	0.4	1.9	1.8	9.3	7.4	6.9	–2.5	–3.5	–3.7	16.4	. . .	. . .
Jordan	2.6	2.6	3.0	2.2	2.7	2.4	–7.0	–6.3	–4.5	. . .	. . .	. . .
Georgia	7.5	5.7	5.2	2.5	2.6	4.2	–4.3	–5.8	–5.6	16.4	15.7	16.0
Armenia	8.7	6.0	5.2	2.0	3.1	3.7	–1.9	–2.8	–3.6	12.5	13.0	13.5
Tajikistan	8.3	6.5	4.5	3.7	4.9	6.3	–0.7	–2.1	–2.2	. . .	. . .	. . .
Kyrgyz Republic	4.2	4.4	4.2	10.8	6.7	6.6	–30.4	–9.5	–8.0	9.0	9.0	9.0
West Bank and Gaza[7]	–6.1	. . .	. . .	5.9	. . .	. . .	–13.1	. . .	. . .	28.7	. . .	. . .
Mauritania	4.8	5.1	5.5	4.9	2.8	4.0	–11.2	–11.7	–9.2	. . .	. . .	. . .
Memorandum												
Caucasus and Central Asia	4.9	3.9	4.8	9.7	7.7	7.1	–1.5	–1.9	–1.3	. . .	. . .	. . .
Middle East, North Africa, Afghanistan, and Pakistan[6]	1.6	2.6	4.1	17.7	16.6	12.4	4.8	2.4	1.8	. . .	. . .	. . .
Middle East and North Africa	1.9	2.7	4.2	16.0	15.4	12.4	5.3	2.7	2.1	. . .	. . .	. . .
Israel[7,8]	2.0	1.6	5.4	4.2	2.4	2.5	4.7	5.6	4.2	3.5	3.7	3.8

Source: IMF staff estimates.

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of economies with exceptional reporting periods.

[1] Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix.

[2] Percent of GDP.

[3] Percent. National definitions of unemployment may differ.

[4] Includes Libya and Yemen.

[5] Includes Djibouti, Lebanon, and Somalia. See the country-specific note for Lebanon in the "Country Notes" section of the Statistical Appendix.

[6] Excludes Afghanistan and Syria because of the uncertain political situation. See the country-specific notes in the "Country Notes" section of the Statistical Appendix.

[7] See the country-specific notes for Israel, Sudan, and West Bank and Gaza in the "Country Notes" section of the Statistical Appendix.

[8] Israel, which is not a member of the economic region, is shown for reasons of geography but is not included in the regional aggregates.

Annex Table 1.1.5. Sub-Saharan African Economies: Real GDP, Consumer Prices, Current Account Balance, and Unemployment

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2023	2024	2025	2023	2024	2025	2023	2024	2025	2023	2024	2025
Sub-Saharan Africa	**3.4**	**3.8**	**4.0**	**16.2**	**15.3**	**12.4**	**–2.8**	**–2.8**	**–2.6**	**. . .**	**. . .**	**. . .**
Oil Exporters[4]	**2.4**	**3.2**	**2.9**	**21.2**	**23.7**	**19.7**	**0.9**	**1.6**	**1.0**	**. . .**	**. . .**	**. . .**
Nigeria	2.9	3.3	3.0	24.7	26.3	23.0	0.3	0.6	–0.1	. . .	. . .	. . .
Angola	0.5	2.6	3.1	13.6	22.0	12.8	3.1	4.9	4.6	. . .	. . .	. . .
Gabon	2.3	2.9	2.7	3.6	2.1	2.2	4.2	4.0	3.0	. . .	. . .	. . .
Chad	4.4	2.9	3.7	2.7	3.1	3.1	–2.5	–2.3	–3.0	. . .	. . .	. . .
Equatorial Guinea	–5.9	0.5	–4.6	2.5	4.4	1.8	–1.3	–2.7	–2.7	. . .	. . .	. . .
Middle-Income Countries[5]	**2.8**	**3.2**	**3.6**	**9.0**	**6.8**	**5.2**	**–3.2**	**–2.7**	**–2.4**	**. . .**	**. . .**	**. . .**
South Africa	0.6	0.9	1.2	5.9	4.9	4.5	–1.6	–1.8	–1.9	32.8	33.5	33.9
Kenya	5.5	5.0	5.3	7.7	6.6	5.5	–3.9	–4.3	–4.2	. . .	. . .	. . .
Ghana	2.3	2.8	4.4	37.5	22.3	11.5	–1.7	–1.9	–2.2	. . .	. . .	. . .
Côte d'Ivoire	6.2	6.5	6.4	4.4	3.8	3.0	–6.0	–3.8	–2.6	. . .	. . .	. . .
Cameroon	4.0	4.3	4.5	7.2	5.9	5.5	–2.8	–2.8	–2.8	. . .	. . .	. . .
Zambia	4.3	4.7	4.8	11.0	11.4	7.8	–1.8	3.7	5.2	. . .	. . .	. . .
Senegal	4.1	8.3	10.2	5.9	3.9	2.0	–15.1	–8.9	–4.8	. . .	. . .	. . .
Low-Income Countries[6]	**5.4**	**5.5**	**5.8**	**21.8**	**19.0**	**15.4**	**–5.6**	**–5.7**	**–5.2**	**. . .**	**. . .**	**. . .**
Ethiopia	7.2	6.2	6.5	30.2	25.6	18.2	–2.9	–2.6	–1.7	. . .	. . .	. . .
Tanzania	5.0	5.5	6.0	4.0	4.0	4.0	–5.3	–4.2	–3.6	. . .	. . .	. . .
Democratic Republic of the Congo	6.1	4.7	5.7	19.9	17.2	8.5	–5.4	–4.1	–3.2	. . .	. . .	. . .
Uganda	4.8	5.6	6.5	5.4	3.8	4.9	–7.7	–7.3	–7.6	. . .	. . .	. . .
Burkina Faso	3.6	5.5	5.8	0.9	2.1	2.0	–7.9	–5.7	–4.1	. . .	. . .	. . .
Mali	4.5	4.0	4.5	2.1	1.0	2.0	–9.0	–5.1	–4.4	. . .	. . .	. . .

Source: IMF staff estimates.

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of economies with exceptional reporting periods.

[1] Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A6 and A7 in the Statistical Appendix.

[2] Percent of GDP.

[3] Percent. National definitions of unemployment may differ.

[4] Includes Republic of Congo and South Sudan.

[5] Includes Benin, Botswana, Cabo Verde, the Comoros, Eswatini, Lesotho, Mauritius, Namibia, São Tomé and Príncipe, and Seychelles.

[6] Includes Burundi, Central African Republic, Eritrea, The Gambia, Guinea, Guinea-Bissau, Liberia, Madagascar, Malawi, Mozambique, Niger, Rwanda, Sierra Leone, Togo, and Zimbabwe.

Annex Table 1.1.6. Summary of World Real per Capita Output

(Annual percent change; in constant 2017 international dollars at purchasing power parity)

	Average									Projections	
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
World	**2.1**	**1.9**	**2.5**	**2.5**	**1.7**	**–3.9**	**5.5**	**2.5**	**2.6**	**2.2**	**2.2**
Advanced Economies	**0.9**	**1.3**	**2.1**	**1.9**	**1.4**	**–4.5**	**5.6**	**2.2**	**1.1**	**1.3**	**1.4**
United States	0.8	1.1	1.8	2.4	2.0	–3.0	5.5	1.6	2.0	2.1	1.3
Euro Area[1]	0.5	1.6	2.4	1.6	1.3	–6.4	6.0	3.2	0.1	0.5	1.2
Germany	1.4	1.4	2.3	0.7	0.8	–3.9	3.1	1.1	–1.2	0.1	1.3
France	0.4	0.8	2.0	1.5	1.4	–7.8	5.9	2.2	0.6	0.5	1.2
Italy	–0.9	1.5	1.8	1.1	0.7	–8.7	9.1	4.3	1.2	0.8	0.9
Spain	–0.1	2.9	2.8	1.9	1.2	–11.6	6.5	5.1	2.1	0.7	1.0
Japan	0.6	0.8	1.8	0.8	–0.2	–3.9	2.8	1.2	2.4	1.3	1.5
United Kingdom	0.4	1.1	2.0	0.8	1.1	–10.7	8.4	3.6	–0.3	0.0	1.1
Canada	0.6	0.0	1.8	1.3	0.4	–6.1	4.7	2.1	–1.7	–1.1	1.0
Other Advanced Economies[2]	2.1	1.8	2.5	2.0	1.2	–2.2	5.9	1.8	0.9	1.5	2.0
Emerging Market and Developing Economies	**4.0**	**2.8**	**3.3**	**3.3**	**2.3**	**–3.1**	**5.8**	**3.0**	**3.7**	**3.1**	**3.1**
Emerging and Developing Asia	6.7	5.8	5.7	5.6	4.4	–1.3	6.9	3.9	5.1	4.6	4.3
China	9.0	6.2	6.4	6.3	5.6	2.1	8.4	3.1	5.3	4.7	4.2
India[3]	5.3	7.0	5.6	5.3	2.8	–6.7	8.8	6.3	7.0	5.8	5.5
Emerging and Developing Europe	2.9	1.5	3.9	3.4	2.3	–1.6	7.6	2.1	3.8	3.8	2.5
Russia	2.4	0.0	1.7	2.8	2.2	–2.5	6.4	–1.8	3.9	5.6	2.0
Latin America and the Caribbean	1.8	–1.9	0.3	0.2	–0.9	–8.1	6.4	3.4	1.4	1.1	1.6
Brazil	1.9	–3.8	0.8	1.3	0.7	–3.7	4.2	2.5	2.3	1.6	1.6
Mexico	0.5	0.8	0.9	1.0	–1.2	–9.3	5.1	3.2	2.3	1.5	0.6
Middle East and Central Asia	1.4	1.8	0.1	0.8	–0.1	–4.5	2.7	3.2	3.6	1.0	2.4
Saudi Arabia	0.3	–1.9	0.8	5.9	1.5	–8.1	7.7	2.8	–2.7	0.5	3.9
Sub-Saharan Africa	2.1	–1.3	0.1	0.6	0.5	–4.3	2.1	1.3	0.8	1.2	1.4
Nigeria	3.6	–4.2	–1.8	–0.7	–0.4	–4.3	1.1	0.7	0.3	0.8	0.5
South Africa	1.1	–0.8	–0.3	0.1	–1.2	–7.3	3.8	1.1	–0.9	–0.6	–0.3
Memorandum											
European Union	0.8	1.8	2.9	2.1	1.7	–5.8	6.2	3.4	0.4	0.9	1.6
ASEAN-5[4]	3.7	3.6	4.1	3.9	3.2	–5.4	3.3	4.5	3.1	3.5	3.7
Middle East and North Africa	1.0	2.2	–0.5	0.5	–0.6	–4.9	2.8	3.2	0.0	0.9	2.5
Emerging Market and Middle-Income Economies	4.2	3.1	3.6	3.7	2.6	–2.9	6.5	3.4	3.6	3.4	3.4
Low-Income Developing Countries	3.1	0.9	2.0	2.2	2.1	–1.9	1.7	1.8	2.7	2.4	2.8

Source: IMF staff estimates.

Note: Data for some countries are based on fiscal years. Please refer to Table F in the Statistical Appendix for a list of economies with exceptional reporting periods.

[1] Data are calculated as the sum of those for individual euro area countries.

[2] Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

[3] See the country-specific note for India in the "Country Notes" section of the Statistical Appendix.

[4] ASEAN-5 comprises Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

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CHAPTER 2

FEELING THE PINCH? TRACING THE EFFECTS OF MONETARY POLICY THROUGH HOUSING MARKETS

Central banks around the world have raised policy rates significantly over the past two years. Many observers thought higher rates would lead to a slowdown or even a recession, but global growth has held steady. At the same time, some economies are in fact slowing down. Why are some feeling the pinch from higher rates and not others? This chapter investigates the effects of monetary policy across countries and over time through the lens of mortgage and housing markets. Monetary policy has greater effects where (1) fixed-rate mortgages are not common, (2) home buyers are more leveraged, (3) national household debt is high, (4) housing supply is more restricted, and (5) house prices have recently been overvalued. Because these characteristics vary significantly across countries, this chapter's main message is that the effects of monetary policy are strong in some countries and weak in others. Moreover, shifts in mortgage and housing markets since the global financial crisis and during the COVID-19 pandemic may have limited the drag of higher policy rates up to now in several countries. The risk that the cooling effects of past monetary tightening are yet to come should be taken seriously where fixed-rate mortgages have short fixation periods, especially if households are heavily indebted. The longer rates are kept high, the greater the likelihood that households will feel the pinch, even where they have so far been relatively sheltered.

Introduction

Since late 2021, in a bid to restore price stability, central banks around the world have raised policy interest rates at a speed, degree, and breadth unprecedented in at least 40 years. Reopening-related supply-chain disruptions and the war in Ukraine hit post-lockdown economies with a series of supply shocks. These shocks, combined with extraordinarily supportive fiscal and monetary policies during the pandemic, supercharged inflation to levels not seen in decades.[1] Given the sudden rise in interest rates, many observers predicted a sharp fall in growth for 2023.

In the end, global growth proved surprisingly resilient despite higher policy rates. Economic activity outpaced expectations in most countries, and employment, in particular, remained robust, even as inflation retreated significantly. Clearly good news, such as the partial reversal of the earlier supply shocks, materialized at the same time as rates were rising (Chapter 1).

What do we know about the macroeconomic effects of monetary policy, the so-called transmission of monetary policy, from the academic literature? First, transmission varies across countries, and macroeconomic effects take time (peak responses are often estimated to be about two years). Milton Friedman (1961) famously summarized these lags as being "long and variable." Asset prices, including house prices, respond faster. Second, economists have found some support for asymmetric effects; that is, rising policy rates have larger effects than similar-sized declines. This may be either because unemployment responds more when rates increase, since—as argued by John Maynard Keynes (1936)—prices and wages are not typically adjusted down, or because of credit constraints, as argued by Ben Bernanke and coauthors in the 1990s.[2]

Resilient global growth could suggest that the historically strong transmission of rising rates has now weakened. However, in some countries, demand has in fact cooled noticeably, and households are

The authors of this chapter are Mehdi Benatiya Andaloussi, Nina Biljanovska, Alessia De Stefani, and Rui Mano (lead), with support from Ariadne Checo de los Santos, Eduardo Espuny Diaz, Pedro Gagliardi, Gianluca Yong, and Jiaqi Zhao. Amir Kermani was an external consultant, and Jesper Lindé consulted on the modeling. The chapter benefited from comments by Stijn Van Nieuwerburgh and internal seminar participants and reviewers.

[1]China is on a different economic cycle, and monetary policy was eased recently, amid real estate market concerns (see Chapter 1).

[2]See Box 1.2 in the April 2023 *World Economic Outlook*, Bernanke and Kuttner (2005), and Gorea, Kryvtsov, and Kudlyak (2022).

clearly feeling the pinch of higher rates. Why in those countries and not others? The diversity of experiences offers an opportunity to learn about how monetary policy works.

This chapter investigates the transmission of monetary policy across countries and over time through the lens of mortgage and housing markets. The so-called housing channels of monetary policy transmission are known to be important. Mortgages are the largest liability of households, with housing often households' only significant form of wealth. Real estate accounts for a large share of consumption, investment, employment, and consumer prices in most economies. House prices, as a macrocritical asset price, can offer early clues as to where households are feeling the pinch of monetary policy. Finally, mortgage and housing markets vary significantly across countries, which helps in assessing the degree of variability in transmission.

To this end, the chapter addresses four main questions:

- **Where are real estate and mortgage markets now?** How have they evolved following the global financial crisis, the pandemic, and the recent monetary tightening?
- **Conceptually, what are the housing channels of monetary policy transmission?** How are housing channels tied to mortgage and housing market characteristics?
- **How do the housing channels vary across countries?**
- **Have the housing channels weakened in recent years?**

To answer these questions, the chapter offers a conceptual framework to guide the reader through the housing channels of monetary policy, linking them to mortgage and housing market characteristics. It applies empirical methods to a broader group of countries than in previous studies. And it does this by leveraging new data: (1) monetary policy surprises against analyst predictions, to identify exogenous changes in interest rates, and (2) the prevalence of fixed-rate mortgages across countries, through information collected from public sources and national authorities. A new regional data set of house prices and real activity is also used. Model simulations assess the joint effects of the prevalence of fixed-rate mortgages and regulatory loan-to-value (LTV) limits. The chapter builds on earlier IMF work[3] and a long academic literature.[4] Methods follow Jordà (2005), Stock and Watson (2018), and Chen and others (2023).

The chapter's main findings are as follows:

- *Mortgage and real estate markets have undergone several shifts in the past few decades.* At the beginning of the recent hiking cycle and after a long period of low interest rates, mortgage interest payments were historically low, and the average maturity and share of mortgages subject to fixed rates were high in many countries. Low rates, together with structural changes prompted by the pandemic and associated lockdowns, led to rapid growth in house prices. Residential real estate prices are still well above prepandemic levels but have now stabilized and even declined in some economies in 2023. Country experiences vary widely.
- *The housing channels of monetary policy vary significantly across countries.* Mortgage market characteristics matter: the transmission of monetary policy is stronger in countries where (1) fixed-rate mortgages (FRMs) are less common, (2) home buyers are more leveraged on account of less-restrictive regulatory LTV limits, and (3) household debt is high. Moreover, model simulations suggest that these effects reinforce each other. Restrictive regulatory LTV limits and household debt may dampen transmission more in the short term, delaying transmission. Housing market characteristics also matter: the transmission of monetary policy is stronger in countries where (1) housing supply is more restricted and (2) house

[3]Complementarities include Chapter 3 of the April 2008 *World Economic Outlook* (WEO), on housing and monetary policy (the last in-depth coverage of these issues in the WEO); Chapter 3 of the April 2020 WEO and Chapter 2 of the April 2022 WEO, which covered debt, macroprudential, and monetary policy; and Deb and others (2022) on housing issues in Asia. Related issues not covered in the chapter include commercial real estate in Chapter 3 of the April 2021 *Global Financial Stability Report* (GFSR); bank lending channels in Chapter 2 of the October 2016 GFSR; and monetary policy calibration, covered in Chapter 3 of the October 2009 WEO and Chapter 2 of the April 2019 GFSR.

[4]Including some common findings for Europe (Calza, Monacelli, and Stracca 2013; Pica 2021; Corsetti, Duarte, and Mann 2022; Battistini and others 2022); recent findings on regional housing markets, mainly for the United States (Huang and Tang 2012; Aastveit and Anundsen 2022; Albuquerque, Iseringhausen, and Opitz 2024); and more generally findings on the housing channels of monetary policy (Flodén and others 2021; Beraja and others 2019; Bernanke and Gertler 1995; Cloyne, Ferreira, and Surico 2020; Di Maggio and others 2017; Kaplan, Mitman, and Violante 2020; Kuchler, Piazzesi, and Stroebel 2023; Mian, Rao, and Sufi 2013). These findings are cited in this chapter where relevant.

prices have recently been overvalued. The chapter finds some evidence that these two housing market characteristics strengthen transmission more when monetary policy is tightening than when it is loosening. In the other direction, a high prevalence of FRMs dampens transmission more in a tightening cycle. Because these characteristics vary significantly across countries, the effects of monetary policy vary too.

- *The housing channels have weakened in several countries recently.* Developments since the global financial crisis and during the pandemic have weakened the housing channels in many countries: the prevalence of fixed-rate mortgages has increased, regulatory LTV limits have been tightened, and population has shifted to less-supply-constrained areas. This is counterbalanced in some cases by increases in house prices in already-overvalued areas and in household debt, which would strengthen the effects of monetary policy.

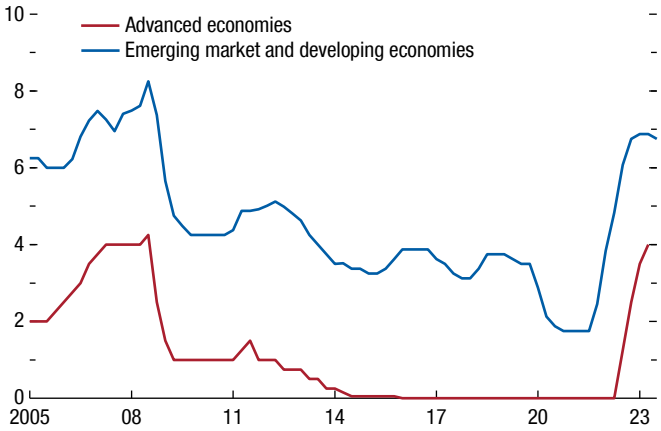
The chapter's analyses are subject to caveats. First, the empirical analyses are constrained by data availability, both across economies and over time. This lack of data, for example, precludes the study of rents. Second, the chapter focuses narrowly on the role of *residential* real estate and household mortgage characteristics, ignoring other channels of transmission. It therefore delves into whether households bear interest rate risk, while abstracting from whether banks or governments share that burden. Third, it is not technically feasible to gather all characteristics within the same framework, and thus the analyses may not capture general equilibrium effects.

The chapter begins by documenting trends in mortgage and housing markets. It then offers a conceptual framework that relates the effects of monetary policy to mortgage and housing market characteristics. Next, the chapter provides evidence that the effects of monetary policy vary significantly across countries because of those characteristics. The final section assesses whether the strength of the housing channels has changed over time and draws lessons for monetary and macroprudential policymakers.

Monetary Tightening and Real Estate: Context and Stylized Facts

This section documents shifts in real estate and mortgage markets since the global financial crisis and during the pandemic and suggests that these shifts, together with the recent divergence of house prices across countries, may offer clues about the effectiveness of monetary policy.

Figure 2.1. Nominal Policy Rates in Advanced Economies and Emerging Markets
(Country group median, percent)



Sources: Haver Analytics; and IMF staff calculations.

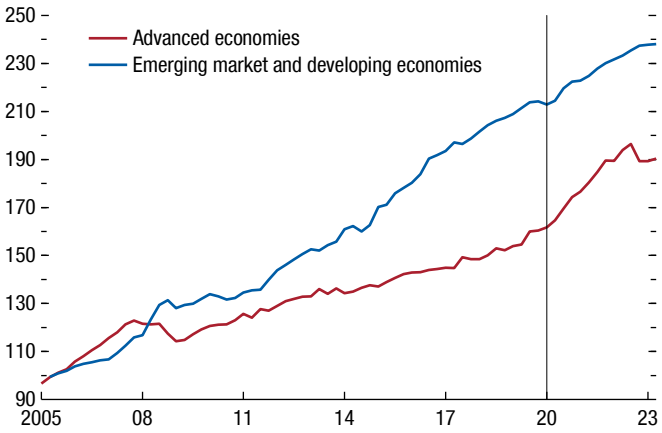
Real Estate Markets since the Global Financial Crisis and during the Pandemic

Postpandemic tightening followed an extended period of low interest rates (Figure 2.1). In the immediate aftermath of the global financial crisis, central banks slashed interest rates globally. Throughout the 2010s, policy rates were kept low and were brought close to zero in advanced economies amid weak economic growth and low inflation. In 2020, the pandemic prompted another round of policy rate cuts. Major central banks expanded the asset purchase programs they had initiated in 2008, and other central banks started new such programs. This helped keep long-term rates low.

Many households took advantage of low interest rates to secure low-cost mortgages. Consequently, at the start of the recent hiking cycle, effective mortgage rates had reached their lowest point in decades in many countries.[5] In some countries, this was accompanied

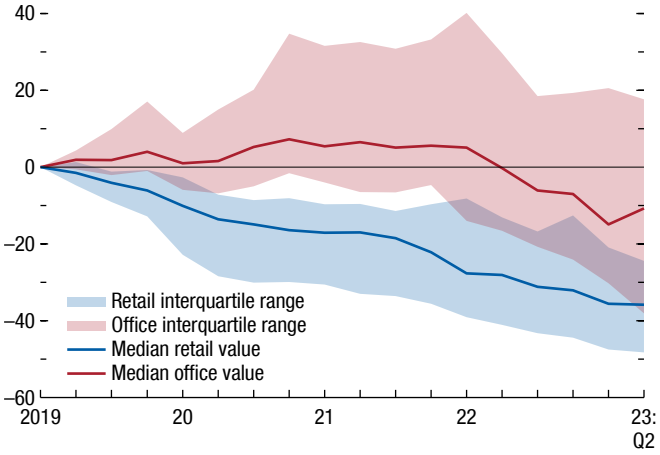
[5]For example, effective mortgage rates in France, Germany, and the United States reached 1.5, 1.7, and 3.3 percent, respectively, in early 2022 after declining from 4.0, 4.5, and 4.5 percent in 2011, respectively.

Figure 2.2. Nominal House Prices in Advanced Economies and Emerging Markets
(Country group median, index, 2005 = 100)



Sources: Bank for International Settlements; and IMF staff calculations.
Note: The vertical line corresponds to 2020:Q1, the start of the pandemic.

Figure 2.3. Commercial Real Estate Prices
(Percent change in city-level nominal CRE prices since 2019:Q1)



Sources: Morgan Stanley Capital International (MSCI); and IMF staff calculations.
Note: Lines display the median capital value across 46 cities in 8 advanced economies for retail (in blue) and across 47 cities in 11 advanced economies for offices (in red). The shaded areas correspond to interquartile ranges. CRE = commercial real estate.

by a shift to mortgages that allow for a period of fixed-interest payments, often driven by refinancing of old loans where that was possible: fixed-rate mortgages became more common (also see Figure 2.13 and discussion therein) and mortgages long-dated.

Separately, drawing lessons from the global financial crisis, many country authorities tightened macroprudential policies related to housing financing. This aimed to limit risky lending, which had been a major contributor to the global financial crisis, fueling boom-bust cycles in house prices in the mid-2000s in many countries. At the turn of the 2010s, these efforts had borne fruit: the average creditworthiness and leverage of households had generally improved.

During the pandemic and associated lockdowns, the combination of low rates and structural changes led to rapid growth in house prices globally, adding to already-elevated prepandemic levels in some countries (Figure 2.2). House prices often grew faster than income (Online Annex Figure 2.2.2),[6] lowering affordability and driving potential buyers to rent instead. This, combined with falling new construction, boosted rents in many countries. At the same time, the search for larger living space meant that in some countries (for example, the United States), house prices rose more in suburbs than in high-density urban core areas; in others (for example, Denmark, France, and the United Kingdom), prices in locations offering outdoor activities rose most, likely fueled by an increase in second-home purchases (Gupta and others 2022; Biljanovska and Dell'Ariccia 2023; Li and Su 2023).

In parallel, pandemic-era changes in labor practices (such as remote work) created new headwinds to an already-challenged commercial real estate sector (Figure 2.3). Price drops, which were pronounced in the United States for offices, have persisted even since economies reopened, suggesting that remote work arrangements and shifts away from brick-and-mortar retail could linger. Even though these structural changes are not related to monetary policy, rising borrowing costs are generating additional strains because preexisting low-rate loans will need refinancing over time.[7]

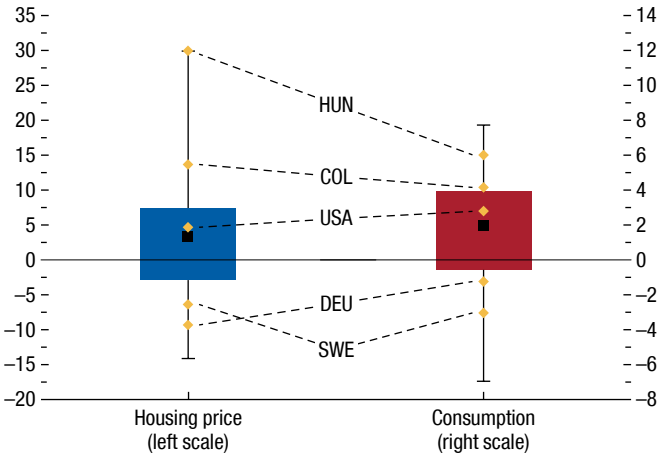
Real Estate Markets Offer Clues about the Diverging Effects of the Recent Tightening

In some ways, real estate markets reacted synchronously to the recent equally synchronous and broad-based monetary tightening. Rising borrowing costs cooled building activity in most countries, depressing supply, which was already insufficient following the global financial crisis (Online Annex Figure 2.2.3), just as high inflation, particularly in prices for raw

[6]All online annexes are available at www.imf.org/en/Publications/WEO.

[7]See Figures 1.8–1.9 in the April 2024 *Global Financial Stability Report* (GFSR) for latest developments and discussion in Chapter 3 of the April 2021 GFSR.

Figure 2.4. Evolution of House Prices and Consumption in the Postpandemic Tightening Cycle
(Percent change)

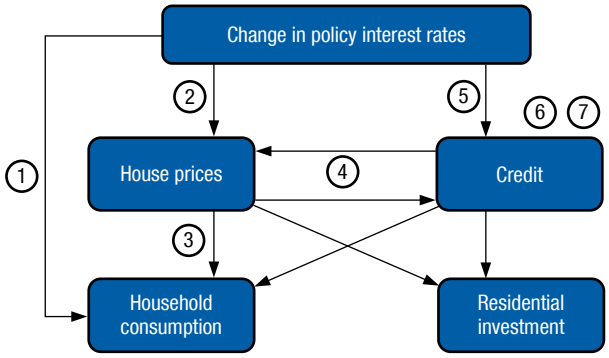


Sources: Bank for International Settlements; Haver Analytics; and IMF staff calculations.
Note: Whiskers indicate the minimum and the maximum; the bars show the 25th and the 75th percentiles; black squares within each box indicate the median. The left (right) box plot represents the distribution of country-level changes in nominal house prices (real consumption) between the quarter of the first country-level rate hike and 2023:Q2. Data labels in the figure use International Organization for Standardization (ISO) country codes.

materials, triggered a surge in construction costs (Online Annex Figure 2.2.5). Meanwhile, elevated rates on new mortgages contributed to a drying up of housing transactions in most economies—particularly in those in which homeowners had locked in mortgages with a low fixed rate and so were reluctant to sell (see, for example, Fonseca and Liu 2023 for the United States).

Despite these commonalities, house prices have evolved very differently across countries amid monetary policy tightening. Since the beginning of the current hiking cycle, nominal house prices have declined in about a third of countries in the sample considered here (a rare occurrence) but continued to rise elsewhere (Figure 2.4). Regardless, house prices remained elevated at the end of 2023 in most countries. Similarly, household consumption has evolved differently across countries, indicating that some households have started to feel the pinch of monetary policy, but not those everywhere. House prices and consumption have often moved in the same direction, rising in tandem in some countries (for example, Colombia and Hungary) and declining in others (for example, Germany and Sweden). While this diversity is likely driven by factors beyond monetary policy, it still suggests that a formal study of housing markets may shed light on the differential effects of monetary policy across countries.

Figure 2.5. The Housing Channels of Monetary Policy



Source: IMF staff.

The Housing Channels of Monetary Policy Transmission

This section discusses conceptually how monetary policy operates through housing. Figure 2.5 summarizes the housing channels of monetary policy transmission to household consumption and residential investment, which together represent about 70 percent of GDP in most economies (Online Annex Figure 2.2.1). The figure is stylized and abstracts from second-round effects from consumption and investment back to house prices and credit.[8]

First, through a *cash flow channel* (channel 1 in Figure 2.5), rising policy rates directly depress consumption by homeowners with adjustable-rate mortgages who cannot borrow easily (Di Maggio and others 2017; Flodén and others 2021).[9] The same logic applies in reverse when policy rates are lowered. The *cash flow channel* operates even in countries with high

[8]For clarity, the figure ignores effects on rents or effects from unconventional monetary policy. Changes in policy rates can affect rents through homeownership decisions: if rising mortgage costs outpace declining home prices, prospective new buyers may decide to delay buying property and remain in the rental market. Existing owners may also decide to sell as mortgage costs become prohibitive. This in turn can pressure rents upward, with negative impacts on renters' consumption and positive impacts on residential investment. In addition, unconventional monetary policy (e.g., quantitative easing) may affect house prices by shifting investor demand through a portfolio-rebalancing effect much like that in the expectations/risk premium channel discussed later in the chapter.

[9]Although bank earnings may rise in a hiking cycle, this windfall is not typically spent to offset the fall in homeowners' consumption.

The observation that rising policy rates directly depress consumption by homeowners with adjustable-rate mortgages who cannot borrow easily abstracts from the response of banks. Altunok, Arslan, and Ongena (2023) find that banks holding adjustable-rate mortgages benefit from rising policy rates and thus may be more willing to supply credit relative to banks holding fixed-rate mortgages.

incidences of fixed-rate mortgages if refinancing is not costly, but only when rates are lowered. In this case, refinancing allows households to lower their mortgage payments and spend more.

Second, rising rates can depress demand for housing through an *expectations/risk premium channel* (channel 2). As is true of any long-term asset, house prices are very sensitive to changes in interest rates, through evolving expectations about the future path of monetary policy and house prices. This in turn affects individual behavior (for example, homeownership decisions, mortgage choices, and leverage) and hence the macroeconomy (Kuchler, Piazzesi, and Stroebel 2023). For example, optimism about future house price growth can be a key determinant of house price booms (Kaplan, Mitman, and Violante 2020). Conversely, if households expect house prices will fall in the future, they tend to reduce their demand for housing in the present. When the demand for housing drops, it becomes harder to sell houses. Lenders respond by raising rates on mortgages to compensate for the increased risk of accepting less-liquid collateral. Such a rise in the cost of borrowing further depresses demand and the price of housing (Favilukis, Ludvigson, and Van Nieuwerburgh 2017).

Third, once rising rates depress house prices, homeowners' consumption may fall through a *wealth channel* (channel 3), as home values are often their main form of wealth (Kaplan, Mitman, and Violante 2020). These direct effects are strengthened by a *collateral channel* (channel 4), because homes serve as collateral in mortgages (Kiyotaki and Moore 1997; Chapter 3 of the April 2008 *World Economic Outlook* [WEO]; Iacoviello and Neri 2010; Mian, Rao, and Sufi 2013; Bhutta and Keys 2016; Beraja and others 2019). Reduced access to credit because of depressed home values can in turn lower household consumption.[10]

Finally, changes in interest rates affect consumption and investment through *credit channels*. The demand for credit responds to changes in mortgage rates through an *interest rate channel* (channel 5): when policy rates rise, mortgage rates also tend to rise (van Binsbergen and Grotteria 2023), reducing the demand for credit and housing (Mian and Sufi 2009; Jordà, Schularick, and Taylor 2015). This is often accompanied by a contraction in the supply and composition of credit (Bernanke and Gertler 1995; Chapter 2 of the October 2016 *Global Financial Stability Report*), either through a *bank lending channel* (channel 6), as a result of higher funding costs—the interest paid by banks to savers—or lower deposits, or through a *balance sheet channel* (channel 7), if lenders reduce credit to riskier households, anticipating that the net worth of borrowers will fall and their default risk increase. Borrowers cut their consumption as a result. Changes to credit supply can also affect house prices (Mian and Sufi 2018), with knock-on effects on both consumption and residential investment.

The subsequent sections focus on channels 1 through 5. The same channel may be associated with multiple mortgage and housing characteristics.[11] For example:

- The *cash flow channel* (channel 1) will be stronger where households are directly exposed to changes in mortgage rates, that is, the *interest rate channel* (channel 5) is active. This would be the case where *fixed-rate mortgages* are rare, where *household debt* is higher, or where credit is less restricted by macroprudential policies—that is, where *loan-to-value limits* are looser.
- The *expectations/risk premium channel* (channel 2) can be stronger in regions where house prices have risen faster and preexisting *overvaluation* is greater, since households' house price expectations are known to be backward looking (Kuchler, Piazzesi, and Stroebel 2023). This effect is reinforced in regions with larger *housing supply restrictions*, where quantities respond less.
- The *wealth channel* and *collateral channel* (channels 3 and 4) will also be more pronounced where *household debt* is higher or *loan-to-value limits* are looser, because these factors make it easier for homeowners to use their houses as collateral against additional borrowing, including through cash-out refinancing. Moreover, in places where *housing supply restrictions* are higher, prices will tend to react more strongly to changes in monetary policy. This direct wealth effect is strengthened by collateral effects, since

[10]Relatedly, a risk-taking channel can amplify the collateral channel: if banks take on more risk in low-rate environments, when collateral is more valuable, a sharp repricing of collateral during a hiking cycle can lead to bank distress, with implications for financial stability.

[11]Other characteristics may be relevant. For example, banking sector characteristics such as competition, regulation, risk management, and size may impact how policy rates transmit to mortgage rates, and to real activity through the housing channels. In addition, changes in housing policies such as real estate taxes or rent subsidies may also matter. Finally, in some countries, the prevalence of nonresident purchases may affect how monetary policy transmits to house prices (Chapter 3 of the April 2018 *Global Financial Stability Report*). These lie outside the scope of this chapter.

house prices are more likely to be *overvalued* in these regions, and thus households tend to be more leveraged. All the factors discussed also depend on the degree to which credit demand reacts to monetary policy—the *interest rate channel*.

- The *interest rate channel* (channel 5) will have more muted effects if regulatory *loan-to-value limits* are stricter, because these shift borrowing toward wealthier households, which rely less on debt and thus tend to respond less to changes in monetary policy.

Housing Channels Vary Significantly across Countries

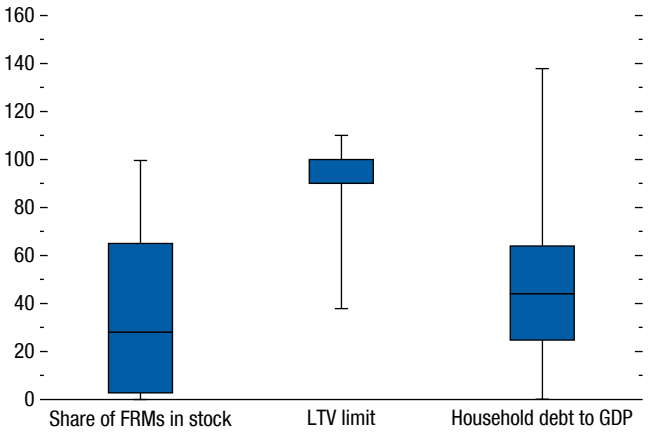
To shed light on the housing channels described in the previous section, this section studies empirically the importance of mortgage and housing market characteristics using a local projections instrumental variable framework (Stock and Watson 2018). The first subsection assesses the importance of mortgage market characteristics in a country-level panel of advanced economies and selected emerging markets. It also combines two characteristics in a model to assess complementarities. The second subsection uses a regional data set, with a reduced number of countries, to assess the importance of housing market characteristics. Both subsections map results back to the conceptual channels and study nominal house prices and real consumption or income. Differences in characteristics are not found to affect the transmission to investment. On the technical side, to address the fact that policy rates themselves respond to economic activity, both subsections use newly constructed monetary policy *shocks* based on deviations of actual rate decisions from analysts' expectations.[12]

Mortgage Market Characteristics Matter

This subsection applies a local projections instrumental variable framework to a panel of 33 emerging market and advanced economies[13] to study the role of three mortgage market characteristics in shaping the transmission of monetary policy: (1) a new measure of the share of FRMs in the stock of outstanding mortgages,[14] (2) regulatory limits on the size of mortgages relative to home values, or LTV ratios, which constrain leverage at mortgage origination, and (3) the ratio of household debt to GDP, a proxy for the relative depth and relevance of domestic mortgage markets. These characteristics can be linked to some of the housing channels of monetary policy transmission as discussed previously.

Mortgage market characteristics vary significantly across countries (Figure 2.6). Fixed-rate mortgages are rare or nonexistent in some countries (for example, Finland and South Africa) but are the majority of mortgages in others (Belgium, Mexico, and the United States). At the same time, regulatory LTV limits can be as restrictive as 45 percent in Korea, whereas in many countries LTV limits are as high as 100 percent or more (France, Germany, and the United States).[15]

Figure 2.6. Heterogeneity in Mortgage Market Characteristics
(Percent)



Sources: Bank for International Settlements; Integrated Macroprudential Policy (iMaPP) Database; national authorities; and IMF staff calculations.
Note: The figure shows the cross-country distribution of the share of fixed-rate mortgages (FRMs) as a proportion of the outstanding stock; regulatory loan-to-value (LTV) limits on mortgages; and the ratio of household debt to GDP. The horizontal line inside each box represents the median; the upper and lower edges of each box show the top and bottom quartiles. Whiskers show the maximum and the minimum. The sample covers 1998:Q4 to 2023:Q1.

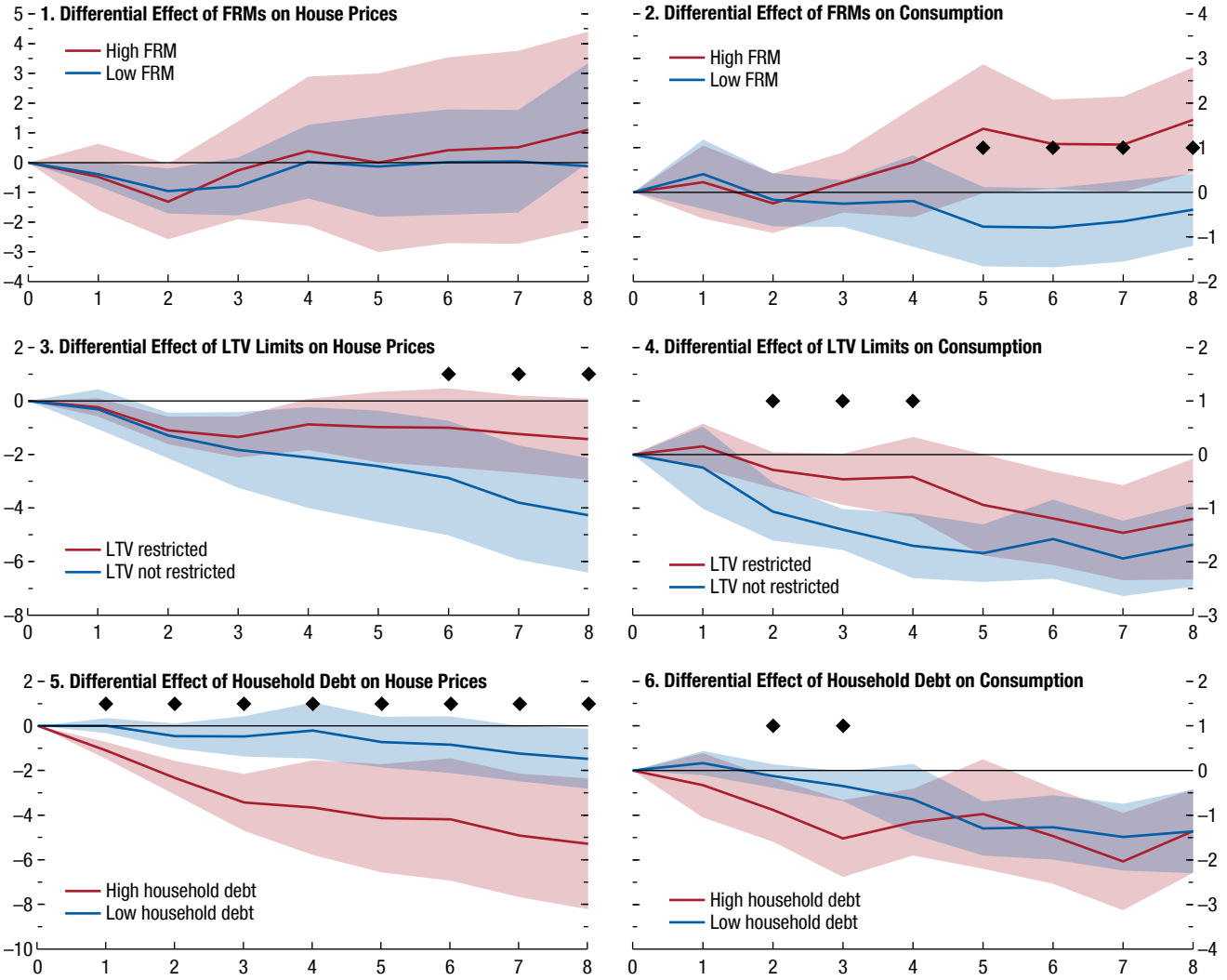
[12]See Online Annex 2.3. Results are broadly robust to using shocks cleaned for information effects, following Bauer and Swanson (2023). Checo, Grigoli, and Sandri (2024) argue that data on these surprises from Bloomberg are good measures of monetary shocks in emerging markets.

[13]Controls include time and country fixed effects and eight lags of changes in the dependent variable and other macroeconomic outcomes. See Online Annexes 2.4 and 2.5 for details. See Section 2.1.1 of Online Annex 2.1 for details on coverage.

[14]Countries define fixed-rate mortgages differently. To improve comparability, mortgages are deemed fixed rate if nominal payments do not reset within a year. Creating this new measure involved discussions with several central banks. See Online Annex Table 2.2.2 for details.

[15]Other borrower-based measures (like debt-service-to-income or debt-to-income ratios) are not studied here because granular data on them are not available, although they may have an impact on credit and thereby house prices (see Araujo and others 2020; Biljanovska and others 2023; and Alam and others, forthcoming). LTV limits are averaged across all mortgage types and constitute an upper limit. Lenders may impose stricter requirements.

Figure 2.7. Differential Effects of Monetary Policy Depending on Mortgage Market Characteristics
(Percentage points)



Sources: Bank for International Settlements; Bloomberg Finance L.P.; European Central Bank; Eurostat; national authorities; and IMF staff calculations.
Note: Numbers on the horizontal axes in the panels represent quarters. Lines reflect the cumulative percentage point response to a 100 basis point change in policy rates. Shaded areas represent 90 percent confidence intervals. Two groups for each characteristic are created: "High FRM" if share of FRMs is above the sample median,"low FRM" otherwise; "LTV restricted" if LTV limits are below 100 percent, "LTV not restricted" otherwise; and "High household debt" if household debt to GDP is above the sample median, "Low household debt" if otherwise. Diamonds indicate where the difference between coefficients is statistically significant at least at the 10 percent level. For details, see Online Annex 2.5. FRM = fixed-rate mortgages whose nominal payments do not reset within a year as a share of outstanding mortgages; LTV = regulatory loan-to-value limits.

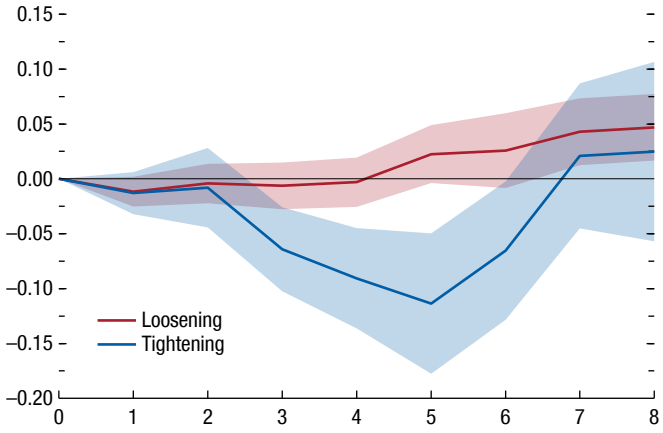
Similarly, household debt is below 50 percent of GDP in some (for example, Chile, Colombia, and Israel) and exceeds 100 percent of GDP in others (Australia, Canada, and Norway).

Fixed-Rate Mortgages Dampen Monetary Policy Transmission to Consumption

The degree to which monetary policy is able to affect consumption depends on whether rates on existing mortgages adjust to changes in policy rates (Figure 2.7, panels 1 and 2). While there are no significant differences in the transmission of monetary policy to house prices, a high share of FRMs significantly dampens the transmission of monetary policy to consumption relative to when FRMs are rare, with these differences becoming significant after five quarters.

The differential effects on consumption reflect the *cash flow channel* and are likely driven by a delay in interest rate pass-through. When most mortgages have fixed rates, mortgage payments do not adjust as

Figure 2.8. Differential Effects of Monetary Policy on Consumption Depending on Shares of Fixed-Rate Mortgages
(Percentage points)



Sources: Bloomberg Finance L.P.; European Central Bank; national authorities; and IMF staff calculations.
Note: Numbers on the horizontal axis in the figure represent quarters. Lines depict the cumulative differential response of real consumption to a 100 basis point monetary policy shock when shares of fixed-rate mortgages are low compared with when they are high, split along the sample median. The shaded areas indicate 90 percent confidence intervals. For details, see Online Annex 2.5.

quickly to a change in monetary policy (Online Annex Figure 2.5.3). In this situation, many consumers will not feel the pinch of rising policy rates until the rate on their mortgage resets. This mechanism will temporarily reduce the strength of the *cash flow channel*.[16]

Fixed-Rate Mortgages Matter More When Monetary Policy Is Tightening

The ability to refinance is critical to understanding the role of FRMs in the transmission of monetary policy. When policy rates are lowered, borrowers with FRMs who are able to refinance may reduce their monthly mortgage payments. In this case, FRMs will not limit the transmission of monetary policy as much. But when policy rates are rising, most borrowers with FRMs have no incentive to refinance, because they will prefer to keep their mortgage payments at their lower fixed rate. Hence, the differential effect of FRMs on transmission is more relevant when monetary policy is tightening than when it is loosening (Figure 2.8).[17]

Tighter Regulatory LTV Limits Delay Monetary Policy Transmission

When regulatory LTV limits are above 100 percent, that is, when they are not restricted,[18] both house prices and private consumption respond more forcefully to monetary policy. For house prices, the differential effect of LTV limits becomes significant over time (Figure 2.7, panel 3). For example, eight quarters after a 100 basis point increase (decline) in policy rates, house prices drop (rise) by 1 percentage point when LTV limits are restricted and by 4 percentage points when LTV limits are not restricted. The effects of monetary policy on consumption materialize significantly faster when LTV limits are not restricted, although these differences dissipate after four quarters (Figure 2.7, panel 4). This difference by the fourth quarter is economically large: the effect when LTVs are restricted is about half of what it is when they are not.

Tighter LTV limits, since they imply larger down payments, typically more acutely restrict the ability of poorer households to borrow. Hence, house prices and consumption may respond more when LTV limits are not restricted, since the borrower pool includes poorer, more indebted households, which typically have a higher marginal propensity to consume. In addition, leverage may be higher where properties are most overvalued, making house prices more sensitive to policy rate changes, consistent with the findings of the next subsection. Why might the effects on house prices be stronger than those on consumption? Unless existing homeowners can use their homes as collateral for loans to finance nonhousing expenditures (through cash-out refinancing), developments in house prices are unlikely to affect aggregate spending.[19] Since cash-out refinancing is rare in most countries, the *collateral* and *wealth channels* are likely to be less relevant than the *interest rate channel,* which is active at the time of home purchases.

Household Indebtedness Strengthens and Accelerates Monetary Policy Transmission

Similarly to the results for LTV limits, where households are more indebted, monetary policy has a stronger effect on house prices (Figure 2.7, panel 5).

[16]This is consistent with findings for the euro area (Calza, Monacelli, and Stracca 2013; Pica 2021; Corsetti, Duarte, and Mann 2022).

[17]See Wong (2019), Berger and others (2021), and Eichenbaum, Rebelo, and Wong (2022). The magnitudes in Figures 2.7 and 2.8 are not comparable. See Online Annex 2.5 for details.

[18]While LTV limits are measured ex ante, they may not always be fully exogenous to monetary policy decisions ex post.

[19]The literature estimates the average propensity to consume out of changes in housing wealth to be between 5 and 7 percent in the United States, with the effect driven by a loosening of borrowing constraints and home equity extraction (Mian, Rao, and Sufi 2013; Aladangady 2017).

Eight quarters after a change in monetary policy, nominal house prices respond about 3 percentage points more when household debt ratios are above the sample median relative to when they are below. In addition, the consumption response to a monetary policy impulse is significantly faster if debt is higher (Figure 2.7, panel 6), even if statistically the difference winds down after three quarters.

Countries with higher household debt tend to be those where consumers are more dependent on mortgages to purchase a property. Hence, housing transactions are generally more affected by changes in policy rates, through credit demand and the *interest rate channel*. Consistent with the effects for LTV limits, monetary policy seems to have slower pass-through to private consumption, although both reach average effects over the long term.[20] This suggests that ultimately what matters is the degree to which existing mortgage borrowers are exposed to interest rate changes, which takes precedence over the *collateral channel* and the *wealth channel*.

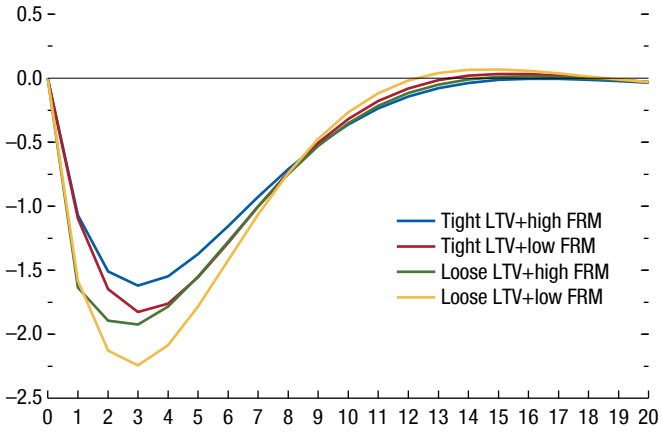
LTV Limits and the Prevalence of Fixed-Rate Mortgages Are Highly Complementary

Up to this point, mortgage market characteristics have been examined individually for expositional and technical reasons. This subsection uses the two-agent New Keynesian model with housing and leverage of Chen and others (2023) to illustrate the joint effects of the share of fixed-rate mortgages and regulatory LTV limits.

Model simulations suggest that the prevalence of FRMs and the effects of LTV limits reinforce each other. Figure 2.9 shows that the transmission of monetary policy to household consumption is weakest under more restrictive LTV limits and highly prevalent FRMs (the blue line in the figure). The complementarity between the two characteristics is seen in the greater rise in transmission when moving from high to low FRMs, given loose LTV limits (by 17 percent from the red to the yellow line) versus tight LTV limits (by 13 percent from the blue to the green line), and when moving from loose to tight LTV limits, given low FRMs (by 23 percent from the green to the yellow line) versus high FRMs (by 19 percent from the blue to the red line). The direction and timing of marginal effects are consistent with the earlier empirical results, although magnitudes cannot be compared directly.

[20]Results are similar when the share of households with mortgages is used as an interaction term (see Online Annex Figure 2.5.1). The result is also broadly consistent with findings in Corsetti, Duarte, and Mann (2022).

Figure 2.9. Effects of Monetary Policy on Consumption
(Percent of steady-state level)



Source: IMF staff calculations.
Note: Based on the model of Chen and others (2023). Numbers on the horizontal axis in the figure represent quarters. Lines reflect the response to a 100 basis point change in policy rates. Tight and loose LTV stand for LTV of 0.75 and 0.9, respectively. High and low FRM stand for a share of fixed-rate mortgages of 0.95 and 0.7, respectively. See Online Annex 2.7 for details. FRM = fixed-rate mortgages whose nominal payments do not reset within a year as a share of outstanding mortgages; LTV = regulatory loan-to-value limits.

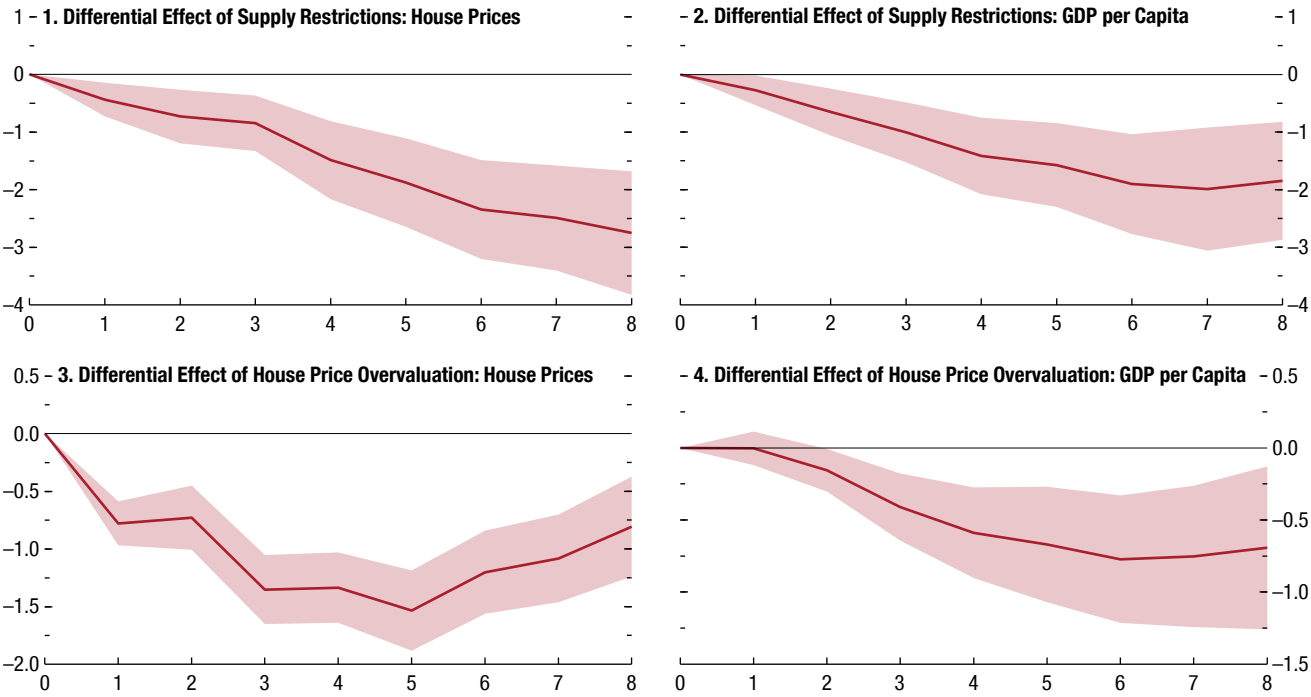
Housing Market Characteristics Matter

To estimate the sensitivity of monetary policy transmission to housing market characteristics, which vary significantly within countries, this section applies a local projections instrumental variable framework to a regional cross-country data set. This time, however, time-country fixed effects are included.[21] The first characteristic, "housing supply restrictions," reflecting local regulations that constrain land use or limit the supply of housing, is proxied by population density and has been shown to account for most regional variation in house prices in the United States (Saiz 2010). The second, "house price overvaluation," is measured through deviations from the regional long-term house-price-to-income ratio.[22] These characteristics shed light on the *wealth, collateral,* and *expectations channels*, as discussed conceptually in the section "The Housing Channels of Monetary Policy Transmission" and clarified further in the present subsection. Both housing market characteristics exhibit a right-tailed

[21]Controls include 12 lags of log differences in the dependent variable and other macroeconomic outcomes. See Online Annex 2.6 for details.

[22]Housing overvaluations are computed as deviations from the long-term house price-to-income ratio. More sophisticated parametric models considering multiple drivers of house prices could provide more accurate estimates of overvaluation (see, for example, Igan and Loungani 2012).

Figure 2.10. Differential Effects of Monetary Policy Depending on Local Housing Market Characteristics
(Percentage points relative to base effect)



Sources: CBS Open Data; CEIC Data Company Limited; Eurostat; Organisation for Economic Co-operation and Development; national authorities; and IMF staff calculations.
Note: See Online Annex Table 2.1.4 for the list of sources on national authorities' data. Numbers on the horizontal axes in the panels represent quarters. Solid lines represent the cumulative response to a 100 basis point change in the policy rate. The shaded areas indicate 90 percent confidence intervals. Differential effects of supply restrictions (house price overvaluation) denote relative effects between regions in the top 10th percentile of population density (regions with price-to-income ratio in the top 25th percentile of their own distribution) compared to other regions.

distribution (Online Annex Figure 2.6.2), suggesting that nonlinearities may be important. The outcome variables studied are nominal house prices and real GDP per capita, the latter serving as a proxy for consumption, as a result of data limitations.

Housing Supply Restrictions Strengthen the Transmission of Monetary Policy

Following a 100 basis point tightening (loosening) of policy rates, nominal house prices decline (rise) by an additional 3 percentage points after eight quarters in areas with restricted housing supply, compared with areas where supply is less restricted (Figure 2.10, panels 1 and 2). This effect is 50 percent larger than the average effect of monetary policy on house prices. Concurrently, real GDP per capita also undergoes an additional decline (rise) of 2 percentage points at peak in supply-restricted regions (about one-third larger than the corresponding average effects). The effects of monetary policy in housing-supply-restricted regions also seem more back-loaded.

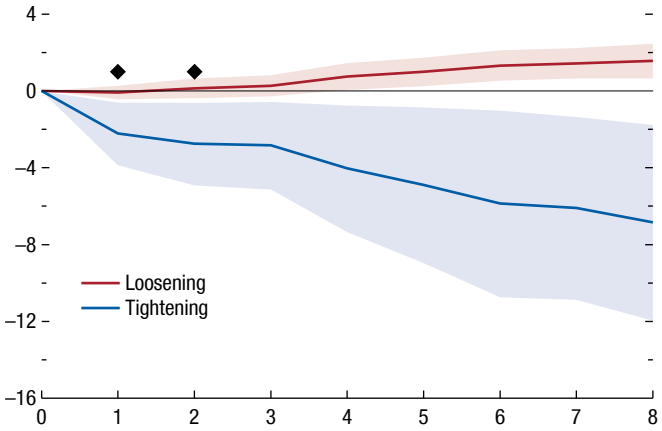
Changes in policy rates affect the demand for housing through the *interest rate channel*. However, the same shift in demand and mortgage rates leads to larger changes in house prices in supply-restricted regions. This in turn results in decreased private consumption and GDP through both the *wealth channel* and the *collateral channel*.[23]

Recent House Price Overvaluation Strengthens the Transmission of Monetary Policy

Similarly, following a tightening (loosening) of policy rates by 100 basis points, the peak fall (rise) in nominal house prices is 1.5 percentage points greater in areas with recent house price overvaluation relative to those without (Figure 2.10, panels 3 and 4). The effects are again large, about three-quarters of the average effect of monetary policy on house prices. At the same time, real GDP per capita declines (rises) an extra percentage

[23]See Albuquerque, Iseringhausen, and Opitz (2024) for similar findings for the United States.

Figure 2.11. Differential Effects of Monetary Policy on House Prices Depending on Supply Restrictions
(Percentage points)



Sources: CBS Open Data; CEIC Data Company Limited; Eurostat; Organisation for Economic Co-operation and Development; national authorities; and IMF staff calculations.
Note: See Online Annex Table 2.1.4 for the list of sources on national authorities' data. Numbers on the horizontal axis in the figure represent quarters. Solid red (blue) line represents the cumulative response to a 100 basis point loosening (tightening) in the policy rate. The shaded areas indicate 90 percent confidence intervals. Diamonds indicate where the difference between coefficients is statistically significant at the 10 percent level. Differential effects of supply restrictions (house price overvaluation) denote relative effects between regions in the top 10th percentile of population density (regions with price-to-income ratio in the top 25th percentile of their own distribution) relative to other regions.

point in regions with recent house price overvaluation (about two-thirds of the average effect). The differential effect is back-loaded for GDP per capita but not for house prices, which peak at about five quarters.

Sharp rises in house prices are often driven by overoptimism about future house prices (*expectations channel*). These are typically accompanied by excessive leverage (*collateral channel*), giving rise to spirals of falling house prices and foreclosures when monetary policy tightens. Income and consumption decline through the *expectations, collateral,* and *wealth* channels.[24]

Supply Restrictions and Price Overvaluation Matter More When Monetary Policy Tightens

Furthermore, the analysis suggests that supply constraints and overvalued house prices matter more when rates are rising, although the lower power of this specification means that symmetry can be rejected only for house prices and in the first two quarters (Figure 2.11; Online Annex Figure 2.6.1). Households in areas with supply constraints, overvalued housing, or both tend to be more leveraged. Thus, one possible explanation for this asymmetry is the shape of the leverage distribution: fewer households become borrowing unconstrained after an easing of monetary policy than those that become more constrained when monetary policy tightens.[25]

Putting It Together: The Strength of the Housing Channels across Countries

The heat map in Figure 2.12 shows that the degree of transmission of monetary policy varies significantly across countries (based on 2022 data or the latest available). The first three columns focus on mortgage market characteristics: the share of fixed-rate mortgages, regulatory LTV limits, and household debt. Meanwhile, the fourth and fifth columns focus on housing market characteristics: housing supply restrictions and the degree of house price overvaluations.[26] Darker reds depict countries with stronger monetary policy transmission based on the cross-country distribution for each variable, whereas lighter reds indicate the opposite. Countries with the strongest transmission are at the top of the figure; those more likely to have the weakest transmission are at the bottom.

Countries such as Australia and Japan appear to have stronger housing channels of monetary policy transmission, with low shares of fixed-rate mortgages, less-restrictive LTV limits, high household debt (only to some extent Japan), and a somewhat elevated proportion of the population living in housing-supply-restricted areas.[27] In contrast, countries such as Colombia, Hungary, and Israel are more likely to exhibit weaker transmission, with notably low levels of household debt and of supply constraints.

Important caveats are that columns in the figure cannot be compared or aggregated for each country and that the figure focuses solely on housing channels. The relevance of other channels may vary across countries; for example, the exchange rate channel is a

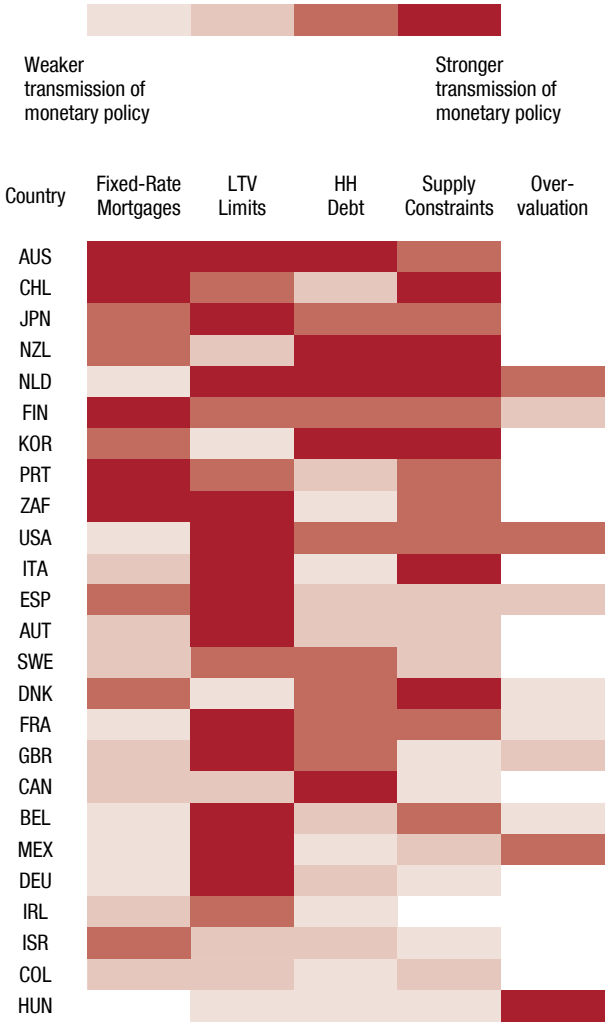
[24]See similar findings for the United States in Chodorow-Reich, Guren, and McQuade (2024).

[25]See Hedlund and others (2017), Huang and Tang (2012), and Albuquerque, Iseringhausen, and Opitz (2024) for similar findings.

[26]Both housing market characteristics are evaluated using regional data, and neither is indicative of national-level averages for population density or house price overvaluation. See notes to Figures 2.12 and 2.14.

[27]Chile is not mentioned despite being close to the top of Figure 2.12 to account for the fact that mortgage payments in Chile vary with inflation. Thus, monetary policy transmission to mortgage payments is likely to be weaker relative to the case in which mortgages adjust to market rates.

Figure 2.12. Heterogeneity in Monetary Policy Transmission



Sources: Bank for International Settlements; CEIC Data Company Limited; European Central Bank; Eurostat; Integrated Macroprudential Policy (iMaPP) Database; Organisation for Economic Co-operation and Development; national authorities; and IMF staff calculations.
Note: Fixed-rate mortgages are the share of the total outstanding stock, 2022:Q4 (or latest available). Fixed-rate mortgages exclude mortgages that adjust to inflation (as in Chile); LTV limits are the regulatory loan-to-value limits, averaged across all mortgage types, 2021:Q4; HH debt is the household credit-to-GDP ratio, 2022:Q4; supply constraints are the proportion of population living in areas with high population density, 2022:Q4 (or latest available). Regions above the 90th percentile of population density within each country are defined as high-population-density areas; overvaluation is the median price-to-income ratio (PIR) in overvalued areas, 2022:Q4 (or latest available). A region is defined as overvalued if its PIR is above the 75th percentile of its regional time series. For each of the five criteria, countries obtain a score between 1 and 4 reflecting their percentile in the cross-country distribution. Judgment is used for borderline cases. Countries are ranked based on their average score. White cells indicate missing data. Economy list uses International Organization for Standardization (ISO) country codes.

key channel for emerging and highly open economies (Brandão-Marques and others 2020).

Still, the ranking in the heat map lines up broadly with actual changes in house prices and real consumption since the start of each country's most recent hiking cycle (Figure 2.4), although many other shocks drive both variables beyond monetary policy. For example, countries such as Colombia and Hungary have experienced more significant house price and real consumption growth since the onset of the monetary policy tightening cycle. In contrast, in Australia, house prices declined significantly before recovering recently, and real consumption has been stagnant.

Housing Channels May Have Weakened in Many Countries

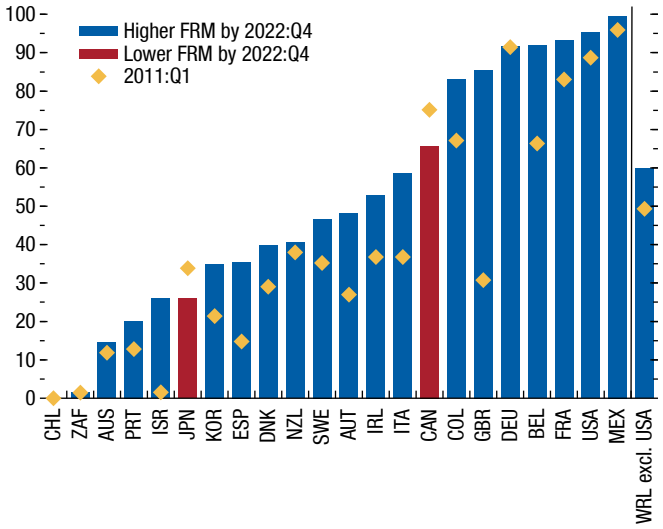
Complicating the assessment of the strength of the housing channels of monetary policy is the fact that mortgage and housing market characteristics themselves change over time, although at a slow pace. This section documents the evolution over time and across countries of the previously studied mortgage and housing market characteristics and then draws insights into how monetary policy transmission may have shifted by applying the documented changes in mortgage and housing market characteristics to the estimates from the previous section.

Shifting Mortgage and Housing Market Characteristics . . .

Mortgage market characteristics have changed significantly in some countries since the global financial crisis. Fixed-rate mortgages have become more prevalent (Figure 2.13), with the increase driven by low rates, as discussed previously. Regulatory LTV limits have either tightened or remained stable (Online Annex Figure 2.2.6). Household debt ratios have increased in some countries, notably Chile, France, and Korea, but decreased in others, such as Denmark, Ireland, and Spain (Online Annex Figure 2.2.7).

Housing markets have also undergone notable changes, particularly during the pandemic (Online Annex Figure 2.2.8). In most countries analyzed, the national-level housing supply is now likely to be more elastic as a result of migration from densely populated urban areas to less dense rural or suburban areas during the pandemic years. Regarding house price overvaluation, observed changes have been

Figure 2.13. Changes in the Share of Fixed-Rate Mortgages
(Percentage points)



Sources: European Central Bank; national authorities; and IMF staff calculations.
Note: Diamonds denote values at 2011:Q1 (or earliest available); bars denote values at 2022:Q4 (or latest available). Red bars denote countries for which the share of FRMs in stock decreased between 2011:Q1 and 2022:Q4; blue bars denote countries for which the share of FRMs in stock increased. For further details and definitions, see Online Annex Table 2.2.2. Economy list uses International Organization for Standardization (ISO) country codes. excl. = excluding; FRM = mortgages whose nominal payments do not reset within a year as a share of outstanding mortgages; WRL = world.

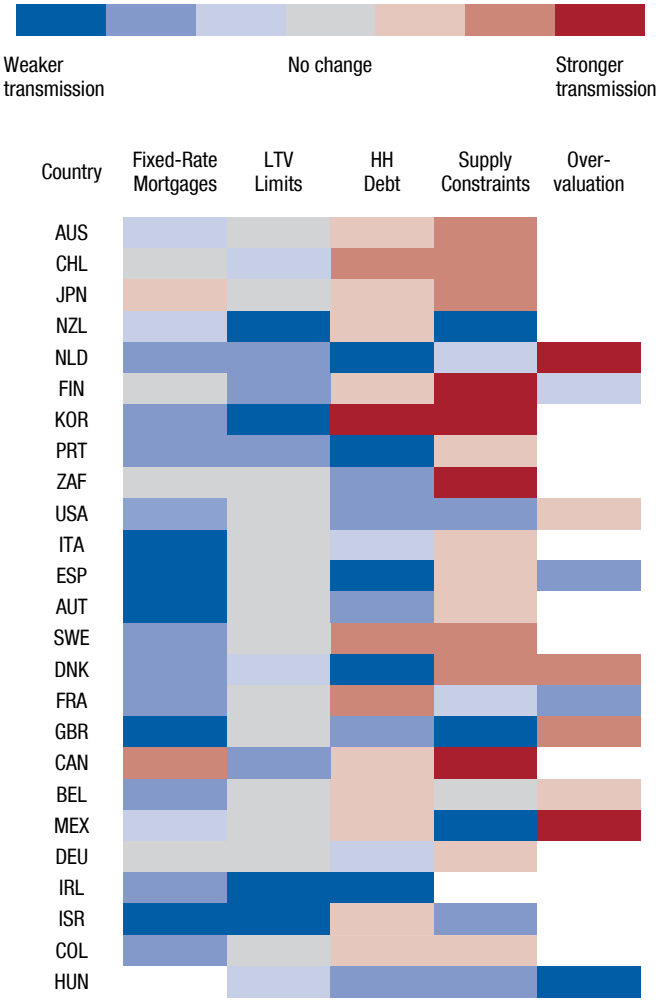
more balanced. In some countries, areas that were overvalued in 2019 have seen stagnant or declining price-to-income ratios (for example, Finland and Hungary) as people moved away from previously overvalued regions, contributing to a more even distribution of valuations across regions within a country. However, in other countries the reverse has happened: house price overvaluation has risen precisely where house prices were already overvalued (for example, Mexico and The Netherlands).

. . . Suggest Weaker Transmission Now in Many Countries

Figure 2.14 illustrates the implications of the shifts in characteristics for the transmission of monetary policy. The first three columns present a summary of the developments in mortgage markets between 2011 and the latest available data; the fourth and fifth columns summarize the changes in housing market characteristics between 2019 and 2022.[28] Shades of blue on the

[28]The reason for this different timing is that housing markets shifted significantly during the pandemic.

Figure 2.14. Changes in Monetary Policy Transmission



Sources: Bank for International Settlements; CEIC Data Company Limited; European Central Bank; Eurostat; Integrated Macroprudential Policy (iMaPP) Database; Organisation for Economic Co-operation and Development; national authorities; and IMF staff calculations.
Note: Fixed-rate mortgages are the change in the share of the total outstanding stock, from 2011:Q1 (or earliest available) to 2022:Q4 (or latest available). Fixed rate mortgages exclude mortgages that adjust to inflation (as in Chile); LTV limits are the change in regulatory loan-to-value limits, averaged across all mortgage types, from 2011:Q1 to 2021:Q4; HH debt is the change in household credit-to-GDP ratio, from 2011:Q1 to 2022:Q4; supply constraints are the population growth differential between areas with high and low population density, from 2019:Q4 to 2022:Q4 (or latest available). Regions above the 90th percentile of population density within each country are defined as high-population-density areas; overvaluation is the median price-to-income ratio (PIR) growth differential between overvalued and nonovervalued areas, from 2019:Q4 to 2022:Q4 (or latest available). A region is defined as overvalued if its PIR is above the 75th percentile of its regional time series. For each of the five criteria, countries obtain a score between 1 and 3 reflecting their percentile in the cross-country distribution within positive and negative changes. Judgment is used for borderline cases. Gray cells indicate no change. Countries are ranked based on the order of Figure 2.12. White cells indicate missing data. Economy list uses International Organization for Standardization (ISO) country codes.

heat map indicate changes in characteristics that imply weakening in monetary policy transmission, whereas shades of red indicate strengthening. Gray represents no change in transmission. Shades are based on a country's position within the cross-country distribution of changes of the same direction. Countries are listed in the same order as in Figure 2.12, which shows the overall strength of transmission—with the strongest transmission at the top and the weakest at the bottom.

Changes in mortgage market characteristics in countries such as Canada, Chile, and Japan suggest a strengthening of the transmission of monetary policy, driven mainly by a declining or stable share of FRMs, an increase in debt, and more constrained housing supply. Transmission in Hungary, Ireland, Portugal, and the United States, however, seems to have weakened, as characteristics there have moved in the opposite direction. At the global level, the heat map points to a decline in the transmission of monetary policy through the *cash flow*, *wealth*, and *collateral* channels, albeit to varying degrees across countries. Contributing factors include increased adoption of fixed-rate mortgages, tighter LTV limits, lower debt, outmigration from densely populated areas, and house price deflation in some previously overvalued areas.

Here, again, the heat map ignores changes in channels of transmission beyond housing and thus gives only a partial view of the changing strength of monetary policy transmission. The fact that policy rates have been raised over the last two years at a speed, degree, and breadth that is unprecedented in the last several decades may have also affected the transmission of monetary policy. Box 2.1 examines another channel—the *interest rate pass-through channel*—in Europe; Box 2.2 discusses the role of real estate in China's relatively weak transmission.

Policy Implications

Monetary policy affects economic activity through housing. The strength of these housing channels varies significantly across countries and has weakened recently in several economies. These findings hold implications for macroprudential and monetary authorities.

First, regarding borrower-based macroprudential measures, this chapter does not study their effectiveness. A large body of literature establishes that tighter macroprudential regulation improves financial and economic stability and therefore should be set with those objectives in mind. This chapter takes the level of regulation as given and finds that monetary policy may have smaller effects in countries with relatively tight regulation. This is because borrowers are on average less leveraged and so are not as sensitive to changing interest rates. This is desirable because it allows monetary policy to focus on managing aggregate demand and price pressures and thereby to act more freely, without fear of precipitating a financial crunch.

Second, turning to monetary policy, the chapter's findings suggest that a deep, country-specific understanding of housing channels is important and can help in calibrating and adjusting policy. In countries where the housing channels are strong, monitoring housing market developments and changes in household debt service can help identify early signs of overtightening. Where monetary policy transmission is weak, more forceful early action can be taken when signs of overheating and inflationary pressures first emerge.

But what about now? Most central banks have made significant progress toward their inflation targets. It could follow from the discussion that if transmission is weak, erring on the side of too much tightening is always less costly. However, overtightening, or leaving rates higher for longer, could nevertheless be a greater risk now. While fixed-rate mortgages have indeed become more common in many countries, fixation periods are often short. Over time, and as rates on these mortgages reset, monetary policy transmission could suddenly turn more effective and thereby depress consumption. Although central banks already incorporate this possibility in their decisions, the effects on consumption could still be larger than expected. Financial instability could also follow if defaults rise abruptly. This is especially true in countries where households are highly indebted or where bankruptcy laws favor borrowers. The sharp rise in house prices during the pandemic has also rendered some markets overvalued. These may be more likely to correct if rates remain high for long, particularly where macroprudential policies did not prevent the buildup of leverage. With a view to the next tightening cycle, prudential authorities should add instruments such as caps on debt-service-to-income ratios, if not already in place, to prevent such financial stability side effects of monetary policy.

In sum, the longer rates are kept high, the greater the likelihood that households will feel the pinch, even where so far they have been relatively sheltered.

Box 2.1. Interest Rate Pass-Through in Europe

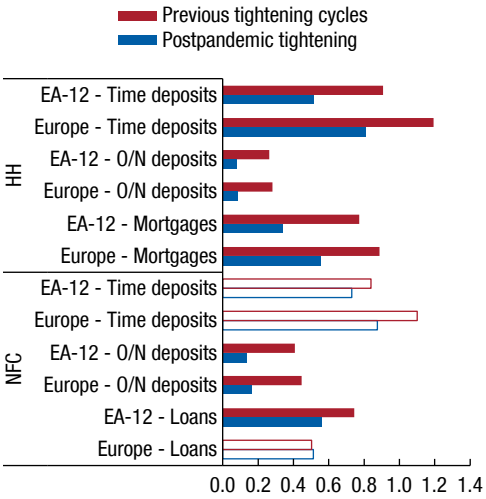
This box finds that some bank interest rates in Europe may have become less sensitive to changes in policy rates. The effect of monetary policy on bank interest rates ("pass-through") is an important ingredient of monetary policy transmission.

In the postpandemic tightening cycle in Europe, pass-through has been heterogeneous across types of interest rates (Figure 2.1.1). Pass-through seems highest to time deposits, followed by that to mortgages and to loans to nonfinancial corporations. Relative to past cycles, pass-through in Europe has weakened somewhat, except for that to nonfinancial corporation time deposits and loans.

The effects on real activity of mortgage rate pass-through depend on mortgage market characteristics such as the prevalence of variable-rate mortgages and the share of households with mortgages. In some European countries, pass-through to outstanding mortgages is high, but the share of households with mortgages is relatively low. This softens monetary transmission (top-left quadrant in Figure 2.1.2). In others, strong pass-through, in combination with a high stock of mortgages (top-right quadrant), can imply large changes in household debt-service costs. The annual increase in mortgage-servicing costs relative to mid-2022 varies significantly across the euro area (Figure 2.1.3), from Portugal at 1.2 percent of GDP to Malta at virtually zero.

The authors of this box are Luis Brandão-Marques and Florian Misch, based on Beyer and others (2024).

Figure 2.1.1. Pass-Through to Bank Interest Rates over Time
(Percent)

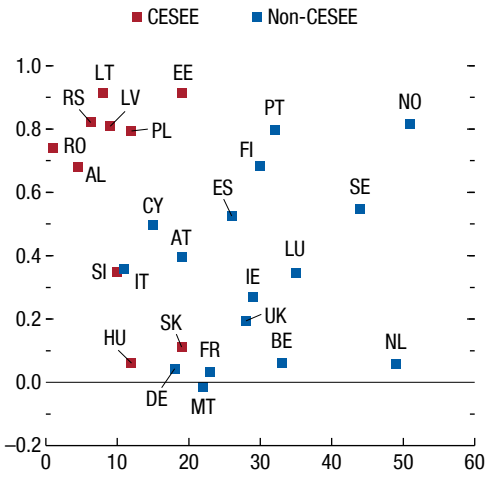


Sources: Beyer and others 2024; and IMF staff calculations.
Note: Pass-through is based on regression analysis in the spirit of Burstein and Gopinath (2014). The differences between solid bars are statistically significant at the 10 percent level or better. EA-12 comprises Austria, Belgium, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Portugal, and Spain. HH = household; NFC = nonfinancial corporation; O/N = overnight.

Box 2.1 *(continued)*

Figure 2.1.2. Pass-Through and Share of Households with Mortgages (2021–23)

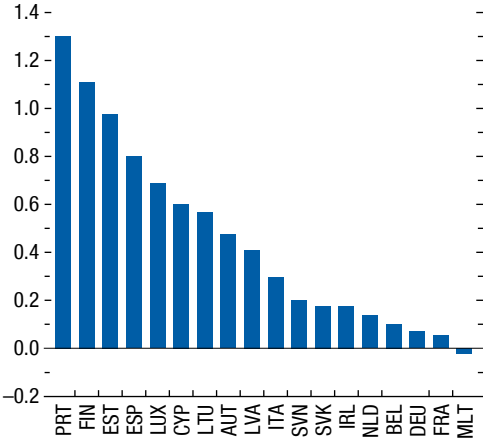
(Ratio)



Sources: Beyer and others 2024; and IMF staff calculations.
Note: Interest rate betas are defined as the ratio of the cumulative increase in rates of existing mortgages to the cumulative increase in the policy rate in the postpandemic hiking cycle. Economy list uses International Organization for Standardization (ISO) country codes. CESEE = Central, Eastern, and Southeastern Europe.

Figure 2.1.3. Changes in Mortgage Service Costs after European Central Bank Hikes

(Percent of 2022 GDP; refers to July 2022 mortgage stock)



Sources: Beyer and others 2024; and IMF staff calculations.
Note: Economy list uses International Organization for Standardization (ISO) country codes.

Box 2.2. China's Monetary Policy and the Housing Market

In China, the transmission from policy rates to the real economy through the housing market has been weak. Increasing reliance on interest-rate-based tools could help improve policy rate transmission to households.

Before the recent downturn in China's property sector, the country's housing market exhibited sensitivity to shifts in short-term interest rates. Lower short-term borrowing costs were followed by accelerating house price growth (Figure 2.2.1, panel 1), suggesting an impact of policy rates on the housing market through the *expectations/risk premium* and *credit channels*. However, the relationship between house prices and borrowing costs has weakened since the property sector downturn began in mid-2021, with nonmonetary factors, including developer distress and large inventories of unfinished homes, playing a more significant role in housing market dynamics.

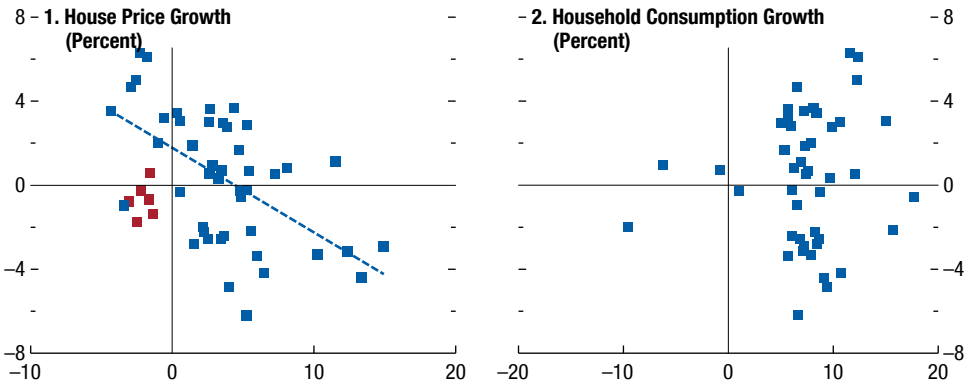
Changes in short-term interest rates have a more muted impact on consumption (Figure 2.2.1, panel 2), indicating limited transmission through the *wealth* and *collateral channels*. In the past, wealth effects have been subdued overall, since a preference for homeownership is often associated with higher saving rates, largely because of the rising burden of house purchases relative to income (IMF 2022). Restrictions on home equity credit and low regulatory mortgage loan-to-value limits—60 percent, which is close to the 10th percentile in a cross-country comparison (Figure 2.6)—further weaken the sensitivity of consumption to interest rates through the *collateral channel*.

In China's most recent property downturn and monetary easing cycle, transmission via the *cash flow channel* has also been relatively weak. Despite the prevalence of floating interest rates, existing borrowers have seen limited benefits, because benchmark reference rates have adjusted only modestly, reflecting limited use of interest-rate-based policy easing. At the same time, interest rates on new mortgages—less influenced by short-term interest rates—have noticeably declined, thanks to relaxed mortgage rate regulations. This reduction, however, has not benefited existing mortgage holders given the lack of a well-established refinancing mechanism.

Recent monetary policy easing, in the form of multiple rate cuts, has had only a limited impact on housing-related interest rates. This highlights problems in policy transmission across the interest rate structure, which prompted a one-time mortgage rate cut in September 2023. Increasing use of interest-rate-based tools to ease monetary policy, as opposed to greater reliance on credit policies, will help ensure more effective policy transmission via the housing channel.

The authors of this box are Henry Hoyle and Estelle Xue Liu.

Figure 2.2.1. China: Short-Term Market Interest Rates and House Price Growth
(Lagged short-term market interest rate index, four-quarter change)



Sources: Haver Analytics; and IMF staff calculations.
Note: Red squares denote the period after onset of housing downturn in 2021:Q3; blue squares denote 2010:Q2–2021:Q2. Interest rate index shows the change in the first four principal components of 12 short-term interest rates. House prices are the average secondary market price change for 70 cities. Data are quarterly. Lag is four quarters.

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CHAPTER 3

SLOWDOWN IN GLOBAL MEDIUM-TERM GROWTH: WHAT WILL IT TAKE TO TURN THE TIDE?

The global economy, while demonstrating remarkable resilience to recent shocks, faces a sobering reality: its medium-term growth prospects have consistently been revised downward since the 2008–09 global financial crisis. This reflects a downward trend in actual global growth, with the slowdown starting in the early 2000s in advanced economies and after the crisis in emerging market and developing economies. This chapter examines the factors behind this trend, revealing that a significant and broad-based slowdown in total factor productivity growth accounted for more than half of the growth decline. This deceleration was driven in part by increased misallocation of capital and labor across firms within sectors. A widespread drop in postcrisis private capital formation and slower working-age-population growth in major economies exacerbated the slowdown. This chapter predicts that, without timely policy interventions or a boost from emerging technologies, global growth will be only 2.8 percent by the end of the decade, significantly below its prepandemic (2000–19) average by a gap of 1 percentage point. This highlights the urgent need for policies and structural reforms that enhance growth by improving capital and labor allocation to more productive firms, enhancing labor force participation, and harnessing the potential of artificial intelligence. Such measures are critical, especially in light of challenges such as high public debt and geoeconomic fragmentation, which could further constrain global growth.

Introduction

Since the 2008–09 global financial crisis, forecasters have persistently lowered their expectations for growth over the medium term (Figure 3.1). Estimates of potential output growth—an economy's maximum noninflationary growth given its resources and technological capabilities—indicate a similar decline (Kilic Celik, Kose, and Ohnsorge 2023). This suggests a possible downshift to a lower-growth regime.

The growth decline implies worsening prospects for living standards and global poverty reduction. An entrenched low-growth environment, coupled with high interest rates, would threaten debt sustainability and could fuel social tension and hinder the green transition. Furthermore, expectations of weaker growth may deter investment in capital and technologies and so, in part, become self-fulfilling. Therefore, addressing the weakening growth outlook is a policy priority for all economies.

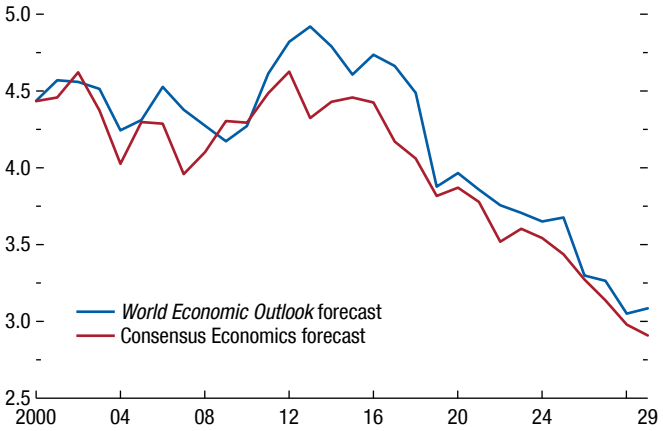
Changes in growth performance can be attributed to the contributions of labor and capital inputs and the efficiency of their use—known as total factor productivity (TFP). Among these proximate drivers, growth in labor inputs is held back by demographic pressures and declining labor force participation trends (Chapter 2 of the April 2018 *World Economic Outlook* [WEO]; Goodhart and Pradhan 2020). In addition, ever since the global financial crisis, anemic private investment in advanced economies has impeded capital deepening (Chapter 4 of the April 2015 WEO; Döttling, Gutiérrez, and Philippon 2017). However, a comprehensive analysis of business investment dynamics that includes emerging market economies is lacking.

TFP, a prime contributor to trend growth, can increase through *within-firm* productivity increases resulting from technological progress and through better resource allocation *across firms*—resources flow toward more productive firms—improving overall "allocative efficiency" in an economy (Restuccia and Rogerson 2008). Whereas technological advances have attracted extensive research, little attention has been paid to how allocative efficiency varies over time and how shifts in allocative efficiency have affected TFP growth.[1] To fill this gap, this chapter employs an

The authors of this chapter are Nan Li (co-lead), Chiara Maggi, Diaa Noureldin (co-lead), Cedric Okou, Alexandre B. Sollaci, and Robert Zymek, with support from Shrihari Ramachandra, Pablo Vega, Yarou Xu, and Dennis Zhao. The work in this chapter is partly supported by the Macroeconomic Policy in Low-Income Countries program of the UK's Foreign, Commonwealth and Development Office (FCDO) and the Macroeconomic Research on Climate Change and Emerging Risks in Asia program of the Ministry of Economy and Finance of the Government of Korea. The views expressed do not necessarily represent the views of the supporting partners. Peter Klenow was the external consultant. The chapter benefited from comments by Chang-Tai Hsieh and internal seminar participants and reviewers.

[1]The contribution of slowing innovation to the decline in TFP growth has already been studied extensively; see, for example, Gordon (2016); Bloom and others (2020); Chapter 3 of the October 2021 *World Economic Outlook;* and Acemoglu, Autor, and Patterson (2023). In addition, a large body of literature, surveyed in Restuccia and Rogerson (2017) and including Chapter 2 of the April 2017 *Fiscal Monitor*, has studied the role of misallocation in explaining global gaps in productivity levels. Unlike that literature, this chapter focuses on changes in misallocation over time, their causes, and their contribution to recent and prospective TFP growth.

Figure 3.1. Five-Year-Ahead Real GDP Growth Projections, 2000–29
(World growth, percent)



Sources: Consensus Economics; and IMF staff calculations.
Note: *World Economic Outlook* (WEO) sample comprises 196 economies and Consensus Economics sample comprises 88 economies. Global real GDP growth projections are calculated using GDP in purchasing power parity in international dollar weights. The years on the horizontal axis refer to the year for which a forecast is made, using the April WEO from five years earlier. For example, the 2029 forecast is based on the April 2024 WEO, and so on. The red line depicts the mean of the Consensus Economics forecasts.

approach developed by Hsieh and Klenow (2009) that proposes that a growing gap in revenue productivity among firms signals a decline in allocative efficiency (see Box 3.1 for detailed explanations of the notion and measurement of allocative efficiency).

In this context, this chapter seeks to answer the following questions:

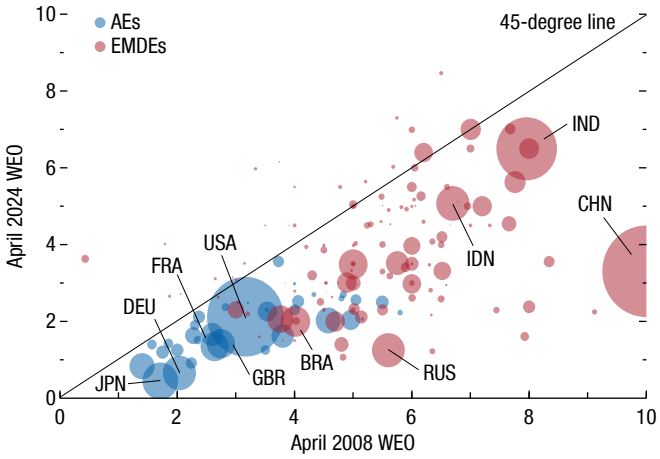
- *What are the insights from forecasts?* How did forecasters' views on medium-term growth evolve, and what do they imply about income inequality and convergence?
- *How did we get here?* What factors account for the decline in actual growth over the past two decades? What role did demographics and private investment play? To what extent have changes in allocative efficiency affected productivity growth?
- *Where is growth heading?* What are the potential trajectories for medium-term growth given demographic trends and prevailing economic forces, such as higher debt burdens, geoeconomic fragmentation, and the emergence of artificial intelligence (AI)? What policies could enable a return to the higher growth rates seen in the two decades preceding the pandemic?

To answer these questions, the chapter begins by examining medium-term (five-year-ahead) WEO growth projections, alongside actual growth trends, over the past three decades across a wide range of economies. Subsequent sections provide in-depth analysis of the proximate drivers of growth: labor inputs, private capital formation, and allocative efficiency. Last, the chapter presents various scenarios to assess the likely growth paths in the medium term and the potential effects of policy interventions.

The chapter's main findings are as follows:

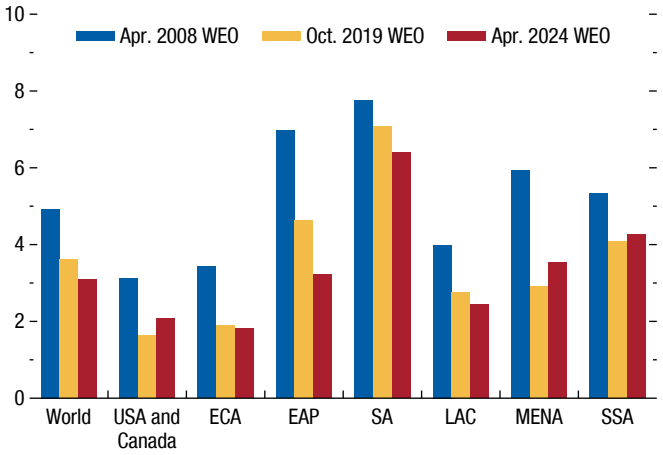
- *The decline in medium-term growth projections is widespread, reflecting secular forces rather than forecaster pessimism*. Expectations for medium-term growth have been revised downward across all income groups and regions, most significantly in emerging market economies.
- *Actual growth has similarly declined, and this is largely because of TFP growth dynamics.* In advanced economies, productivity growth started to decrease before the global financial crisis. In contrast, TFP growth in emerging market and developing economies rose before the crisis and then fell, mirroring the globalization cycle. For both, changes in TFP growth have significantly shifted overall economic growth, accounting for more than half of the decline in advanced and emerging market economies and nearly all of the decline in low-income countries.
- *Increased misallocation of capital and labor among firms has exerted a drag on TFP of 0.6 percentage point a year in the economies considered in the analysis.* This suggests that TFP growth could have been 50 percent higher if misallocation had not increased. Most of this misallocation increase is because of uneven firm productivity growth within sectors, requiring reallocation of capital and labor, which was impeded by economic frictions. Although shocks may temporarily worsen misallocation, two-thirds of it at any time can be attributed to persistent structural frictions, which policy measures can address to lift productivity.
- *Reduced private capital formation since the global financial crisis in many advanced and emerging market economies has also contributed to the growth decline.* Deterioration in firms' valuations relative to the cost of capital and rising corporate leverage are the two most important firm-specific factors contributing to the decline in business investment. At the macroeconomic level, lackluster growth

Figure 3.2. Five-Year-Ahead Real GDP Forecast by Country: April 2008 versus April 2024
(Percent)



Source: IMF staff calculations.
Note: Bubble size reflects size of the economy using April 2024 GDP in purchasing-power-parity international dollars. Data labels in the figure use International Organization for Standardization (ISO) country codes. AEs = advanced economies; EMDEs = emerging market and developing economies; WEO = *World Economic Outlook*.

Figure 3.3. Five-Year-Ahead Real GDP Forecast by Regions, 2008, 2019, and 2024
(Percent)



Source: IMF staff calculations.
Note: The figure uses GDP in purchasing-power-parity international dollars from the corresponding vintages for aggregation. EAP = East Asia and Pacific; ECA = Europe and Central Asia; LAC = Latin America and Caribbean; MENA = Middle East and North Africa; SA = South Asia; SSA = sub-Saharan Africa; USA = United States; WEO = *World Economic Outlook*.

performance and uncertainty have inhibited investment in advanced economies.

- *Demographic pressures weighing on labor supply are expected to intensify in the medium term in most advanced economies and major emerging markets, contributing to lower global growth.* By 2030, global labor supply growth is projected to be a mere 0.3 percent, less than a third of its average in the decade before the pandemic.
- *Confronted with several structural headwinds, returning global growth to its historical average requires both strong policy support and harnessing the potential of emerging technologies.* Based on projected demographic trends and conservative assumptions about technological progress, global growth in the medium term could fall below 3 percent. Returning to the historical (2000–19) annual growth average of 3.8 percent requires growth-enhancing policies and reforms. Their implementation should aim to improve allocative efficiency and labor participation and facilitate cross-border trade and knowledge exchange. These policies and reforms should also enhance innovation capabilities and maximize the capacity to benefit from technological advances such as AI.

Insights from Medium-Term Forecasts

Five-year-ahead WEO growth projections show a broad-based downturn in growth prospects since 2008 that affects nearly 82 percent of economies, including the world's largest (Figure 3.2). Notably, the five largest emerging market economies—Brazil, China, India, Indonesia, and Russia—contributed approximately 0.8 percentage point of the 1.8 percentage point drop in projected global growth. The downshift is evident across different regions and most pronounced for East Asia and the Pacific (Figure 3.3).

The dimming growth outlook raises two questions. First, could it be driven by growing pessimism among forecasters, especially after recent global shocks? Tracking the average discrepancy between forecast and realized growth shows no evidence of pessimism bias (Online Annex Figure 3.1.1).[2] The subdued prospects could in part reflect a correction to previous optimism, especially since 2012. Second, to what extent does the dimming outlook reflect secular growth trends? Forecasters typically consider the medium term the

[2]All online annexes are available at www.imf.org/en/Publications/WEO.

horizon during which economies close the gap between actual and potential output. Indeed, the evidence suggests that WEO medium-term growth forecasts are generally well aligned with projections of potential output growth (Online Annex Figure 3.1.2). Deviations have occurred only after crises when forecasters expected faster growth (relative to potential) to close a large output gap.

The decline in global growth forecasts may in part reflect progress in living standards and a subsequent slowdown in growth rates. However, when the historical pace of income convergence across countries is considered, the catch-up efforts of emerging market and developing economies explain only about a quarter of the projected global growth decline since 2008 (see Box 1.1 of the October 2023 WEO). In addition, the more accelerated decline in growth prospects in these economies, compared with that in advanced economies, poses concerns about future convergence. Using various measures, Box 3.2 suggests that the pace of convergence in regard to income and social welfare is slowing or potentially reversing over the medium term—in stark contrast to prepandemic historical trends.

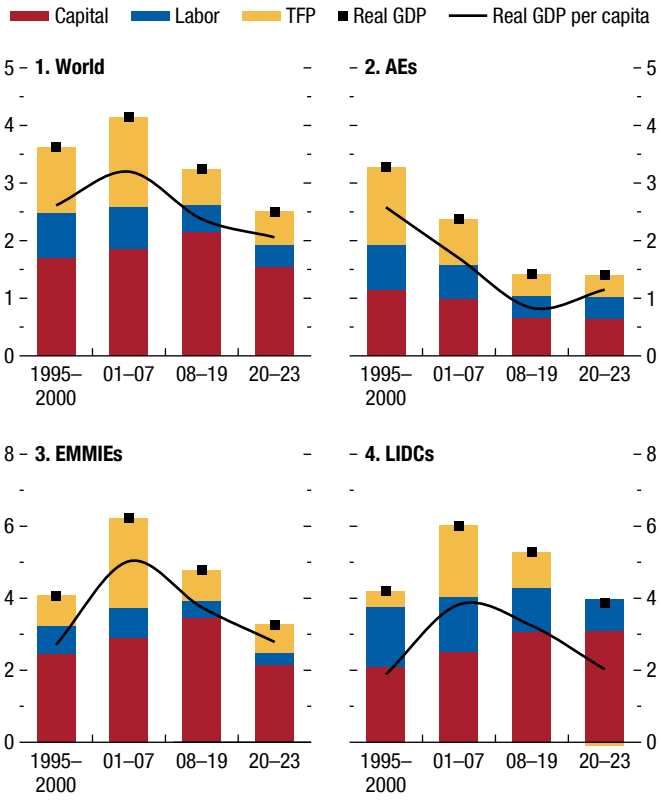
How Did We Get Here?

World growth accelerated from the early 2000s until the global financial crisis in 2008 and has declined ever since (Figure 3.4), aligned with the dynamics of medium-term projections. This pattern has been reflected in both emerging market economies and low-income countries, mirroring the ebbs and flows in globalization that have affected capital flows and productivity. Advanced economies, however, have experienced declining growth, beginning in the early 2000s.[3] In per capita terms, GDP growth has followed a similar trend in all country groups, with a modestly smaller postcrisis decline as population growth has slowed.

For all country groups, these shifts in growth have primarily been the result of changes in TFP growth. In advanced economies, annual TFP growth fell from 1.3 percent during 1995–2000 to 0.2 percent after the pandemic, accounting for half of the GDP growth reduction. Similarly, in emerging market economies and low-income countries, TFP growth dropped from 2.5 percent and 2 percent, respectively, during 2001–07 to just 0.7 percent and nearly zero, respectively, after the pandemic. In addition, slower capital formation after 2008 for advanced economies and since 2013 for emerging market economies has also contributed to the global growth slowdown. A consistent decline in the labor contribution as a result of an aging population and a related retreat in labor force participation in major economies have also played a role.

This section examines each component of output growth to understand the drivers behind their trends.

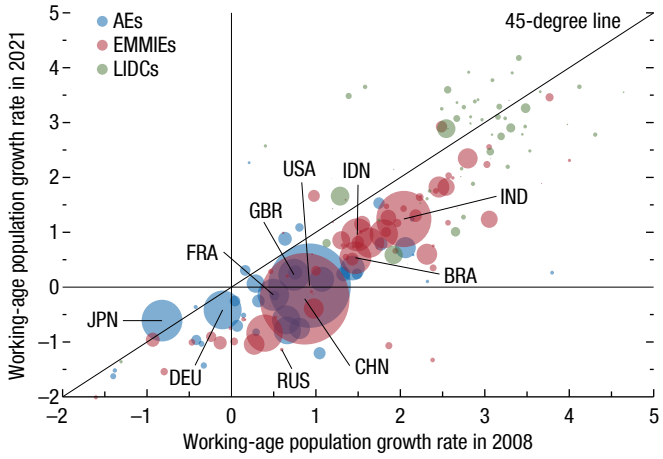
Figure 3.4. Contribution of Components of GDP Growth, 1995–2023
(Percent)



Sources: International Labour Organization; Penn World Table version 10.01; United Nations, World Population Prospects; and IMF staff calculations.
Note: Growth decomposition sample comprises 140 countries. Contributions of capital growth and labor growth reflect output share of respective factor inputs and their growth rates. AEs = advanced economies; EMMIEs = emerging market and middle-income economies; LIDCs = low-income developing countries; TFP = total factor productivity.

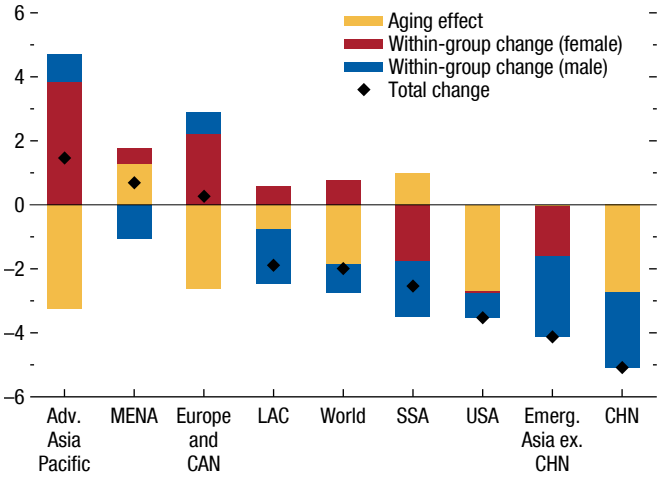
[3]GDP mismeasurement with expansion of the digital economy is often mentioned as a potential explanation for the productivity slowdown, particularly in the United States. The quantitative relevance of this issue, however, remains an open question. For instance, Syverson (2017) provides evidence that challenges the "mismeasurement hypothesis"; Crouzet and Eberly (2021) estimate that it may account for a significant share of the decline in TFP and, consequently, GDP growth.

Figure 3.5. Slowdown in the Growth of the Working-Age Population, 2008 versus 2021
(Growth in the working-age population, percent)



Sources: United Nations, World Population Prospects; and IMF staff calculations.
Note: Working-age population is defined as people ages 15 to 64. Outlier countries are excluded to enhance presentation. Including them does not change the pattern. Data labels in the figure use International Organization for Standardization (ISO) country codes. AEs = advanced economies; EMMIEs = emerging market and middle-income economies; LIDCs = low-income developing countries.

Figure 3.6. Breakdown of Change in Labor Force Participation Rate, 2008–21
(Percentage points)



Sources: International Labour Organization; and IMF staff calculations.
Note: Adv. Asia = advanced Asia; CAN = Canada; CHN = China; Emerg. Asia = emerging Asia; ex. = excluding; LAC = Latin America and the Caribbean; MENA = Middle East and North Africa; SSA = sub-Saharan Africa; USA = United States.

A Demographic Drag on the Labor Supply

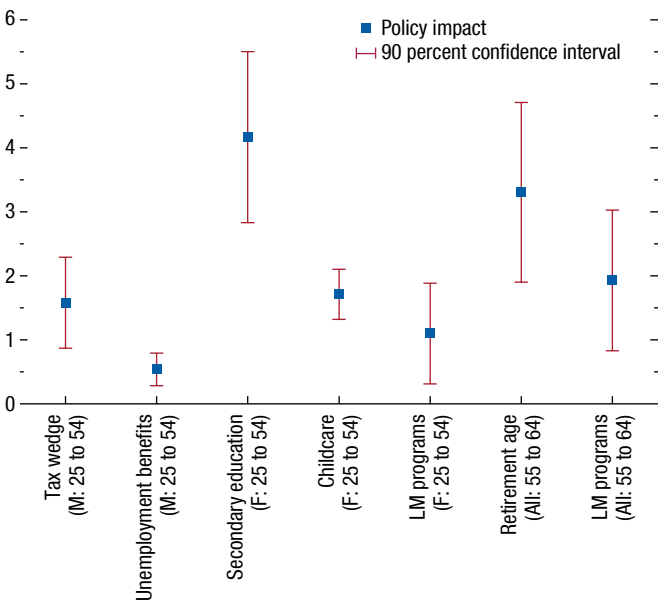
As a country undergoes a demographic transition, with declining fertility rates and an aging population, the share of its working-age population starts to shrink. Several large economies (Canada, China, United Kingdom, United States) experienced this turning point around the time of the global financial crisis (Online Annex Figure 3.2.1), in line with a noticeable decline in labor's contribution to growth (Figure 3.4).

Since 2008, growth in the working-age population (ages 15–64) has slowed in about 92 percent of the global economy and has been negative in about 44 percent (Figure 3.5). The slowdown is visible in most advanced and emerging market economies, whereas low-income countries still enjoy a demographic dividend. These demographic shifts have a direct bearing on global labor supply. Countries with a current demographic dividend could help support growth in the global workforce, in which nearly two in every three new entrants over the medium term will come from India and sub-Saharan Africa. The global imbalance in labor supply also hints at the importance of migrant workers for advanced economies.

As the labor force ages and the share of older workers increases, aggregate labor force participation may also suffer, since older workers are less likely to participate in the labor market. Shift-share analysis helps tease out some effects of aging and gender disparities in labor force participation on aggregate participation rates (Figure 3.6). First, aggregate labor force participation rates declined somewhat significantly between 2008 and 2021 in most world regions, except Advanced Asia and the Pacific, the Middle East and North Africa, Europe, and Canada. Second, the drag on participation from aging is visible in all advanced economies and China, and to a lesser extent in Latin America. Third, advanced economies—except the United States—managed to counter this aging effect by significantly increasing their within-group labor force participation, mostly through impressive gains in female participation and higher participation of older workers. The decline in average hours worked in Europe (Astinova and others 2024) may have countered some of these gains. Last, for emerging market economies and the United States, the decline in male participation was a drag on aggregate participation.

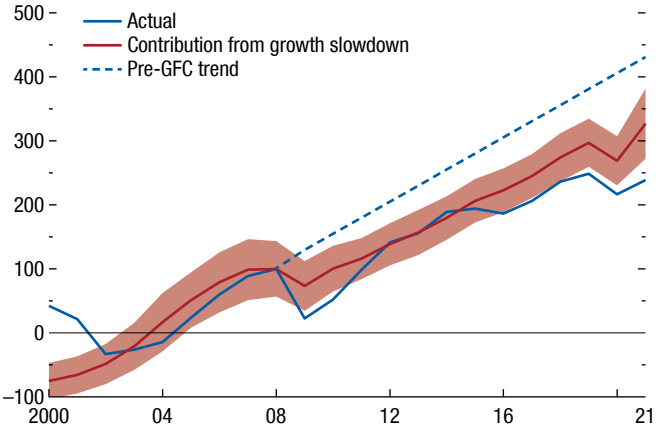
Although these trends were evident before 2019, the pandemic shock has exacerbated the drop in participation somewhat, especially in emerging markets. The initial pandemic shock led to a strong retraction in participation rates between 2019 and 2020, especially in China and Latin America, with some recovery in 2021. That noted, participation remained broadly

Figure 3.7. Policies and Labor Force Participation by Gender and Age
(Change in labor force participation rate, percentage points)



Sources: International Labour Organization; Organisation for Economic Co-operation and Development; and IMF staff calculations.
Note: The estimated policy impact is due to a change in the policy variable from the 75th to the 25th percentile within the distribution of policy variation in the sample, and where the change is aimed at enhancing labor force participation. The sample comprises 26 advanced economies and 3 emerging market economies. F = female; LM programs = labor market programs; M = male.

Figure 3.8. Real Business Investment in OECD Countries
(Index, 2008 = 100)



Sources: Organisation for Economic Co-operation and Development (OECD); and IMF staff calculations.
Note: The figure plots the aggregate business investment for the 21 OECD economies listed in Online Annex 3.2. Actual and predicted real business investment growth are cumulated from 1999 and indexed at 100 in 2008. Predicted values for investment growth are obtained by multiplying the estimated investment-output elasticity reported in Online Annex Table 3.2.3 by output growth. Weaker economic activity is defined as a deceleration in output growth. Pre-GFC trend is the expected linear path of the business investment index in 2002–08. Shaded area denotes the 90 percent confidence interval. GFC = global financial crisis.

lower than in 2019, especially in Latin America, where participation declined about 1.9 percentage points, and in the United States, where it lost about 1.4 percentage points.[4]

Besides cyclical and structural factors, policies can also improve labor participation rates.[5] To understand how policy variations may have contributed to differences across countries, Figure 3.7 shows the estimated impacts of selected policy changes on the participation of different gender-age groups.

The estimates suggest that reduced unemployment benefits and lower labor taxes are associated with higher participation for men of prime working age. For women, an expansion in secondary education enrollment has a positive association with future participation rates. Similarly, labor market programs (such as retraining and reskilling) and childcare programs appear to be supportive. For older workers, retirement-age reforms and spending on labor market programs are also associated with higher participation, which is of particular importance since the population share of this group is on the rise.

Anemic Private Capital Formation

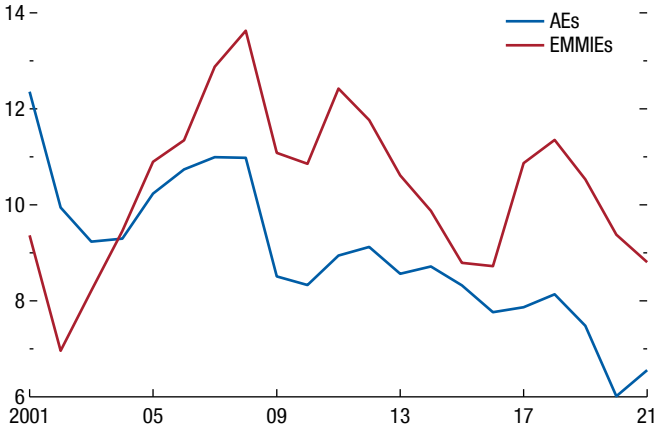
The second proximate driver of economic growth is capital formation. In Organisation for Economic Co-operation and Development economies, business investment—the bulk of total investment—tumbled after 2008, and in 2021 it fell by about 40 percent of its pre-global-financial-crisis trend (Figure 3.8).

This section starts by examining whether the slowdown in economic activity since the 2008 global financial crisis has impeded economy-wide business investment. It uses "narrative fiscal shocks"—fiscal policy changes aimed at reducing budget deficits, likely

[4]More recent data for 2022 for a subset of the economies in the sample reveal upward revisions for participation rates in Chile, Colombia, India, and Thailand. In addition, more recent estimates for labor force participation in the United States suggest some recovery.

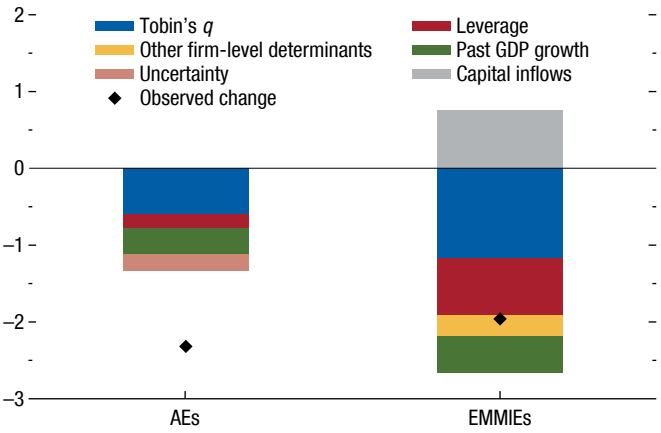
[5]To explain the potential role of policies, the chapter estimates a country panel regression to investigate how participation rates for different age and gender groups respond to policies. This exercise covers only Organisation for Economic Co-operation and Development (OECD) countries, since data on policy variables for non-OECD countries are lacking (see Online Annex 3.2 for details). Given the potential endogeneity of the policies, the results of this exercise should be interpreted as associational and not necessarily causal.

Figure 3.9. Net Investment Rates in Advanced and Emerging Market Economies
(Percent)



Sources: Thomson Reuters Worldscope; and IMF staff calculations.
Note: The net investment rate is computed as aggregate investment over aggregate lagged capital stock net of depreciation. See Online Annex 3.2 for details. The numerator is computed by summing firm-level net investment at the country-year level; the denominator is computed by summing firm-level capital at the country-year level. The figure plots the average ratio for AEs and EMMIEs using GDP in purchasing power parity in international dollar weights. AEs = advanced economies; EMMIEs = emerging market and middle-income economies.

Figure 3.10. Contribution of Firm- and Macro-Level Determinants to Changes in the Investment Rate since 2008
(Percentage points)



Sources: Ahir, Bloom, and Furceri 2022; Thomson Reuters Worldscope; and IMF staff calculations.
Note: The black diamonds represent the average change in investment rates for AEs and EMMIEs since 2008 compared with the period before 2008. For AEs, pre-2008 averages are computed over 2000–08. For EMMIEs, pre-2008 refers to 2006–08. Each layer in the bars represents the average change in the corresponding regressor multiplied by its estimated coefficients. Only regressors with significant coefficients are included. Changes are aggregated at the country level using as weights the relative capital share of each firm. Averages for AEs and EMMIEs are computed using GDP in purchasing power parity in international dollar weights. AEs = advanced economies; EMMIEs = emerging market and middle-income economies; Tobin's q = the ratio of the market value to the book value of a firm's assets.

not responding to economic conditions—as an instrumental variable to analyze the investment-output relationship.[6] The results show that for every 1 percentage point decline in output growth that is not triggered by a contraction in business investment, there is a corresponding 2 percentage point decrease in investment growth. This estimated output-investment relationship is used to calculate the investment shortfall from the growth slowdown following the global financial crisis. Comparing with the precrisis trend, Figure 3.8 suggests that as of 2021, about half of the shortfall in business investment since 2008 can be linked to weaker economic activity.

This exercise, however, provides only a partial view of investment determinants. To gain further insights into constraints on investment, besides economic activity, the chapter explores the characteristics of firms that reduced their investment.

Using firm balance sheet and income statement data, the analysis examines publicly listed firms in 32 advanced economies and 13 emerging markets (see Online Annex 3.2 for details). Figure 3.9 plots the net investment rate—defined as investment divided by lagged capital stock net of depreciation—aggregated across the sample economies. Importantly, both investment and capital stock figures account for intangibles, which are crucial for understanding investment dynamics (see Online Annex 3.2). Consistent with investment trends in Organisation for Economic Co-operation and Development countries (Figure 3.8), the figure shows net investment rates in advanced and emerging market economies declining after 2008.

The chapter uses regression analysis with firm-level data to shed light on the most important firm- and macro-level factors determining the investment decline since 2008 (see Online Annex Table 3.2.5). The findings align with theoretical expectations: investment rates increase with a firm's market value relative to its cost of capital ("Tobin's q"), profits, and cash stock but decrease with higher corporate leverage and the cost of debt.

Figure 3.10 shows that the overall investment rate has declined, on average, by about 2.3 percentage points in advanced economies and 2 percentage points

[6]The narrative fiscal shocks are used as instruments for output growth to address endogeneity concerns that result from simultaneous feedback between investment and output (see Online Annex 3.2 for details). They are constructed based on Pescatori and others (2011) and extended to 2021 for 21 OECD economies. The p-value of the first-stage F-statistic is below 0.1 percent, indicating that the narrative fiscal shocks are relevant in explaining output growth.

in emerging markets. Of that investment decline, the regression analysis reveals that more than half in advanced economies and virtually all in emerging markets can be explained by the determinants included in the analysis.

Since 2008, Tobin's *q*, an indicator of firms' future productivity and profitability expectations, has decreased by 10 to 30 percent on average, contributing to the bulk of the explained decline in investment in both advanced and emerging market economies (Figure 3.10). In emerging markets, the 20 percent average increase in leverage after 2008 is notable as a factor in the overall fall in investment rates (see Online Annex Figure 3.2.4).

The decline in GDP growth since 2008 helps explain the investment decline, even after key firm-level investment determinants are controlled for. Rising uncertainty after 2008 makes a smaller but still significant contribution to the investment decline in advanced economies. In emerging markets, increased capital inflows since 2008 have been positive for investment.

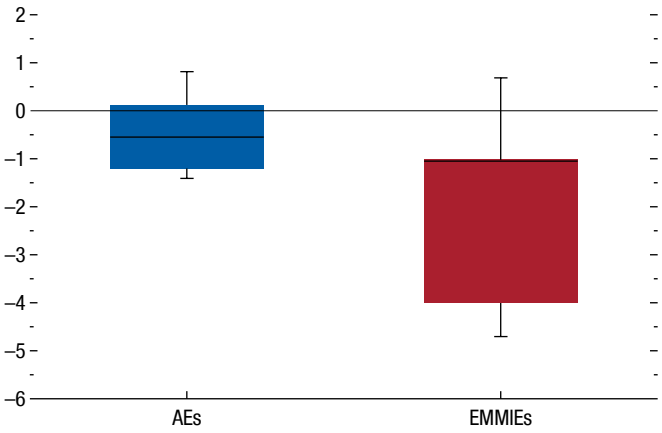
Productivity and the Role of Resource Misallocation

TFP growth has slowed over the past two to three decades. Previous studies suggest several contributors to this trend, particularly affecting within-firm productivity. These include waning gains from information and communication technology (Fernald 2015); declining business dynamism (Decker and others 2016; Akcigit and Ates 2021); tighter credit conditions, limiting new technology investments (Adler and others 2017; Duval, Hong, and Timmer 2020); and a slower expansion of cross-border capital flows and trade since 2008.

This section documents the contribution of rising misallocation of capital and labor to the decline in TFP growth and draws lessons for medium-term growth. So-called *allocative efficiency* measures the extent to which capital and labor are allocated to an economy's most productive firms (see Box 3.1). A decline in allocative efficiency, whereby resources become more concentrated in relatively unproductive firms over a period of time, can reduce TFP growth; an improvement in allocative efficiency, as resources move toward more productive firms, will, however, boost TFP growth.

The approach used here, pioneered by Hsieh and Klenow (2009) and refined by Bils, Klenow, and Ruane (2021), finds that allocative efficiency declined during 2000–19 in most countries in a sample of 15 advanced and 5 emerging market economies (Figure 3.11).[7] The median country in the sample experienced an average annual drag on TFP growth of about 0.9 percentage point from declining allocative efficiency. For the median advanced economy, this drag was 0.5 percentage point. Given that the median advanced economy saw TFP growth of only 0.5 percent during this period, this suggests that increased misallocation of capital and labor may have halved its TFP growth. A notable exception is the United States,

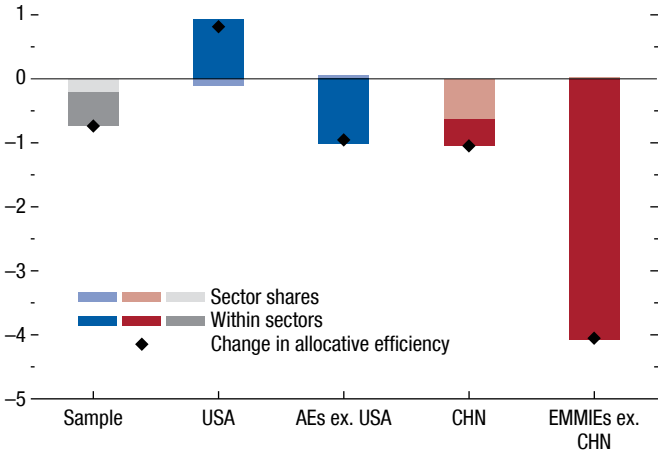
Figure 3.11. Contribution of Allocative Efficiency to Annual TFP Growth, 2000–19
(Percentage points)



Sources: Bureau van Dijk Orbis; EU KLEMS database; Organisation for Economic Co-operation and Development, Trade in Value Added; and IMF staff calculations.
Note: Sample comprises 13 goods and 6 services sectors and 20 economies: AUT, BEL, BGR, CHE, CHN, CZE, DEU, ESP, EST, FRA, ITA, JPN, KOR, POL, PRT, ROU, RUS, SVK, SVN, and USA. See Online Annex 3.2 for details. The black lines in the bars represent the median, the bars the interquartile range, and the whiskers the minimum and maximum values across samples in the group. Country list uses International Organization for Standardization (ISO) country codes. AEs = advanced economies; EMMIEs = emerging market and middle-income economies; TFP = total factor productivity.

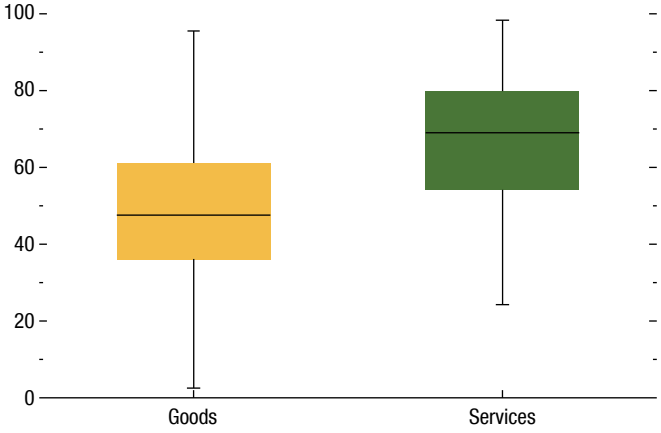
[7]Allocative efficiency measures, approximately, the extent to which value added per factor input varies across firms in a given sector. If the variation is large, there are potentially large gains from reallocating capital and labor among firms, and allocative efficiency is low; if the variation is small, allocative efficiency is high. For each sample economy, allocative efficiency is computed at the level of 19 broad sectors, using data from Orbis. The data cover the whole economy, including both goods- and service-producing sectors, but the analysis excludes predominantly nonmarket sectors (such as health care, education, and public administration). Sector-level allocative efficiency is then aggregated using sectors' shares in whole-economy value added. See Online Annex 3.2 for details. See G20 (2021) for a discussion of the possible impact of the COVID-19 pandemic on allocative efficiency in the post-2019 period.

Figure 3.12. Contribution of Allocative Efficiency to Annual TFP Growth, 2000–19
(Percentage points, decomposed)



Sources: Bureau van Dijk Orbis; EU KLEMS database; Organisation for Economic Co-operation and Development, Trade in Value Added; and IMF staff calculations.
Note: Sample comprises 13 goods and 6 services sectors and 20 economies: AUT, BEL, BGR, CHE, CHN, CZE, DEU, ESP, EST, FRA, ITA, JPN, KOR, POL, PRT, ROU, RUS, SVK, SVN, and USA. The darker shade of colors denotes "within sectors," while the lighter shade of colors denotes "sector shares." Country list uses International Organization for Standardization (ISO) country codes. AEs ex. USA = advanced economies excluding United States; CHN = China; EMMIEs ex. CHN = emerging market and middle-income economies excluding China; TFP = total factor productivity.

Figure 3.13. TFP Loss from Misallocation, by Sector Type, 2019
(Percent)



Sources: Bureau van Dijk Orbis; EU KLEMS database; Organisation for Economic Co-operation and Development, Trade in Value Added; and IMF staff calculations.
Note: The figure shows the distribution of calculated total factor productivity (TFP) losses relative to a benchmark of no misallocation (see Online Annex 3.2) for all sample countries and sectors in 2019, grouped by sector type. The black lines in the bars represent the median, the bars the interquartile range, and the whiskers the minimum and maximum values across samples in the group. Sample comprises 13 goods and 6 services sectors and 20 economies: AUT, BEL, BGR, CHE, CHN, CZE, DEU, ESP, EST, FRA, ITA, JPN, KOR, POL, PRT, ROU, RUS, SVK, SVN, and USA. Country list uses International Organization for Standardization (ISO) country codes.

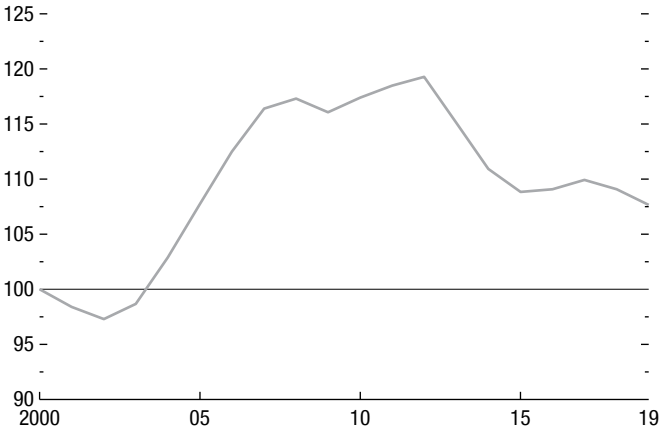
where improvements in allocative efficiency helped boost annual TFP growth by 0.8 percentage point over the period.

What explains the decline in allocative efficiency across a large group of economies? The observed drag on TFP growth could reflect either decreased efficiency within sectors or a growing share of already-misallocated sectors in an economy. Analysis for the 20 economies shows that changing sector shares in GDP contributed only about 30 percent of the annual drag on TFP, with the rest attributable to within-sector developments (Figure 3.12). The shift in sectoral GDP shares is an important factor for just a few economies—most significantly for China, for which it contributes 60 percent of the allocative-efficiency impact on TFP growth. The reason the sectoral composition of the economy affects aggregate allocative efficiency is that sectors differ systematically in the measured extent of their misallocation. Specifically, Figure 3.13 shows that service sectors display more inefficiency than goods-producing sectors. This may reflect structural differences between goods and service sectors or measurement challenges with regard to productivity and inputs in services.[8] As a result, an economy—such as China's—experiencing structural transformation from goods to services will register a decline in overall allocative efficiency.

A large part of the observed decline in allocative efficiency *within* sectors can be traced to uneven firm productivity growth during some of the 2000–19 period. As Figure 3.14 shows, the dispersion of firms' real productivity in the 20 sample economies rose significantly leading up to the global financial crisis and, despite some subsequent reversion, remains elevated. This aligns with the decline in allocative efficiency, most of which also occurred in the first decade of the 2000s.

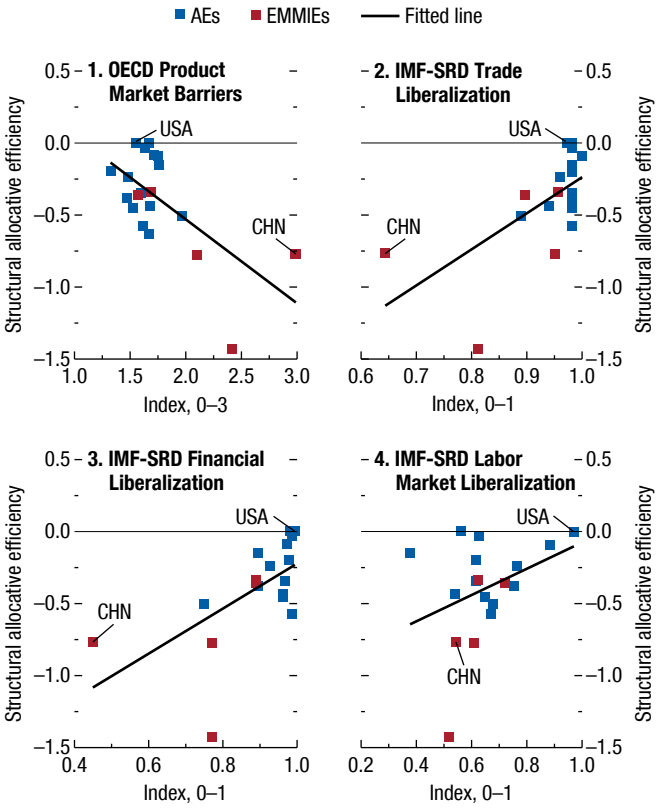
[8]Several studies have documented this pattern, using firm-level data for a range of countries, such as Hsieh and Klenow (2009), Busso, Fazio, and Algazi (2012), Devries and others (2011), Dias, Marques, and Richmond (2016), and Chapter 2 of the April 2017 *Fiscal Monitor*. The literature has tended to attribute these patterns to differences in market structure and firm dynamics in goods and service sectors. Online Annex 3.2 uses a method proposed by Bils, Klenow, and Ruane (2021) to show that there is little evidence that additive measurement error is more prevalent in service sectors than in goods sectors, but this still leaves room for other types of measurement errors to explain some of the difference.

Figure 3.14. Dispersion of Firm Productivity, 2000–19
(Index, 2000 = 100, weighted average)



Sources: Bureau van Dijk Orbis; EU KLEMS database; Organisation for Economic Co-operation and Development, Trade in Value Added; and IMF staff calculations.
Note: Following Bils, Klenow, and Ruane (2021), productivity dispersion is computed at the sector level as the ratio of the power mean to the geometric mean of firm output-based total factor productivity (TFPQ)—a measure of the technical efficiency of a plant. Productivity dispersion is aggregated to the country level using sector GDP shares. Line shows the three-year moving average, aggregating across sample economies using GDP in purchasing power parity in international dollar weights. Value for the year 2000 normalized to 100. Sample comprises 20 economies: AUT, BEL, BGR, CHE, CHN, CZE, DEU, ESP, EST, FRA, ITA, JPN, KOR, POL, PRT, ROU, RUS, SVK, SVN, and USA. Country list uses International Organization for Standardization (ISO) country codes.

Figure 3.15. Countries' Structural Allocative Efficiency and Policies
(Log points, USA = 0)



Sources: Organisation for Economic Co-operation and Development (OECD); and IMF staff calculations.
Note: The country-specific structural component of allocative efficiency is obtained as a country fixed effect from the dynamic regression described in Online Annex 3.2. Sample comprises 20 economies: AUT, BEL, BGR, CHE, CHN, CZE, DEU, ESP, EST, FRA, ITA, JPN, KOR, POL, PRT, ROU, RUS, SVK, SVN, and USA. Country list and data labels in the figure use International Organization for Standardization (ISO) country codes. AEs = advanced economies; EMMIEs = emerging market and middle-income economies; IMF-SRD = IMF Structural Reform Database.

A widening of the distribution of firms' real productivity has implications for allocative efficiency. Ideally, firms with rapidly increasing real productivity should attract capital and labor from those growing more slowly, with marginal revenue products kept equalized. However, firm-level evidence points to frictions that slow this adjustment process (see Online Annex Table 3.2.7). This leads to an initial decline in allocative efficiency, as faster-growing firms operate with less capital and labor than optimal. Consistently, sector-level evidence shows that a rise in a sector's dispersion of real firm productivity is accompanied by a decline in its allocative efficiency.

However, this phenomenon is transitory. As time passes, firms that have improved productivity faster than the rest can scale up their capital and labor input, and allocative efficiency once again improves. Yet this recovery is slow; firm and sector data suggest that it takes 9–11 years for allocative efficiency to return halfway to its long-term fundamental level, which is shaped by sector characteristics and a country's economic and institutional environment (see Online Annex Table 3.2.8). Consequently, evidence from sector-level analysis shows that recent shifts in the firm productivity distribution, along with ongoing structural transformation in some countries, will likely continue to affect medium-term TFP growth.

The analysis so far implies that the extent of an economy's overall misallocation has two components at any one time: a transitory component that reflects an incomplete adjustment by firms to recent shocks and a longer-lasting, structural component that reflects the efficiency of markets and quality of institutions that govern them. Evidence from firm-level analysis suggests that, for the economies analyzed, about one-third of measured misallocation is attributable to transitory factors, and two-thirds has structural roots (see Online Annex 3.2).

Figure 3.15 shows wide cross-country variation in one measure of structural allocative efficiency (along

the vertical axes and based on the analysis in Online Annex 3.2), which rises with market entry and competition, trade openness, financial access, and labor market flexibility. While some of these indicators of market efficiency and barriers broadly improved during the 2000–19 period (notably, trade and financial liberalization), others worsened for some countries in the sample, with no systematic evidence that changes in structural policies are behind the observed decline in allocative efficiency over the past two decades.

However, the large cross-country differences in structural allocative efficiency suggest that there is potential to raise TFP growth through reforms. Analysis of the 20 sample economies shows that if countries whose allocative efficiency is currently lower than that of the United States were to reduce their gaps in structural policies by 15 percent over 10 years, it could boost medium-term TFP growth by 0.7 percentage point. While historical instances of such significant policy catch-up are not common, they are not unprecedented, representing an ambitious yet achievable policy objective.

Improving market efficiency may also make it easier for firms to adapt to future shocks. Firm data provide some evidence that the US avoided an overall decline in allocative efficiency during the 2000–19 period because resources relocated across firms faster as firms' productivity dispersion increased. This led to a faster reversal of the transitory rise in misallocation that has continued to weigh on TFP for most other sample economies.

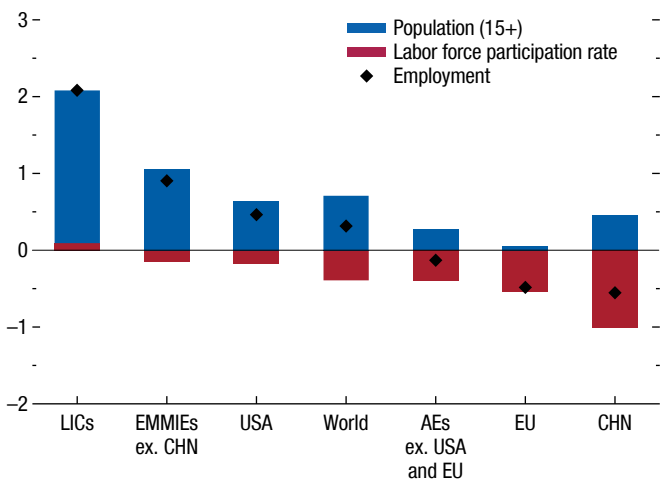
Where Is Growth Heading?

This chapter's focus so far has been on analyzing historical trend growth and the factors behind its decline. New tailwinds and headwinds could yet further affect growth trajectories. This section shifts the focus to a forward-looking question: What are the likely medium-term growth trajectories, and can annual global growth return to the 3.8 percent average for 2000–19?

Baseline Scenario

This section assesses the prospects of labor, capital, and TFP in the medium term, defined as the year 2030, drawing on analyses in earlier sections (projection methods are detailed in Online Annex 3.3). Specifically, labor force participation forecasts use a cohort-based approach, considering life-cycle, generational, and structural impacts on labor supply. These, along with United Nations demographic projections, provide estimates of potential employment growth, with stable employment rates assumed. Capital growth projections merge WEO public investment forecasts with this chapter's estimates of the medium-term private investment rate. Finally, TFP growth is projected by assuming that sectoral allocative efficiency is moving gradually toward its estimated long-term level and reaching its half-life in the medium term, whereas *efficient* TFP growth—net of misallocation—follows the historical trend.

Figure 3.16. Medium-Term Growth Projections of Potential Employment
(Percent)



Sources: International Labour Organization (ILO); United Nations, World Population Prospects; and IMF staff calculations.
Note: Sample comprises 140 countries. Estimation for labor force participation rate is based on a cohort model (Online Annex 3.3) using data from ILO for 83 countries. The remaining 57 countries follow the 2014–19 average growth rate in the participation rates. AEs = advanced economies; CHN = China; EMMIEs = emerging market and middle-income economies; EU = European Union; ex. = excluding; LICs = low-income countries; USA = United States.

- *By 2030, the annual contribution of labor supply to global GDP growth is expected to decrease to 0.2 percentage point, only a quarter of its 2000–19 average contribution.* This reflects a modest 0.3 percent projected growth of potential labor supply in 2030 (Figure 3.16). The slowdown reflects falling participation rates, which dampen the effect of population growth on labor supply. However, trends in labor supply vary widely by region. Low-income countries are expected to experience robust 2.1 percent growth in labor supply, highlighting the need for job creation to translate this supply growth into employment. Meanwhile, labor supply in emerging market economies, excluding China, will grow by

0.9 percent, and in the US by 0.5 percent, whereas a sharp reduction in participation will cause labor supply to contract by 0.6 percent in China and by 0.5 percent in the EU.

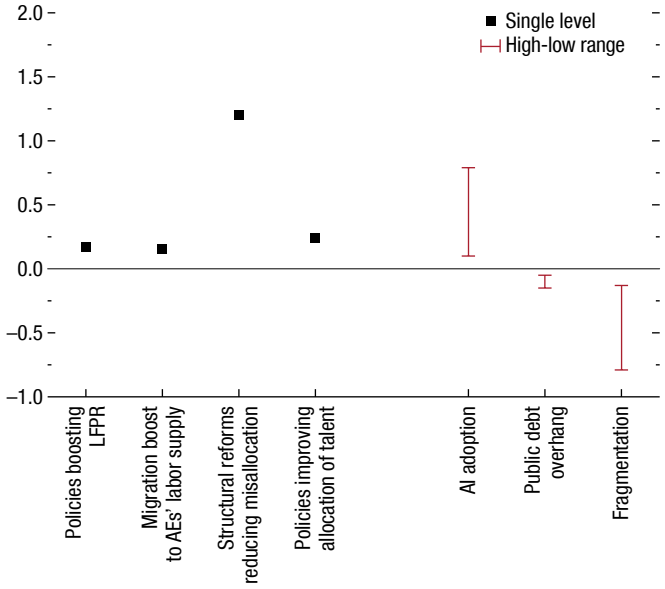
- *Capital's contribution to growth is expected to be 1.7 percentage points, compared with the 2000–19 average contribution of 2.1 percentage points.* Continued high public debt will likely constrain future public investment in emerging market and developing economies, which accounts for 30 percent of these countries' overall capital. Advanced economies are expected to see a modest increase in public investment, but its growth impact will be minimal given its small share in overall investment. In addition, private investment rates are expected to remain low in both country groups, owing to subdued economic prospects and the anticipated lower employment and TFP growth.
- *The TFP growth contribution is expected to decline to 0.9 percentage point by 2030, down from the 2000–19 average of 1.0 percentage point.* The ongoing decrease in allocative efficiency is expected to slow TFP growth to a lesser degree. Meanwhile, the growth in efficient TFP, which reflects the rate of technological progress, is expected to slow in the baseline scenario, following its long-term trend. Factors such as the increasing difficulty of generating new ideas (Bloom and others 2020), slower growth of research employment (Jones 2023), a plateau in educational attainment, and the slower catch-up process are expected to play a role. The net effect is a decline in the TFP growth rate by 0.1 percentage point from its two-decade average prior to the pandemic. However, major technological advances, particularly in AI, could increase TFP growth substantially.

When the contributions of the three factors are summed, the world's growth rate is projected at 2.8 percent in 2030 under the baseline scenario. This suggests that global growth could fall even more, below the current WEO medium-term forecast (see Chapter 1). This would represent a significant slowdown relative to the historical (2000–19) annual average of 3.8 percent.

Alternative Scenarios

What factors could elevate growth or pose emerging risks? This section compares various scenarios against the baseline medium-term growth projection.

Figure 3.17. Impact of Various Factors on Global Medium-Term Growth
(Relative to the baseline, percentage points)



Source: IMF staff calculations.
Note: The estimated impact on medium-term growth is presented relative to the baseline projection for each scenario described in the labels on the horizontal axis. See Online Annex 3.3. The scenarios include policy interventions—aiming at increasing labor force participation, supporting AEs' labor supply through migration, reducing misallocation, and improving talent allocation in emerging market and developing economies—and scenarios in which artificial intelligence is widely adopted, there is a persistent public debt overhang, and geopolitical blocs are emerging ("fragmentation"). AEs = advanced economies; AI = artificial intelligence; LFPR = labor force participation rate.

These scenarios assess the effects of policy changes related to labor supply and resource allocation and of economic tailwinds and headwinds—positive impacts of AI and negative effects of public debt overhang and geoeconomic fragmentation. To gauge the feasibility of the policy scenarios, large and ambitious—but not unprecedented—policy shifts are considered.

Overall, the medium-term growth effects range from 1.2 percentage points above to 0.8 percentage point below the baseline (Figure 3.17). Larger effects are possible if these scenarios occur simultaneously. However, given high uncertainty surrounding these estimates, the figures should be viewed as indicative of the potential impacts (see Online Annex 3.3 for details).

- *Policies to increase labor force participation:* This scenario assumes that countries increase their labor force participation rates by 3.2 percentage points, the median increment in participation if all countries converged to the best policies. This could increase

labor supply growth by about 0.3 percentage point, contributing 16 basis points to global growth.

- *A migration boost to labor supply in advanced economies:* Migrant workers have supported growth in advanced economies by filling labor gaps. This scenario assumes higher flows, along with enhanced labor market integration for migrant workers, that translates into an increase in labor supply equivalent to 1 percent of advanced economies' projected labor force in 2030. The resulting increase in labor supply could add 20 basis points to global growth.
- *Structural reforms for improving allocative efficiency:* Building on the previous section, this scenario assumes that countries close 15 percent of their policy gap with the United States in areas such as product and labor market policies, trade openness, and financial deepening over the medium term. These structural reforms are expected to greatly reduce the drag from misallocation and enhance TFP growth by 0.7 percentage point, which, in turn, could stimulate investment and add 1.2 percentage points to global growth.
- *Improved talent allocation in emerging market and developing economies:* Although gaps in occupation and earnings between men and women have been narrowing in advanced economies, they remain significant elsewhere. Closing these gaps could lead to substantial productivity gains, especially if jobs are filled based on innate talent and comparative advantage, not skewed by social norms, barriers, or discrimination (Berg and others 2018; Hsieh and others 2019; Jayachandran 2021). Should talent allocations in emerging market and developing economies follow the trend in the United States over past decades, global growth could be boosted by a quarter of a percentage point.
- *AI technologies:* AI technologies stand at the brink of transforming many aspects of the world economy (Cazzaniga and others 2024). Their impact on economic growth is highly uncertain but potentially substantial. Generally, AI's enhancement of labor productivity is expected to outweigh its negative effects on labor demand. Depending on how widely it is adopted and whether it replaces or augments workers, the estimated global growth impact varies from 10 to 80 basis points in the medium term (see Box 3.3 for more details).
- *Legacy of high public debt:* Persistent elevated public debt raises global economic growth concerns, potentially reducing medium-term growth by an estimated 5 to 15 basis points. The projection simulates growth outcomes in three scenarios—one scenario in which debt continues to increase with stable public deficits and two debt-stabilization scenarios in which increased interest payments are offset either by reducing transfers or public investment. The overall impact is considered moderate because the scenario does not assume extensive fiscal consolidation aimed at significant debt reduction or additional channels through which public debt could affect growth (Pattillo, Poirson, and Ricci 2004; Woo and Kumar 2015).
- *Geoeconomic fragmentation:* The emergence of geoeconomic blocs leading to international trade and foreign direct investment fragmentation could reduce capital and knowledge flows significantly and suppress growth (Chapter 3 of the October 2023 *Regional Economic Outlook: Asia and Pacific*). The April 2023 WEO provides reasonable scenarios analyzing the effects of heightened trade barriers. These vary from limited cases in which a "US bloc" and a "China bloc" engage in some "friend-shoring," reducing growth by 10 basis points, to a more extensive scenario in which all regions reshore some trade, potentially lowering medium-term growth by 80 basis points. A greater loss could result from a reduction in trade-associated knowledge spillovers (Ahn and others, forthcoming) and productivity loss, but it is not accounted for in this simulation.

The scenario impacts underscore a clear message: regaining historical growth will demand substantial policy efforts and, possibly, harvesting net positive benefits from AI. Structural reforms to resolve misallocation are key to restoring growth to historical averages.

Conclusions and Policy Recommendations

The chapter's analysis suggests that the global economy's declining actual growth and waning growth expectations largely reflect persistent headwinds. A significant slowdown in TFP has emerged as a key factor, with that slowdown driven by increased resource misallocation and slower growth in efficient TFP. A shrinking working-age population in major economies, coupled with lackluster business investment, has also contributed. For the most part, the implications of the analysis here are sobering for medium-term global growth prospects. Absent timely policy interventions and a boost from emerging technologies, global growth is likely to remain well below its prepandemic historical average in the medium term.

How could policies help elevate growth? The chapter's findings suggest that interventions should focus on reforms that promote market competition, trade openness, financial accessibility, and labor market flexibility. These could significantly boost TFP growth by alleviating institutional and financial barriers that impede the efficient allocation of capital and labor across firms. Such reforms offer substantial gains for growth and can be complemented by governance and external sector reforms (Budina and others 2023). Industrial policies targeted to specific sectors, if poorly designed, may impede resource allocation to more productive firms or sectors (see the April 2024 *Fiscal Monitor* on industry policy for innovation).

At the same time, policies designed to facilitate the flow and integration of migrant workers, alongside measures to boost labor force participation among older workers in advanced economies—through retirement reforms and labor market programs—could mitigate the increasing demographic pressures on labor supply. Encouraging the participation of women in emerging market economies, by expanding education enrollment and childcare support, could unlock their untapped potential. These efforts should be complemented by policies that reduce social barriers and gender discrimination to ensure talent is optimally allocated across jobs.

Investment in human capital, especially in low-income developing countries, is essential to leverage their demographic dividend. In regard to capital formation, since higher corporate leverage has held back business investment in emerging market economies, reforming mechanisms for restructuring and insolvency and eliminating debt bias in corporate tax policies can also help support medium-term growth (Chapter 2 of the April 2022 WEO). To lessen the negative growth impact from increased geoeconomic fragmentation, it is important to steer clear of damaging unilateral trade and industrial policies.

The global medium-term prospects are not all doom and gloom. Resilience amid various shocks (Chapter 1) and the emerging promise of technologies such as AI could prove transformative for medium-term global growth. To fully harness this potential, countries must strengthen their regulatory frameworks, including intellectual property protection, and revisit redistributive and other adjustment programs to ensure that the benefits from AI are shared fairly and widely (Cazzaniga and others 2024). Looking beyond the medium term, policies geared toward promoting innovation play a crucial role in defining the path of future global growth.

Box 3.1. Allocative Efficiency: Concept, Examples, and Measurement

Not only is total factor productivity (TFP) growth driven by well-known factors such as technological innovation and novel business practices that enhance *within-firm* productivity, it is also propelled by how well the allocation of capital and labor *across firms* reflects their relative productivity—known as "allocative efficiency." Consider an example of two firms, one with high and one with low productivity. If too much capital and labor are tied up in the relatively unproductive firm, average productivity will be low—a case of poor allocative efficiency. TFP would rise if capital and labor moved to the more productive firm, correcting the initial misallocation.

A variety of frictions can cause capital and labor to be allocated to the "wrong" firms. Some frictions may do so only temporarily. In the two-firm example, the productive firm may be looking to expand, but its search for new workers may take time. In this case, allocative efficiency may be low for a while but will rise as the productive firm gradually attracts new employees from its less-productive competitor. However, other frictions may weigh on allocative efficiency more permanently. For example, the unproductive firm may be politically connected and receiving subsidies or tax breaks that allow it to operate on a larger scale than its profits merit.

Measuring the extent of allocative (in)efficiency in practice is challenging. One influential approach, developed by Hsieh and Klenow (2009) and used throughout this chapter, measures it indirectly by comparing the marginal revenue product of capital and labor across firms—that is, the additional revenue that one more unit of capital or labor could earn in any given firm. If marginal revenue productivity is high in one firm and low in another, more economic value would be created by moving resources from the second firm to the first. This approach tells us that an economy's allocative efficiency is improving if marginal revenue productivity across firms is becoming more similar and that it is worsening if it is becoming more dispersed.[1]

Achieving lasting improvements in allocative efficiency requires tackling the frictions that slow firms' ability to change their scale of operations as needed or that permanently favor or penalize some firms irrespective of their productivity. Many studies have identified the structural sources of these frictions. These include size-dependent tax, labor, and social insurance policies (Levy 2018; Ulyssea 2018); informality and corruption (Misch and Saborowski 2018); weak property rights (Adamopoulos and Restuccia 2020); regional barriers (Tombe and Zhu 2019); restrictive trade policies (Khandelwal, Schott, and Wei 2013; Edmond, Midrigan, and Xu 2015); uneven firm markups (Peters 2020); and financial frictions (Song, Storesletten, and Zilibotti 2011; Midrigan and Xu 2014; David, Hopenhayn, and Venkateswaran 2016; Gopinath and others 2017; Libert 2017). Several country case studies have highlighted specific policies that successfully reduce misallocation, such as removing barriers to international trade (Ha and Kiyota 2016) and reforms aimed at correcting distortions in credit access (Chen and Irarrazabal 2015).

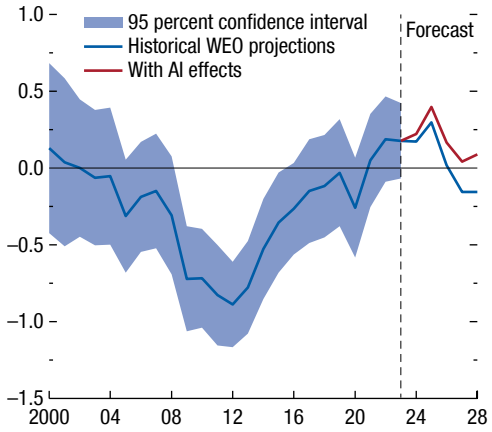
The authors of this box are Nan Li and Robert Zymek.

[1]This is related to, but distinct from, an earlier measure of allocative efficiency developed by Olley and Pakes (1996). Operationalizing the latter requires information on *real* productivity (quantity total factor productivity) at the firm level, which is difficult to measure for a large sample of countries and firms. The approach of Hsieh and Klenow (2009) requires only information on relative *revenue* productivity, which is easier to obtain.

Box 3.2. Distributional Implications of Medium-Term Growth Prospects

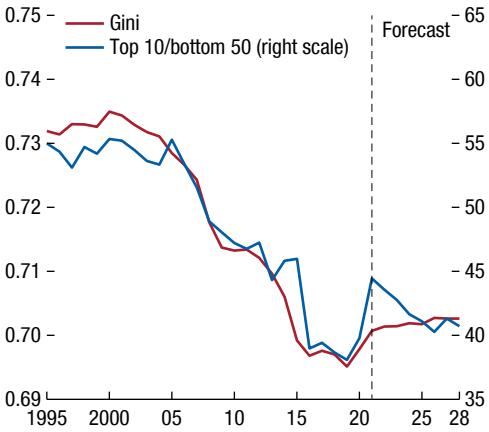
The medium-term growth slowdown could affect global income inequality and convergence between countries. A slower growth environment makes it challenging for poorer countries to catch up with those that are richer. Slower GDP growth can also lead to higher inequality, reducing average welfare. This box examines the implications in three areas: between-country convergence, global inequality, and welfare convergence. Between-country convergence has been sustained since the global financial crisis. One way to measure it is to compare countries' initial GDP with their subsequent growth. When this rate is negative, countries with lower levels of income are growing faster than those with higher levels, implying convergence. Cross-country convergence took place during 2008–19 (Figure 3.2.1) and was fastest during 2008–12. However, the rate turned positive after the pandemic. Current projections point to no convergence over the medium term.

Figure 3.2.1. GDP Convergence between Countries, 2000–28
(Rate at which gap to frontier is closed, negative = convergence)



Source: IMF staff calculations.
Note: The convergence rate for year t corresponds to the β_t coefficient in the following regression: $\Delta\log(GDPpc_{it}) = \alpha_t + \beta_t \log(GDPpc_{it-5}) + \varepsilon_{it}$, in which $\Delta\log(GDPpc_{it})$ is average year-over-year GDP per capita growth in the five-year period between t and $t-5$ and $\log(GDPpc_{it-5})$ is GDP per capita at the beginning of the period. See Box 3.3 for effects of artificial intelligence (AI effects) on growth. AI = artificial intelligence; WEO = *World Economic Outlook*.

Figure 3.2.2. Global Inequality, 1995–2028
(Gini points, 0 = perfect equality; times)



Sources: World Inequality Database; and IMF staff calculations.
Note: On the left scale, the Gini index calculates how the global income distribution deviates from a perfectly equal distribution. Income is measured before taxes. "Top 10/bottom 50" compares the average income of the top 10 and bottom 50 of the global income distribution. On the right scale, "times" refers to the number of times the average income of the top 10 of the income distribution is larger than the average income of the bottom 50 of the distribution. For example, a value of 40 on the right scale means the average income of the top 10 is 40 times larger than that of the bottom 50.

The previous computation does not consider how the gains from convergence are distributed within a country, only country averages ("between-country" inequality). Milanovic (2002) and Chancel and Piketty (2021) estimate measures of global income distribution and inequality, the comparison of the income position of a group of people in one country with those of other groups in the world. These measures show that although inequality has decreased since the mid-2000s, the pandemic reversed some of the gains (Figure 3.2.2; World Bank 2022). While between-country convergence has driven the reduction in global inequality in the past two decades, most of this inequality now stems from differences within countries.[1]

[1]Sovereign governments usually engage in policies that affect within-country inequality. The analysis presented here uses pretax data to focus mainly on changes in inequality derived from economic trends before government intervention.

The authors of this box are Gabriela Cugat and Carlos van Hombeeck.

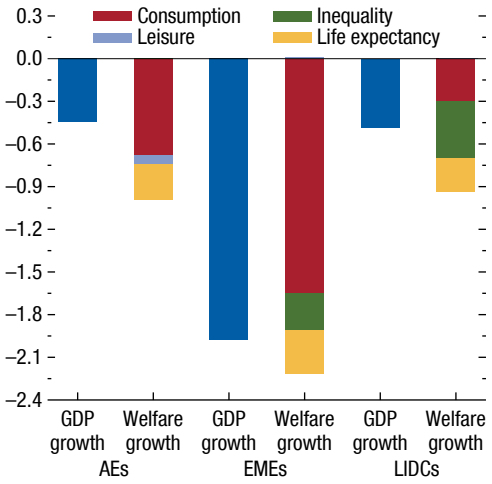
Box 3.2 *(continued)*

To assess the impact of the medium-term outlook, a projection for global inequality is created by combining within-country and between-country inequality projections derived from the *World Economic Outlook* (WEO).[2] Depending on the measure analyzed, there is either no or only a modest expected recoupment in the medium term (Figure 3.2.2). Small within-country inequality improvements are not sufficient to offset the expected slowdown in between-country inequality convergence.

The results use GDP as a proxy for welfare, but this association could be flawed (Coyle 2017), since it does not include unpaid household work or the environmental cost of economic growth, for example. Jones and Klenow (2016) propose a welfare measure, based on lifetime expected utility, that complements consumption (highly correlated with GDP) with life expectancy, leisure, and (less) inequality. Welfare growth historically has exceeded GDP growth, driven mostly by life expectancy improvements (see Box 1.2 of the October 2020 WEO). Across the board, both GDP and welfare growth are predicted to fall in the postpandemic period (Figure 3.2.3). Welfare growth is expected to deteriorate more than GDP growth, driven by stalled dimensions such as life expectancy and within-country inequality, leading to welfare divergence between countries.

The growth slowdown has grim implications for the distribution of income between countries, of global income, or of a more general welfare measure. Based on results from Box 3.3, the expected skewed effect of artificial intelligence on growth would increase between-country divergence (the "with AI effects" line in Figure 3.2.1). Inasmuch as other factors, such as geoeconomic fragmentation, worsen the distribution of income between countries, they will likely worsen global inequality and the distribution of welfare, unless they significantly improve income distribution within countries and other dimensions of welfare, such as life expectancy.

Figure 3.2.3. GDP Growth and Welfare Drivers before and after the COVID-19 Pandemic
(Percentage points)



Sources: Penn World Table version 10.01; United Nations Population Division; World Bank, World Development Indicators; and IMF staff calculations.
Note: This figure shows the difference in average annualized GDP growth and welfare growth between 2010–19 and 2024–28. The components of the difference in welfare growth are listed in the legend. AEs = advanced economies; EMEs = emerging market economies; LIDCs = low-income developing countries.

[2]Within-country inequality projections are based on how GDP growth is distributed within a country. See Cugat, Li, and van Hombeeck (2024) for more details on how the distribution of growth within countries is estimated.

Box 3.3. The Potential Impact of Artificial Intelligence on Global Productivity and Labor Markets

Artificial intelligence (AI) stands at the forefront of a transformative wave, often equated with a new industrial revolution, with the potential to reshape the global economy. While its profound and far-reaching economic and social consequences are not yet fully understood, AI's impact on the global economy exhibits a clear dichotomy. On one hand, AI holds the promise of enhancing productivity. On the other, it poses a formidable challenge, with the potential to replace humans in certain jobs and fundamentally alter the nature of others.

Building on AI's potential diverse impacts, IMF staff have advanced a nuanced framework to assess AI's influence on productivity and the labor market. This approach, based on the concept of AI "exposure" (Felten, Raj, and Seamans 2021, 2023), is extended by the AI complementarity concept (Pizzinelli and others 2023), which delivers new insights into the likelihood of jobs' either benefiting from AI or being at risk.

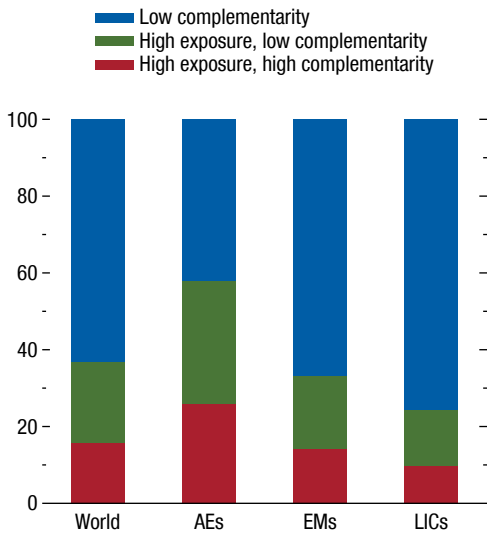
There is significant disparity in AI exposure between country groups—approximately 60 percent of jobs in advanced economies are susceptible to changes as a result of AI, compared with 40 percent in emerging market economies and 26 percent in low-income countries (Figure 3.3.1; Cazzaniga and others 2024). In advanced economies, AI is expected to enhance productivity in half of these exposed jobs, signaling a positive impact. For the other half, AI integration could automate tasks, potentially reducing labor demand and wages and even leading to job obsolescence. In contrast, emerging market and developing economies are less likely to experience immediate disruption but may also see fewer benefits from AI. Many lack the necessary infrastructure and skilled workforce to effectively leverage AI technology, raising concerns that, over time, AI could exacerbate inequality across countries.

A model-based analysis gauges AI's potential impact on productivity. In this model, AI affects productivity through three critical channels: labor displacement, AI complementarity with skills, and productivity gains. First, AI adoption may shift tasks from humans to AI-driven systems, enhancing the efficiency of task completion. Second, AI integration could benefit tasks that are highly complementary with AI. Third, AI adoption may lead to broad-based productivity gains, boosting investment and increasing overall labor demand. The model is calibrated to the United Kingdom, a country highly exposed to AI adoption and for which data on households' asset holdings are available.

The impact of AI on productivity is analyzed through two scenarios. In the first (high complementarity), AI significantly enhances roles with strong complementarity. The second scenario (high complementarity and high productivity) expands this complementarity by having AI also boost overall productivity, enhancing the high-complementarity role (see Rockall, Pizzinelli, and Tavares 2024 on the modeling analysis and Cazzaniga and others 2024 for more information about the distributional implications.)

In the first scenario, AI use leads output to increase by almost 10 percent as the UK economy adjusts to the new steady state through a combination of capital deepening and a small increase in total factor productivity (Figure 3.3.2). In the second scenario, when the productivity impact is also considered, output expands by 16 percent and total factor productivity increases by almost 4 percent. These gains take place primarily in the first decade of transition. Incomes

Figure 3.3.1. Employment Shares by AI Exposure and Complementarity
(Percent of employment)

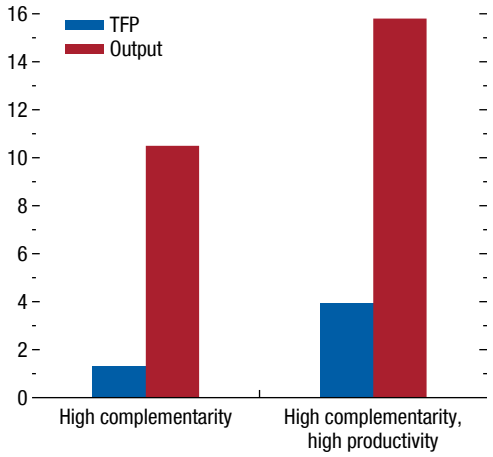


Sources: Cazzaniga and others 2024; International Labour Organization; and IMF staff calculations.
Note: Share of employment within each country group is calculated as the working-age-population-weighted average. AEs = advanced economies; AI = artificial intelligence; EMs = emerging markets; LICs = low-income countries; World = all countries in the sample.

The author of this box is Marina M. Tavares.

Box 3.3 *(continued)*

Figure 3.3.2. Impact of AI on TFP and Output in the United Kingdom
(Percent)



Sources: Cazzaniga and others 2024; and IMF staff calculations.
Note: The figure shows the change in TFP and output between the initial and final steady state. For more details on the model, see Rockall, Pizzinelli, and Tavares 2024.
AI = artificial intelligence; TFP = total factor productivity.

for all workers increase, ranging from 2 percent for low-income workers to almost 14 percent for high-income workers, leading to higher income inequality.

Productivity gains from AI are expected to range from 0.9 to 1.5 percent a year, thanks to the United Kingdom's robust digital infrastructure, skilled labor force, innovation ecosystem, and regulatory framework. Conversely, many emerging market and developing economies lag in AI preparedness, with potential gains less than half those estimated for the United Kingdom. This disparity stems largely from a smaller proportion of workers in high-exposure and high-complementarity occupations. While in advanced economies these roles are occupied by 27 percent of workers, this drops to 16 percent in emerging markets and 8 percent in low-income countries. This variance in the initial distribution of workers across occupations reveals their reduced potential for AI benefits.

For the global economy, the estimates suggest that AI could boost productivity gains by 0.1 percent to 0.8 percent annually over a decade. However, uneven distribution of these gains across regions underscores the need for international cooperation to improve AI readiness and integration in less-prepared nations. Initiatives along these lines can help reduce global inequalities, ensuring that AI benefits reach a wider array of nations.

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CHAPTER 4

TRADING PLACES: REAL SPILLOVERS FROM G20 EMERGING MARKETS

After more than two decades of impressive growth—averaging almost 6 percent a year—the emerging markets of the Group of Twenty (G20) now account for about 30 percent of global economic activity and about one quarter of global trade. At the same time, these economies have become increasingly systemic through their integration into global value chains (GVCs), with the potential to move global markets. This implies that spillovers to growth from shocks originating in these economies—as well as from their structural slowdown over the past decade—can have far greater ramifications for global activity. Since 2000, spillovers from domestic shocks in G20 emerging markets—particularly China—have increased and are now comparable in size to those from shocks in advanced economies. Shocks in G20 emerging markets can explain as much as 10 percent of output variation after three years in other emerging markets and 5 percent in advanced economies. Trade, notably through GVCs, is a key propagation channel that has strengthened over time. Firms more dependent on demand from G20 emerging markets experience higher revenue growth after an unexpected increase in G20 emerging market growth, whereas downstream spillovers can reduce firm revenues in countries more exposed to import competition. In response to a negative productivity shock in GVC-intensive sectors in G20 emerging markets, most sectors across emerging market and developing economies tend to contract, especially in Asia, whereas many manufacturing sectors expand, mostly in advanced economies. Looking ahead, simulations suggest that a plausible growth acceleration in G20 emerging markets, even excluding China, could support global growth over the medium term and spill over to other countries. The task for policymakers in recipient economies—whether advanced or not—is to maintain sufficient buffers and strengthen policy frameworks to manage the possibility of larger shocks from G20 emerging markets.

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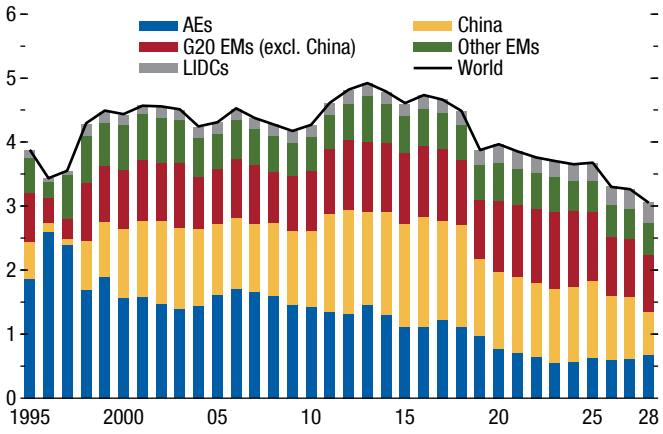
Introduction

Economic growth in the 10 emerging markets of the Group of Twenty (G20) has consistently outperformed that of advanced economies over the past two decades. As their share of world GDP has more than doubled since 2000, Argentina, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, and Türkiye (henceforth "G20 EMs") have continued to integrate into the global economy—notably through trade and global value chains (GVCs). Not only has this helped provide global momentum for growth and trade, it has also been a force for lower output volatility—thanks to cross-country diversification—and convergence in income and living standards (Caselli and others 2020; Patel, Sandefur, and Subramanian 2021).

However, fading growth prospects for G20 EMs have driven more than half of the 1.9 percentage point slowdown in medium-term global growth since the global financial crisis, with China accounting for about 40 percent (see Chapter 1 of the October 2023 *World Economic Outlook* [WEO] and Kose and Ohnsorge 2023). The medium-term growth outlook for G20 EMs has weakened by 0.8 percentage point to 3.7 percent as a result of scars from the pandemic and the price shocks that followed the Russian invasion of Ukraine (Figure 4.1). While Chapter 3 focuses on the drivers of the weak growth outlook, this chapter considers its potential cross-border effects.

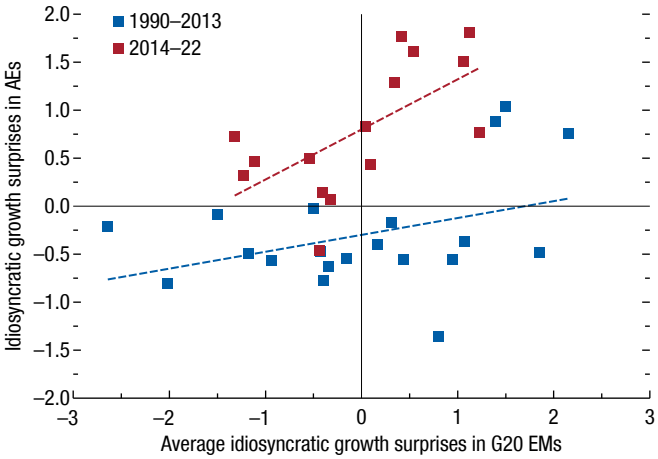
With their stronger global presence and greater connectivity, the subdued outlook for G20 EMs risks spilling over and setting back growth and development across other emerging market and

Figure 4.1. Five-Year-Ahead GDP Growth
(Percent)



Source: IMF staff calculations.
Note: The predicted variable is real GDP growth. The years on the horizontal axis refer to the year for which a forecast is made, using the April *World Economic Outlook* five years prior, such that, for example, the 2028 forecast is based on the April 2023 *World Economic Outlook*, and so on. AEs = advanced economies; EMs = emerging markets; excl. = excluding; G20 EMs = Argentina, Brazil, China, India, Indonesia, Mexico, Russia, Saudi Arabia, South Africa, and Türkiye; LIDCs = low-income developing countries.

Figure 4.2. Correlation of Idiosyncratic Growth Surprises between Advanced Economies and G20 Emerging Markets
(Percent)



Source: IMF staff calculations.
Note: Growth surprises are defined as $GS_{it} = Growth_{it}^{Act} - Growth_{it}^{Proj}{}_{-1}$ (using the April WEO projections); idiosyncratic growth surprises ($\hat{\gamma}_{it}$) are defined as the residual of this regression: $GS_{it} = \tau_t + \vartheta_i + \gamma_{it}$, in which τ_t and ϑ_i are year and country fixed effects, respectively. See Figure 4.1 for a list of G20 EMs. AEs = advanced economies; EMs = emerging markets; WEO = *World Economic Outlook*.

developing economies. Indeed, the likelihood of spillovers has increased as the correlation between domestic (idiosyncratic) growth surprises in advanced economies and those in G20 EMs has strengthened over the past decade (Figure 4.2).[1] Despite important differences across countries, evidence that emerging markets are clear sources of international spillovers is also growing (Cashin, Mohaddes, and Raissi 2017; Arezki and Liu 2020; Huidrom and others 2020).

Therefore, the possibility of large spillovers from G20 EMs to the global economy presents an important set of issues and questions for policymakers over the near and long terms:

- Considering the growing influence of G20 EMs, to what extent can they influence global variables?
- In the short term, how large (and different) are aggregate growth spillovers from G20 EMs and how do they compare with those from advanced economies? Which countries generate the largest spillovers, and are those spillovers global or regional?
- To what extent do domestic shocks originating in G20 EMs propagate through trade and supply chains and reallocate activity across countries, sectors, and firms over the longer term? And has this channel strengthened in recent years?

The chapter proceeds in four parts. It starts with an overview of the growing global footprint of G20 EMs—building on the results of Chapter 3 of the 2014 *Spillover Report*—highlighting G20 EMs' greater global significance for commodities, investment, financial flows, and trade (IMF 2014). These are also the key channels through which shocks from G20 EMs can propagate to the real economy.[2] In the second part, the chapter provides an empirical assessment of aggregate growth spillovers from demand and supply shocks in individual G20 EMs in the near term.

Third, based on the finding that financial integration has been relatively slower than that for trade and commodities, the chapter examines spillovers from

[1]Domestic (idiosyncratic) growth surprises are defined as the residual from GDP growth outturns after the previous year's forecasts are subtracted and after global factors are controlled for.

[2]While shocks from G20 EMs could also drive prices and inflation, the chapter focuses on spillovers to real economic activity.

G20 EMs through the latter channels—taking into account GVCs—over the medium and longer terms:[3]

- Firm-level data are used to estimate the effect of domestic growth surprises in G20 EMs on firm turnover in trading partners over the near to medium term. The analysis investigates separately the transmission of shocks conditional on the intensity of a firm's dependence on demand from G20 EMs for their products (*output linkages*) and its use of intermediate inputs from G20 EMs (*input linkages*).
- The longer-term pattern and evolution of spillovers from productivity shocks in G20 EMs is then explored using a multicountry, multisector model that allows for tracking of the reallocation of production across sectors and countries in various steady-state scenarios. Each scenario is designed to trace the impact of shocks originating in specific sectors across countries, such as those heavily integrated into GVCs, and within countries, such as construction in China, to help our understanding of longer-term cross-border spillovers.

Fourth, motivated by weak growth prospects in China, a model-based simulation is used to assess whether positive growth surprises in other G20 EMs—and the associated spillovers—can help support global growth.

The main conclusions of the chapter are as follows:

- G20 EMs have indeed become more important for global economic activity. Their global trade and investment footprint has almost doubled since the early 2000s, while global financial integration continues to increase. G20 EM consumers and firms make up a growing share of global demand, and firms in G20 EMs (for example, China, India, and Russia) supply a larger share of total inputs globally. In addition, these economies are among the largest producers of key commodities, including those critical for the green transition (for example, Argentina for lithium and Indonesia for nickel). While China continues to drive many of these patterns, other G20 EMs play an important role.
- Deeper integration means that G20 EMs increasingly resemble advanced economies and are no longer simply on the receiving end of global shocks. Their output fluctuations have become less volatile, driven to a greater extent by domestic shocks, and—in the case of some countries—can also influence global prices. Their growth spillovers not only have increased but can also explain almost 5 percent of GDP variation in advanced economies. Furthermore, growth spillovers from some G20 EMs have reached magnitudes similar to those from advanced economies. Spillovers are largest from China, whose domestic shocks can explain about 10 percent of the variation in GDP in other emerging markets. Other G20 EMs have significant regional spillovers. Examples are those from Russia, in both the Middle East and Europe, and from Mexico in Latin America.
- Domestic growth shocks from G20 EMs propagate through GVCs and can generate winners and losers through sectoral reallocation. Following a positive shock, firms with greater dependence on demand from G20 EMs (for example, China and India), especially if located in emerging markets, tend to experience faster revenue growth than other firms. However, spillovers tend to be negative for firms that rely more on inputs supplied by G20 EMs. This suggests that positive growth surprises in G20 EMs such as China and Mexico could be associated with an expansion of competing production, which could displace existing activity in trading partners.
- Over the long term, negative productivity shocks in G20 EMs tend to give rise to negative global spillovers through the trade channel but can also generate some positive spillovers for some sectors and economies. And these spillovers have increased almost threefold since the early 2000s. In a scenario in which all G20 EMs experience a productivity growth slowdown, Asia is the hardest-hit region, with the intensity driven by its strong links to China. A scenario in which productivity shocks are concentrated in GVC-intensive sectors highlights substantial variation in spillovers across sectors: while most shrink—particularly those in Asia—many manufacturing sectors (for example, electronics and textiles)

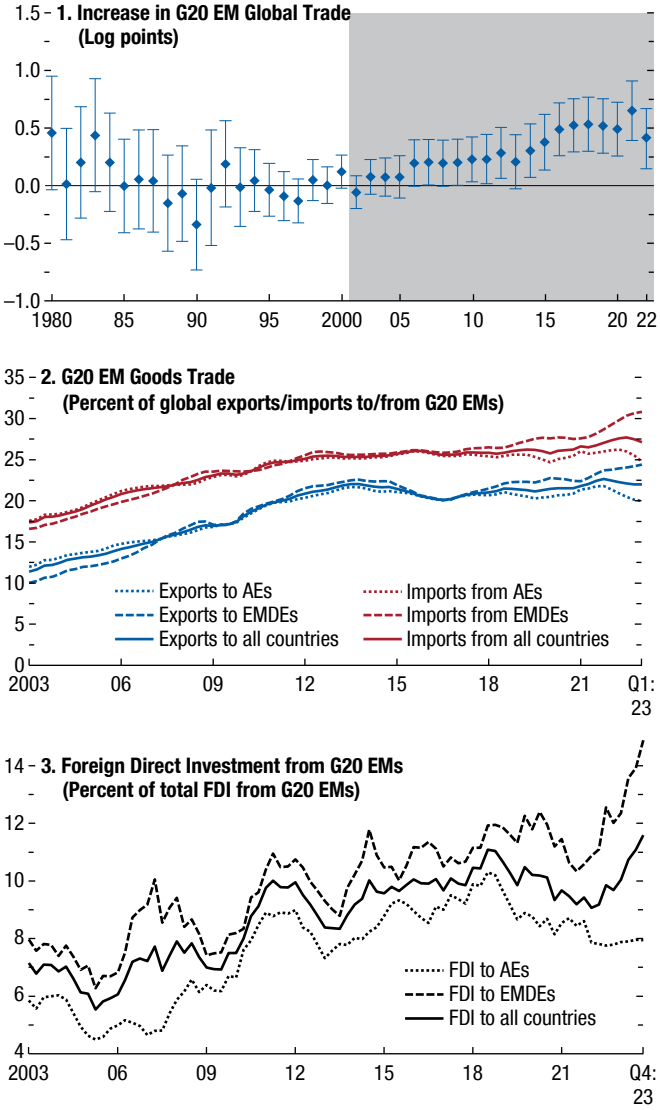
[3]The 2014 *Spillover Report* includes a detailed discussion of the trade, commodities, and financial channels in the context of emerging markets and shows that, although spillovers transmit mostly through trade linkages, they can also have sizable effects through financial linkages, including those through banks. Chapter 2 of the April 2016 *Global Financial Stability Report* documents (1) how the rise in financial market integration of emerging markets has strengthened international spillovers and (2) the growing importance of financial factors relative to trade linkages. More recently, Arezki and Liu (2020) confirm the importance of financial linkages for spillovers from emerging markets. Other channels, such as migration, can also make a difference. For example, the emigration of high-skilled labor from G20 EMs can have implications for labor supply, productivity, and innovation in recipient countries (Bosetti, Cattaneo, and Verdolini 2015; World Bank 2018; Bahar, Choudhury, and Rapoport 2020).

expand as economies take advantage of the decrease in supply from G20 EMs. In terms of employment, a positive shock from G20 EMs can lead to job losses for some sectors through increased competition, whereas spillovers that propagate through sectors connected through GVCs tend to generate complementarities and more job opportunities. Comparison of shock transmission before and after 2000 shows that spillovers have grown, underlining the increased importance of G20 EMs as a result of GVC integration.

- Looking forward, a plausible growth acceleration in individual G20 EMs (excluding China) could generate spillovers to advanced economies and other emerging market and developing economies, which would support global growth.

What is clear is that G20 EMs as a group—beyond China alone—have emerged as an important source of global and regional spillovers, which are only set to grow as these economies continue to integrate further into finance and trade. For this reason, policymakers must remain cognizant of the impact a slowdown in these economies could have on firms and sectors within their borders. As a result, countries with strong linkages to these economies should build appropriate buffers and policy frameworks to insure against the transmission of negative shocks and potential external risks. Given the degree of reallocation in activity across sectors in response to G20 EM shocks—notably in countries that are more heavily integrated through trade and GVCs—policymakers should consider diversifying output and input linkages and pursue domestic structural policies to avoid large-scale dislocation of production factors and promote efficient reallocation of those factors. They should also refrain from adopting protectionist policies that are detrimental to the domestic economy and can generate negative cross-border spillovers (Box 4.1).

Figure 4.3. The Growing Footprint of G20 Emerging Markets in Trade and Investment



Sources: fDi Markets; IMF, *Direction of Trade Statistics*; and IMF staff calculations.
Note: Panel 1 is based on a standard gravity trade model in which the dependent variable is the log of bilateral goods trade. The model includes country pair, source × year, and destination × year fixed effects. The chart plots the yearly coefficient of a dummy for the bilateral pairs involving G20 EMs (the reference year is 2001). Panel 3 uses the count of FDI projects. See Figure 4.1 for a list of G20 EMs. AEs = advanced economies; EMs = emerging markets; EMDEs = emerging market and developing economies; FDI = foreign direct investment.

G20 Emerging Markets in the Global Economy

China's accession to the World Trade Organization in December 2001 represents a critical turning point for G20 EM integration into the global economy. Since then, the G20 EM share of global trade has increased almost two-thirds faster than that of trade among other countries (Figure 4.3, panel 1), promoting global trade and country-wide diversification. In addition, in the two decades since accession, the share of G20 EM goods imports and exports in total goods trade has doubled (Figure 4.3, panel 2), whereas foreign direct investment (FDI) from G20 EMs increased from about 6 percent of total FDI in

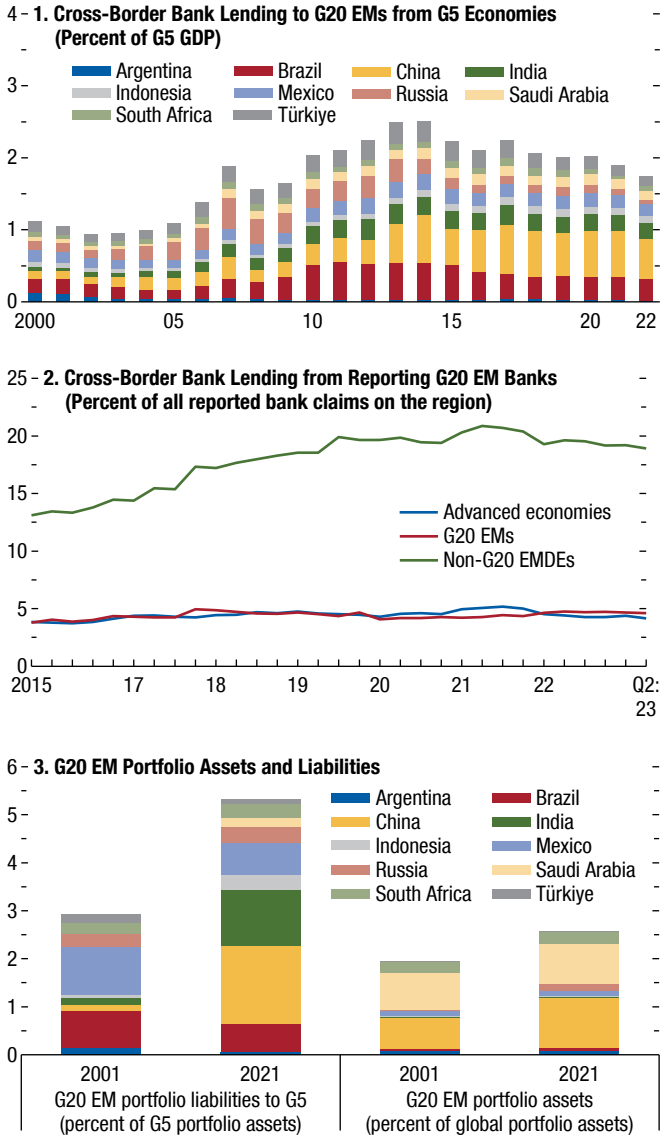
2005 to about 10 percent just before the pandemic (Figure 4.3, panel 3).[4]

Since 2018, the shares of trade and investment flows to advanced economies and to other emerging market and developing economies have diverged. Whereas flows to advanced economies have declined relative to the global average, flows to emerging market and developing economies have accelerated, which in part reflects stronger investment ties fostered through the Belt and Road Initiative (Baniya, Rocha, and Ruta 2020; De Soyres, Mulabdic, and Ruta 2020). This divergence has also coincided with the beginning of US-China trade tensions and has been reinforced by increasing geopolitical tensions (see Chapter 4 of the April 2023 WEO) as the largest economies have realigned trade and investment linkages through "friend-shoring" and near-shoring (Alfaro and Chor 2023; Freund and others 2023; Gopinath and others 2024).

Stronger participation in global trade is mirrored in increasing financial integration via bank flows and, to a lesser extent, portfolio flows, even though the overall scale remains smaller than that of trade. Lending from banks in the Group of Five (G5) major industrial economies (France, Germany, Japan, United Kingdom, United States) to G20 EMs has nearly doubled since the early 2000s, peaking at more than 2.5 percent of G5 economies' GDP in 2014 and then gradually declining. Lending to China has driven the increase, followed by that to Brazil and India (Figure 4.4, panel 1). For comparison, goods trade with G20 EMs accounted for 8.1 percent of the total GDP of the G5 economies in 2022. These financial flows are consistent with the more general observation that *private* capital has been flowing downstream to economies with stronger growth performance, as originally shown by Gourinchas and Jeanne (2013) and Alfaro, Kalemli-Özcan, and Volosovych (2014) (Box 4.2). On the flip side, G20-EM-headquartered banks' cross-border lending to advanced economies is relatively limited. For other emerging market and developing economies, however, it accounts for about 20 percent of total cross-border bank claims in line with recent evidence on the rise of Chinese banks (Cerutti, Casanova, and Pradhan 2023) and the increase of South-to-South flows shown by Broner and others (2023) (Figure 4.4, panel 2). Portfolio flows show that G20 EMs' liabilities

[4]More details on the stylized facts, measurement, and data sources are discussed in Online Annex 4.1. All online annexes are available at www.imf.org/en/Publications/WEO.

Figure 4.4. G20 Emerging Market Financial Integration



Sources: Bank for International Settlements, locational banking statistics by nationality; Bank for International Settlements, locational banking statistics by residence; IMF, Coordinated Portfolio Investment Survey; Lane and Milesi-Ferretti 2018; and IMF staff calculations.
Note: G5 = France, Germany, Japan, United Kingdom, United States. EMs = emerging markets; EMDEs = emerging market and developing economies.

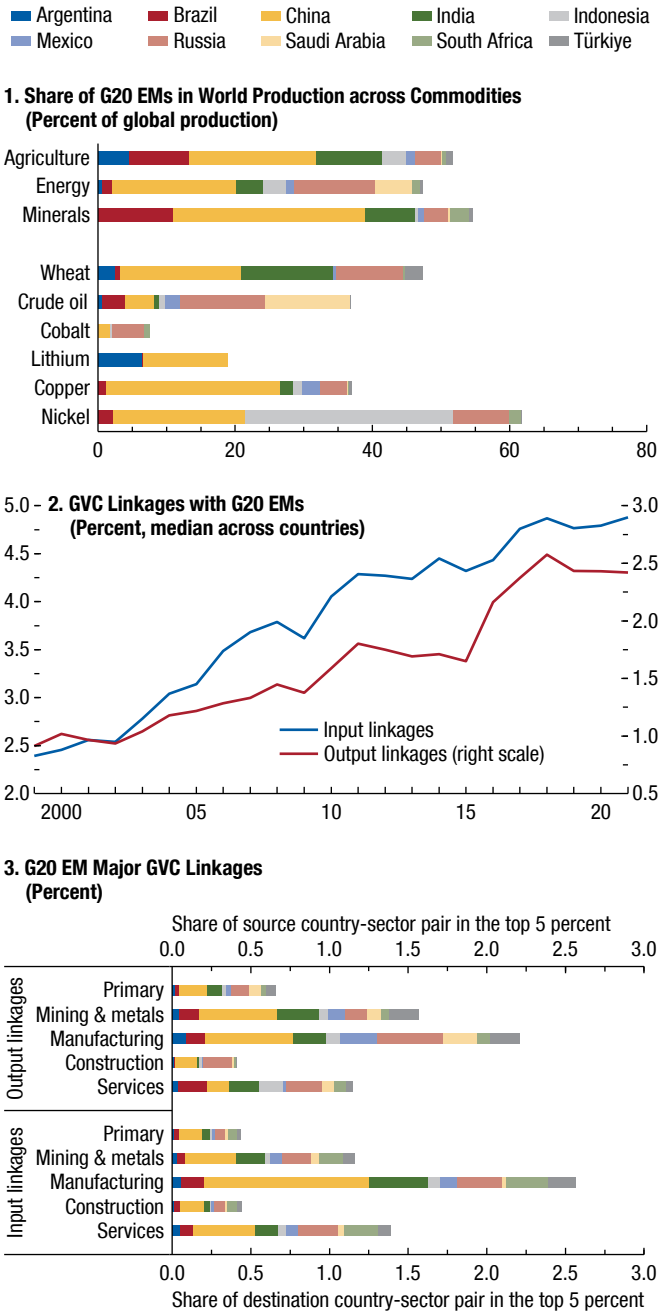
to the G5 economies increased between 2001 and 2021, from 2.9 percent to 5.3 percent of the sender countries' total portfolio claims—equivalent to 4.6 percent of G5 GDP in 2021—with particularly large exposure to China, followed by India, Mexico, and Brazil (Figure 4.4, panel 3, left bars). A similar result is obtained when zooming in on the US cross-border securities portfolio as a case study. This, however, is likely to be a lower bar,

because portfolio flows from advanced economies to emerging markets—most notably China—are larger once flows through low-tax jurisdictions are included (Bertaut, Bressler, and Curcuru 2019; Bergant, Milesi-Ferretti, and Schmitz 2023; Coppola and others 2021). On the asset side, however, G20 EM portfolio flows to the rest of the world are still limited, although on the rise, at just over 2.5 percent of total cross-border portfolio assets as of 2021 (Figure 4.4, panel 3, right bars).

G20 EMs are global producers of a broad set of commodities (Figure 4.5, panel 1). Beyond China and its continued sizable commodity outputs, Russia and Saudi Arabia are important oil and energy suppliers, and Brazil is a noteworthy producer of agricultural commodities and minerals. But G20 EMs have also played a key role in commodity demand since the 2000s, when rapid growth led to an increase in the global consumption of energy, food, and metals (Baffes and others 2018; Fernández, Schmitt-Grohé, and Uribe 2023). At the same time, G20 EMs have become producers of minerals that are critical for the green transition—notably, lithium in Argentina and nickel in Indonesia. As demand for these commodities is set to rise, G20 EMs are likely to become ever more integrated into supply chains and drive greater commodity price volatility in a fragmented world (see Chapter 3 of the October 2023 WEO).[5]

G20 EMs have also expanded their participation in GVCs both downstream and upstream as a result of their demand for manufacturing products (*output linkages*) and their supply of inputs to other economies (*input linkages*). The median country doubled its inputs from G20 EMs between 2000 and 2021, while demand from G20 EMs for outputs more than doubled (Figure 4.5, panel 2).[6] Increased trade and GVC integration among G20 EMs results from unbundling related to declining transportation, information, and communication costs, technological progress, and lower barriers to trade and capital flows, which have allowed emerging markets to become more vertically integrated in global supply chains (Baldwin 2013; Amador and Cabral 2016). Two sectors—manufacturing and mining—dominate

Figure 4.5. G20 Emerging Market Presence in Global Value Chains and Commodities Can Amplify Spillovers

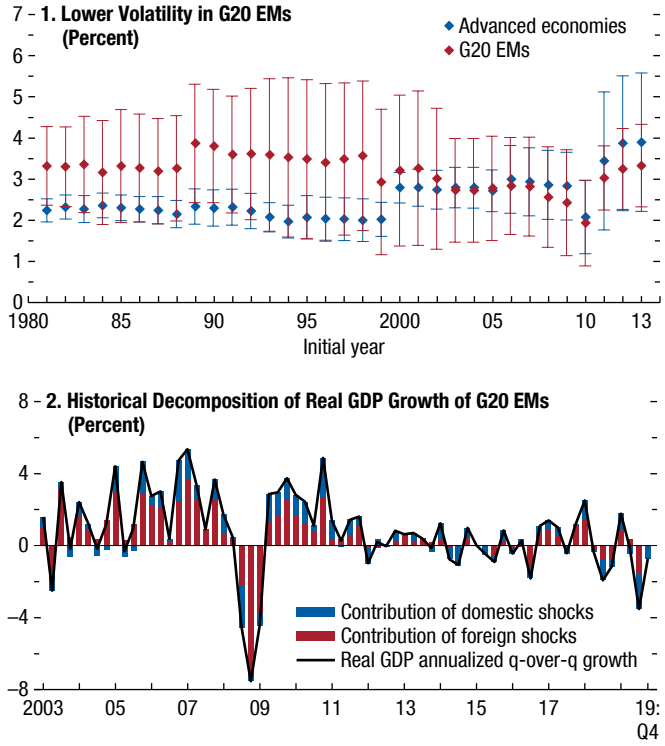


Sources: British Geological Survey; Eora Global Supply Chain Database; Food and Agriculture Organization of the United Nations; International Energy Agency; US Geological Survey; and IMF staff calculations.
Note: In panel 2 output linkages are defined as the share of global demand from G20 EM consumers and firms, while input linkages are defined as the share of total inputs supplied by G20 EM industries. Output and input linkages are computed at the country-year level. In panel 3 output and input linkages are computed at the source country-sector and destination country-sector pairs, respectively, over the period 1999–2021. The chart plots the distribution of the top 5 percent of these linkages across sectors and countries. EMs = emerging markets; GVC = global value chain.

[5]The larger role of G20 EMs in driving commodity price volatility has recently been identified using high-frequency data. Gutierrez, Turen, and Vicondoa (2024) study the international spillover effects of a macroeconomic surprise in China, identifying a sizable and significant dynamic effect on commodity prices.

[6]Output linkages are defined as the share of global demand from G20 EM consumers and firms, while input linkages are defined as the share of total inputs supplied by G20 EM industries. An important caveat is that these measures capture only *direct* exposures to G20 EMs. See Online Annex 4.1.

Figure 4.6. Growth in G20 Emerging Markets Is Becoming Less Volatile and Less Driven by Foreign Shocks



Sources: Penn World Table (version 10.1); and IMF staff calculations.
Note: In panel 1, real GDP growth volatility is computed as the within-country standard deviation of real GDP growth over a rolling 10-year window, starting in the year indicated on the *x*-axis. For instance, the value for 2000 refers to the volatility computed over the period 2000–09. The chart plots the averages of the real GDP growth volatility for advanced economies and G20 EMs. In panel 2, the contributions of domestic shocks are derived as weighted averages of the sum of contributions of domestic aggregate demand and supply shocks estimated for each G20 EM country in country-specific structural vector autoregressions. The contributions of foreign shocks are derived as residuals. See Figure 4.1 for a list of G20 EMs. EMs = emerging markets; q-over-q = quarter over quarter.

the top 5 percent of linkages, alongside China, whose manufacturing production is the largest globally and still highly dependent on external demand (Baldwin 2024) (Figure 4.5, panel 3). Other countries—such as India and Russia—also have a significant presence, reflecting fast growth in manufacturing production (India) and strong linkages through the supply of energy commodities (Russia).

How Have G20 EMs Changed?

As G20 EMs have become more diversified and integrated into the global economy and strengthened their policy frameworks, their macroeconomic fluctuations and vulnerabilities to external shocks have also changed (see Kose and Prasad 2010 for a discussion up to the global financial crisis). First, GDP growth across G20 EMs has become less volatile and is converging to levels in advanced economies (Figure 4.6, panel 1). Second, the contribution of external shocks to G20 EM GDP growth has declined over the past two decades—from about one-half in the years up to the global financial crisis to about one-third after (Figure 4.6, panel 2).

However, the key question is the extent to which domestic shocks in G20 EMs can propagate globally, which is a phenomenon uncharacteristic of small open economies. Building on the framework of Fernández, Schmitt-Grohé, and Uribe (2017), this chapter subjects G20 economies to a *"small open economy test"* to determine whether domestic fluctuations can influence global variables—the real prices of agricultural, energy, and metals commodities, as well as a global financial variable (either the US short-term interest rate, the US 10-year real rate, the broad dollar, or US investment-grade corporate spreads). Cyclical movements in all G20 EMs have become more relevant over time and appear to have influenced at least one global variable since the global financial crisis. However, only domestic shocks in China appear to affect all global variables (Corneli, Ferriani, and Gazzani 2023).

Aggregate Spillovers in the Short Term

If some G20 EMs can be viewed as large economies, then their aggregate demand and supply shocks are likely to have sizable effects at home and abroad (see Chapter 4 of the April 2014 WEO). To get a sense of their importance for other economies, a set of structural and global vector autoregression (VAR) models estimated between 2001 and 2023 are used to quantify aggregate global and regional spillovers over a three-year horizon. In line with the literature, results suggest that aggregate growth spillovers from domestic shocks originating in China to other emerging markets and advanced economies are significantly larger than those coming from other G20 EMs—and that they have increased. A 1 percentage point demand (supply) shock in China leads to an increase of about 0.3 (0.15) percentage point in growth after three years in other emerging markets, with smaller effects in advanced economies.[7] However, shocks in other G20 EMs can propagate to other G20 economies just as

[7]Additional results are discussed in Online Annex 4.2. The size of these spillovers and their more limited importance for advanced economies are within the range estimated in the literature (Cesa-Bianchi and others 2012; Dizioli and others 2016; Cashin, Mohaddes, and Raissi 2017; Furceri, Tovar Jalles, and Zdzienicka 2017; Huidrom and others 2020; Ahmed and others 2022; Copestake and others 2023).

they do to advanced economies, and can have sizable regional spillovers.

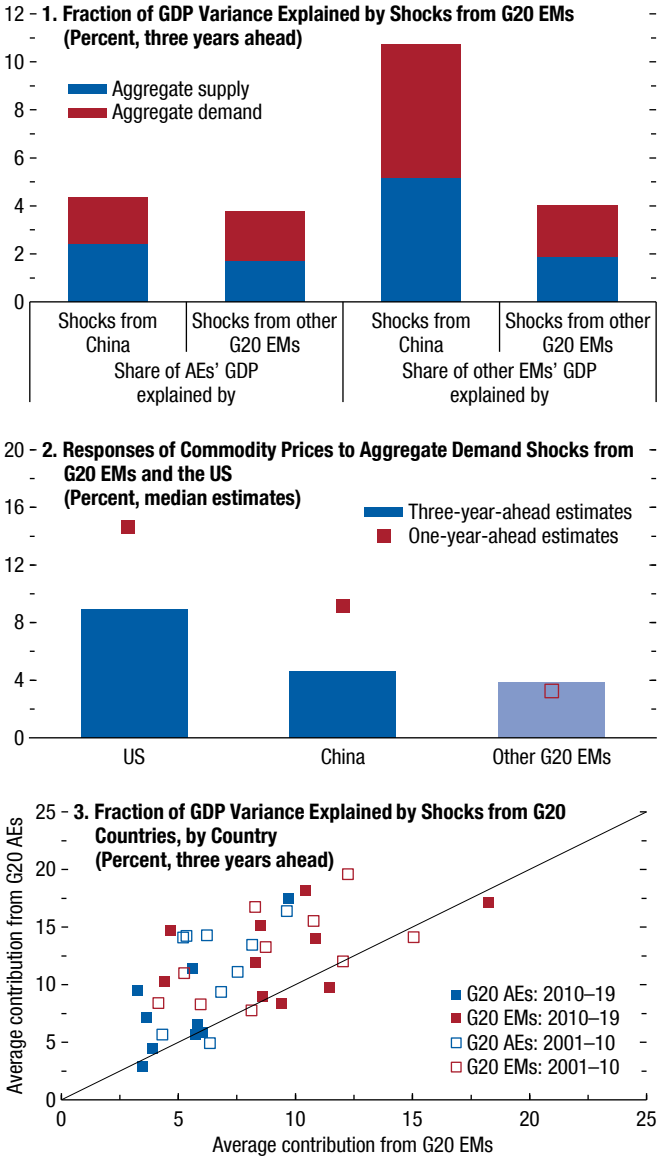
Spillovers from China have increased sharply since 2000. Domestic growth shocks in China explain just under 5 percent of output variation in advanced economies after three years and just over 10 percent of that in other emerging markets. In relative terms, growth spillovers from China to emerging markets are broadly similar in size to those from the United States. By contrast, demand and supply shocks originating in other G20 EMs account for less than 4 percent of GDP fluctuations in other countries (Figure 4.7, panel 1), and their spillovers have grown only moderately (for example, Brazil, India, and Mexico) or even declined (Russia). Similar results hold for spillovers to commodity prices: a 1 percentage point increase in GDP in China leads to commodity prices that are almost 10 percent higher after one year and about 5 percent higher after three years (effects that are not much smaller than those stemming from US demand shocks), whereas demand shocks in other G20 EMs do not significantly move commodity prices (Figure 4.7, panel 2).

Given their relative size, China's aggregate demand shocks were the major driver of spillovers from G20 EMs until the mid-2010s (Copestake and others 2023). These shocks could reflect a mix of policy shocks—such as aggregate demand management, mostly through public investment—or increased demand for imports of raw materials in response to the country's property boom. China's aggregate supply shocks, on the other hand, have been associated with the expansion of productive capacity, increased export orientation, and movement up the value chain after accession to the World Trade Organization (Mano 2016)—and more recently with slowing productivity and a shrinking labor force.[8]

Other G20 EMs can also play an important role in propagating aggregate domestic shocks, both at the global level—in comparison with other advanced economies—and regionally, relative to China. Within the sample of G20 economies, the relative contribution of G20 EMs in explaining output fluctuations increased between the 2000s and the 2010s more than that of G20 advanced economies, such that for an increasing

[8]Estimates of the contributions of aggregate supply and demand shocks from G20 EMs to consumer prices confirm the larger role of China. A negative demand shock equal to 1 percentage point of GDP reduces inflation by about 0.2 percentage point in emerging markets and 0.15 percentage point in advanced economies. Box 1.2 illustrates disinflation pressures from a scenario of a prolonged weakness in the Chinese property sector.

Figure 4.7. Aggregate Spillovers from G20 Countries



Source: IMF staff calculations.
Note: Panel 1 shows weighted averages of median estimates. Fraction of three-year-ahead variance of GDP explained by domestic aggregate demand and aggregate supply shocks in each G20 EM (considering China separately and taking the average of the other G20 EMs) on recipient economies' output. Panel 2 shows one-year- and three-year-ahead impulse responses of commodity prices to aggregate demand shocks originating in China, the US, and other G20 EMs (weighted average). Estimates for the latter are not statistically different from zero. In panel 3, blue (red) squares are averages of fractions of three-year-ahead variance in GDP of G20 AEs (G20 EMs) explained by shocks (sum of aggregate demand and supply shocks) originating in G20 countries (excluding shocks from the US and China) (median estimates). See Figure 4.1 for a list of G20 EMs. AEs = advanced economies; EMs = emerging markets.

number of countries the spillovers from G20 advanced economies and emerging markets (excluding China and the United States) are now broadly comparable (Figure 4.7, panel 3). Although most countries are still predominantly exposed to shocks in advanced economies, some experience more similar exposures, and others are more affected by shocks in G20 EMs.

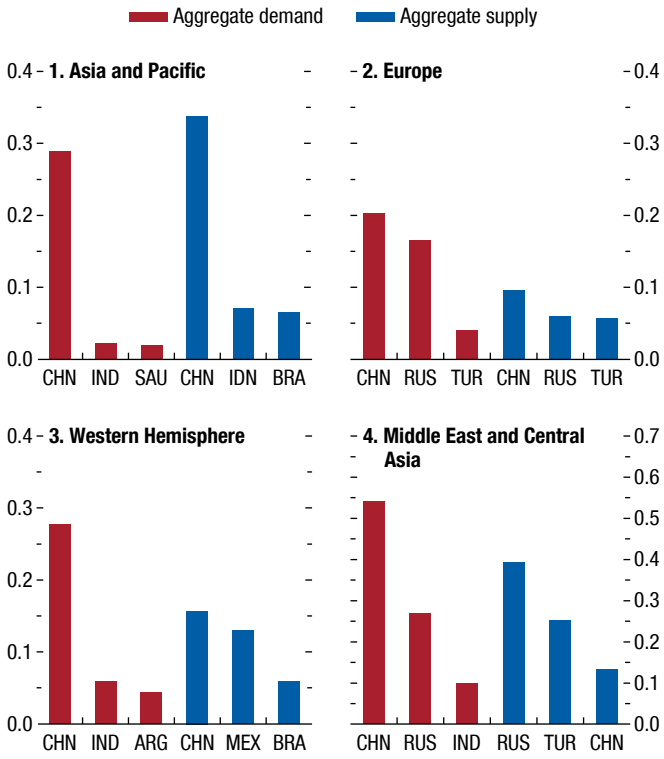
Moving to regional spillovers, those from China generally dominate those from other emerging markets—especially in Asia—given high intraregional trade integration—and to a lesser extent in Latin America (Figure 4.8).[9] Of the other G20 EMs, Russia and, to some extent, Türkiye generate significant regional spillovers in Europe and central Asia; domestic supply-side shocks in Brazil and Mexico have an impact on Latin America via strong trade and commodity linkages. Regional spillovers from Russia have manifested themselves clearly since the invasion of Ukraine, through disruptions in energy prices (Bachmann and others 2022; Albrizio and others 2022) and grain markets globally. However, the Russian economy's turn more toward Asia will likely shift the direction of spillovers. Shocks in large emerging markets—and particularly those in China—have sizable cross-border implications for economies in sub-Saharan Africa (Box 4.3) and, more generally, for low-income countries, which are exposed to emerging markets' foreign shocks through the commodity and demand channels (Dabla-Norris, Espinoza, and Jahan 2015).

Spillovers from Trade and Global Value Chains

In this section, two complementary approaches are used to move beyond aggregate spillovers to the transmission of shocks from G20 EM through the trade channel—including GVCs—and the reallocation of activity across sectors and firms. The first uses firm-level data and input-output tables to assess how growth surprises in G20 EMs affect firm revenues over the medium term, depending on how firms' input and output linkages with G20 EMs vary across sectors. The second uses a quantitative trade model with input-output data to investigate spillovers from sectoral total factor productivity (TFP) shocks under different long-term steady-state scenarios. These sectoral shocks can propagate through supply chains and significantly contribute to global economic fluctuations (Boeckelmann, Imbs, and Pauwels 2024).

[9]See, among others, Cesa-Bianchi and others (2012); Dizioli and others (2016); Furceri, Tovar Jalles, and Zdzienicka (2017); Beirne, Renzhi, and Volz (2023); and the October 2019 *Regional Economic Outlook: Western Hemisphere*.

Figure 4.8. Growth Spillovers from G20 Emerging Markets by Region
(Percent, three years ahead)



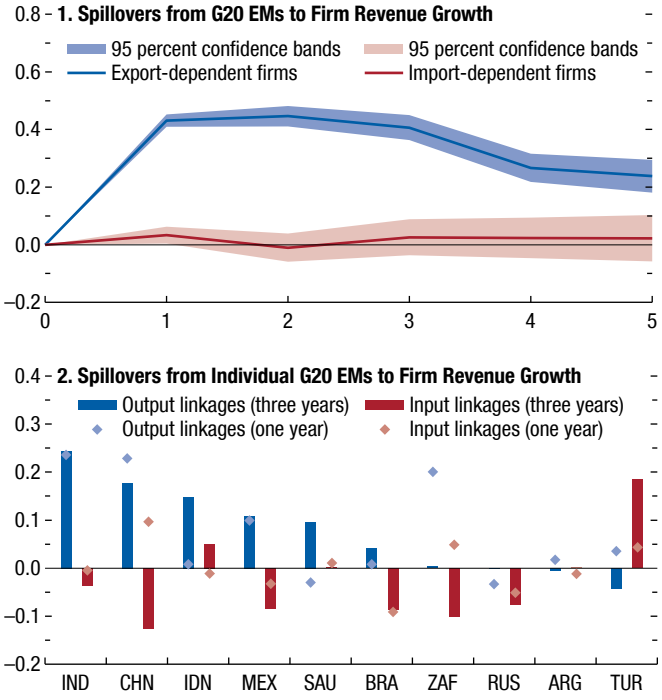
Source: IMF staff calculations.
Note: The charts show three-year-ahead cumulative impulse responses to 1 percentage point positive domestic aggregate demand and supply shocks in each G20 EM on recipient economies' output. Each panel reports the top three countries in terms of the size of their spillovers to the region. Reported results are cross-country aggregates using purchasing-power-parity GDP weights of impulse responses that are significant on the basis of 68 percent credible intervals. Data labels in the figure use International Organization for Standardization (ISO) country codes. See Figure 4.1 for a list of G20 EMs. EMs = emerging markets.

Global Spillovers at the Firm Level

At the firm level, domestic growth surprises in G20 EMs have a large and positive impact on firm revenues in sectors more exposed to demand from G20 EMs, notably in other emerging markets.[10] A 1 percentage

[10]This firm-level analysis estimates, using local projection methods, the differential effect of growth surprises on firm revenue growth in sectors that are more or less exposed to G20 EMs through direct output and input linkages. See Online Annex 4.3 for a full discussion of the specification, data, and robustness tests.

Figure 4.9. Firm-Level Spillovers
(Percentage points)



Sources: Eora Global Supply Chain Database; Orbis; and IMF staff calculations.
Note: Panel 1 plots the impulse responses of firm revenue growth to a domestic growth surprise in G20 EMs for firms more exposed to output (in blue) or input (in red) linkages, compared with similar, less-exposed firms. Panel 2 reports the same results at one- (diamonds) and three- (bars) year horizons considering domestic growth surprises in individual G20 EMs. Solid bars and diamonds indicate significance at the 90 percent level. Data labels in the figure use International Organization for Standardization (ISO) country codes. See Figure 4.1 for a list of G20 EMs. EMs = emerging markets.

point unexpected increase in GDP growth in G20 EMs leads to almost half a percentage point higher revenue growth after one year for these firms, an effect that fades but remains one-half of the initial level even after five years (Figure 4.9, panel 1). This effect is about half the size of similar spillovers from an unanticipated increase in growth in G20 advanced economies.

This finding holds both for firms headquartered in advanced economies and for those headquartered in other emerging markets. However, the impact is higher for firms in the latter—revenue growth is 0.8 percentage point higher after five years for firms with greater exposure. Spillovers also increase over time as the reliance of firms on demand from G20 EMs increases (Figure 4.5, panel 2). These results are consistent with a body of evidence suggesting that increasing demand from China for goods and commodities boosts firm exports in several regions—see, for instance, Feenstra, Ma, and Xu (2019) for the United States and Costa, Garred, and Pessoa (2016) for Brazil. More generally, positive spillovers from almost all G20 EMs are large for firms in export-dependent industries, both on impact and after three years (Figure 4.9, panel 2).

Turning to downstream spillovers, firms in sectors dependent on intermediate goods produced in G20 EMs seem overall to be unaffected by domestic growth surprises in G20 EMs. This finding could be explained by two opposing transmission channels canceling each other out. On one hand, firms sourcing intermediate inputs from G20 EMs could benefit from cheaper supplies. On the other hand, the same firms may suffer a loss of sales from increased competition should firms in the G20 EMs expand downstream into new products. These negative downstream spillovers could take time to build and are consistent with import competition effects from lower-wage countries (Bernard, Jensen, and Schott 2006), a mechanism popularized by Autor, Dorn, and Hanson (2013) in the context of China and the United States.

While these two channels cannot be identified separately, findings suggest that for shocks originating in Indonesia and Türkiye, the cheaper supply channel may dominate (Figure 4.9, panel 2). For shocks originating in the largest G20 EMs (China, India, Mexico), the competition channel seems to dominate, as spillovers turn negative for firms more dependent on inputs from these EMs, with revenue growth slowing by about 0.1 percentage point more than for firms in less exposed sectors. In the case of specific spillovers from China, the Belt and Road Initiative generated positive effects for more upstream industries through higher import demand in China, but it also increased competition from China in export markets, generating negative spillovers to downstream sectors—those producing goods close to final demand—especially in countries geographically closer to China (Bastos 2020).

Tracking the Reallocation of Global Activity at the Sectoral Level

Moving to the longer term, a multicountry, multisector input-output network model of global trade is used to assess how sectoral productivity shocks in G20 EMs can lead to significant changes in activity across sectors under different scenarios, as well as across economies, depending on their region and level of income (Huo, Levchenko, and Pandalai-Nayar, forthcoming; Bonadio and others 2021, 2023). In the baseline, a negative shock corresponding to 2.5 percent of TFP hits all sectors in all G20 EMs—corresponding to a domestic

output decline of about 10 percent. In a second scenario, only sectors in G20 EMs that are integrated into GVCs are hit by the same TFP shock. Finally, a third scenario presents a case study in which only one sector in one G20 EM is shocked—specifically, the construction sector in China.[11]

In the baseline scenario, global GDP excluding G20 EMs declines by about 0.15 percent, of which about one-half is attributable to China, followed at a distance by India, Russia, and Mexico (Figure 4.10, panel 1, leftmost bar). This is consistent with China's role as a manufacturing powerhouse and the advanced economies' dependence on Chinese manufacturing production (see Baldwin, Freeman, and Theodorakopoulos 2023 on the "hidden exposure" of the United States to Chinese suppliers), which can make decoupling from China particularly costly (Felbermayr, Mahlkow, and Sandkamp 2023). To help benchmark these G20 EM trade spillovers, the same shocks applied to US productivity yield a global impact excluding the United States about one-third of this magnitude, slightly smaller than the impact from the shock to China alone.[12]

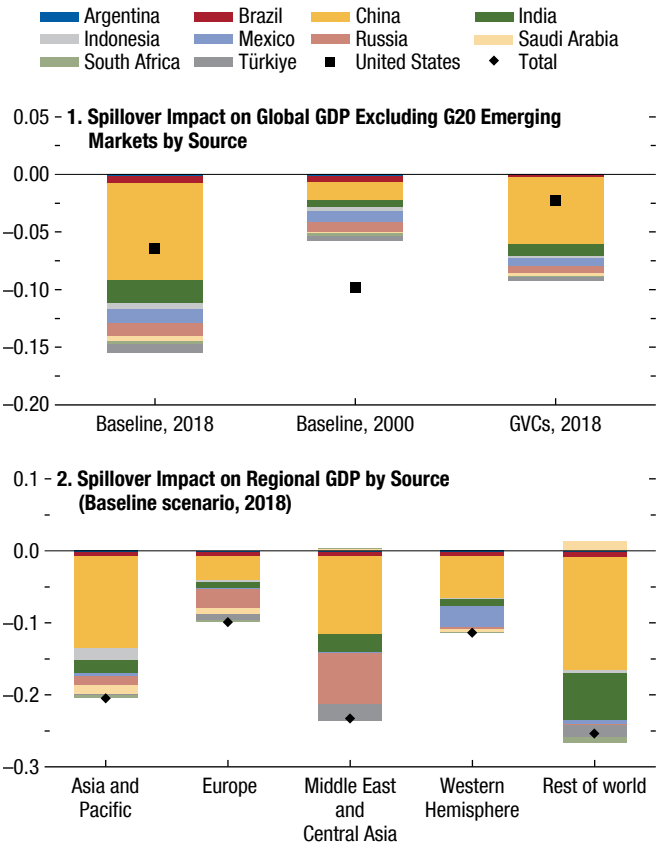
Calibrating the baseline model using trade and input-output data from 2000 reveals that spillovers in 2018 had become almost three times larger than those two decades earlier, which confirms that G20 EMs have indeed gained importance as their share of global trade has grown (Figure 4.10, panel 1, middle bar). Spillovers from the United States, in contrast, have remained broadly similar over time and, if anything, have diminished slightly (see squares in Figure 4.10, panel 1). It is worth noting that the spillovers from the model are smaller than the shorter-term spillovers reported earlier from aggregate demand and supply shocks, reflecting the focus of the model on the long term and the trade channel.[13]

[11]All three scenarios consider negative productivity shocks: negative responses indicate complementarity, while positive responses indicate competition. As the model used is static, it cannot account for dynamics, and results should be considered as a comparison of two steady states.

[12]Once the domestic impact of the shock and its spillovers to other G20 EMs are considered, the global decline in GDP is 4 percent, and 3.4 percent of this decline is the result of spillovers (including those to other G20 EMs). By comparison, the US shock implies a 1.4 percent decline in global GDP, with spillovers constituting 3.8 percent of the decline.

[13]See Online Annex 4.4 for details of the calibration of the model. In the short term, producers and consumers are less able to substitute for the decline in output by G20 EMs, and hence spillovers to aggregate output are larger. This can be captured qualitatively by assuming a lower trade elasticity: halving the trade elasticity from four to two roughly doubles the impact on global GDP outside G20 EMs from the same TFP shocks.

Figure 4.10. Impact of Spillovers on GDP by G20 Emerging Markets
(Percent)



Sources: Bonadio and others 2021, 2023; Huo, Levchenko, and Pandalai-Nayar (forthcoming); Organisation for Economic Co-operation and Development, Inter-Country Input-Output Tables; and IMF staff calculations.
Note: Sample contains 36 advanced economies, 26 emerging market economies, 4 low-income developing countries, and a rest of the world region. The impact on GDP excludes countries shocked in each scenario. GVC = global value chains.

In a second scenario with TFP shocks only to GVC-intensive sectors in G20 EMs, the impact on global GDP outside the G20 EMs is about two-thirds of that in the baseline scenario, despite a domestic impact on G20 EMs that is about one-third as large (Figure 4.10, panel 1, rightmost bar). Applying the same shock to GVC-intensive sectors in the United States generates even smaller spillovers, relative to those from shocks in G20 EMs, than in the baseline scenario, confirming that transmission through GVCs is particularly relevant for shocks originating in these large emerging markets.

Decomposing the global impact across economies and regions shows a generalized but differentiated decline in output (Figure 4.10, panel 2). Asian

economies are significantly affected, as TFP shocks from China dominate, though India also has a significant role. The rest of the world region—which includes most low-income developing countries and makes up about 10 percent of global GDP—is even more affected. In this case, India plays a more important role than it does for other regions, primarily because of shocks to coke and refined petroleum products and basic metals, reflecting these industries' large demand for commodity exports by economies in the rest of the world region. Except for those from China, spillovers from other G20 EMs tend to permeate mostly regionally—in line with the findings for short-term aggregate spillovers. Comparing across regions, European economies tend to be the most insulated, with the impact driven more by the shock to Russia. For the Americas, shocks from China are the largest contributor to the spillovers, but those from Mexico are also important, particularly in Central and North America.

The multisector trade model can be exploited further to evaluate the impact of shocks from G20 EMs on sectors in other economies. This analysis is important for policymakers to understand, as aggregate negative spillovers mask large reallocations across sectors and economies:

- Under the baseline scenario, most sectors contract—agriculture, mining, utilities, and trade and services, especially in Asia—as trade slows down (Figure 4.11, panel 1). On the other hand, most manufacturing sectors contract less than others (for example, wood products and nonmetallic mineral products), while some even expand (for example, textiles, basic metals, and electrical equipment). That is, despite the negative aggregate impact, there is some reallocation of activity between sectors.
- The degree of reallocation is amplified under the second scenario, in which the negative supply shock is concentrated in GVC-intensive sectors. Indeed, the standard deviation of the changes in global sectoral value added outside of the G20 EMs increases by nearly one-third, with the number of sectors expanding increasing from 5 to 15. In this scenario, most manufacturing sectors expand (for example, textiles, metals, and electronics) as domestic firms take advantage of the decrease in supply from competing firms in G20 EMs (Figure 4.11, panel 2)—this is consistent with the negative downstream spillovers highlighted in the firm-level analysis.[14]

Both the decline in the production of basic commodities and the expansion of textiles production in the second scenario are driven by emerging market and developing economies, in line with their role in commodity exports and the findings of Chapter 3 of the October 2023 WEO. Meanwhile, the expansion of manufacturing sectors and the decline in services are concentrated in advanced economies and reflect their relatively more advanced technologies and larger share of the global economy (Figure 4.11, panel 2). The correlation between the change in sectoral value added and the change in prices shows the role of the price signal in inducing sectoral reallocation.

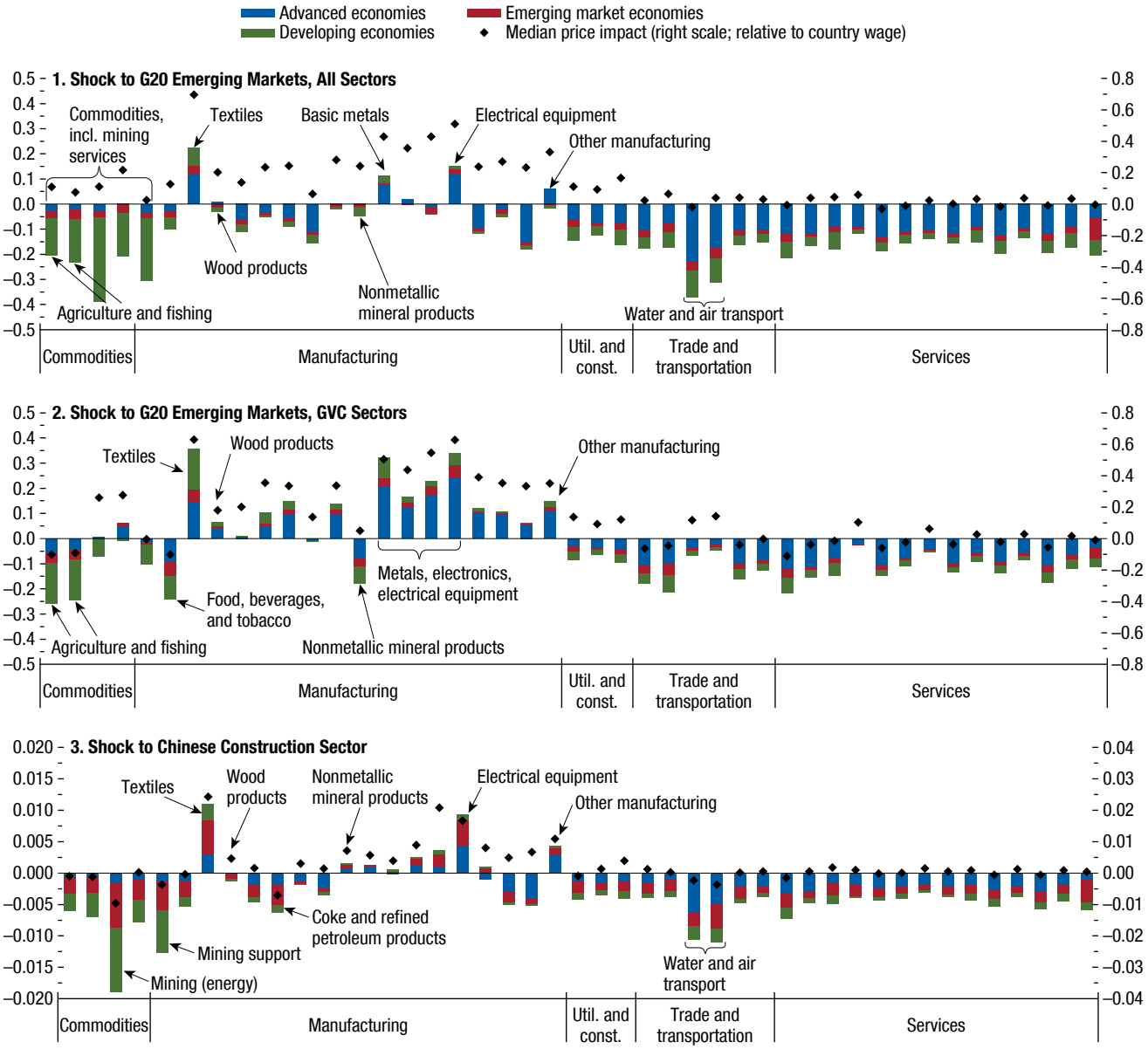
Motivated by the protracted weakness of the Chinese property sector (IMF 2024), the final scenario focuses on the propagation of a negative 2.5 percent productivity shock to the construction sector in China, which generates a 6 percent contraction in the value added of that sector and a half percent contraction in other sectors in China's economy. Globally, this drives the largest declines in sectoral value added in the production of energy commodities, particularly in mining, suggestive of upstream propagation to inputs to the Chinese construction sector. Consistent with this hypothesis, air and water transportation also contract. Meanwhile, textiles production expands significantly, alongside that of electrical equipment, which points to domestic downstream linkages in China propagating to other economies through higher prices in downstream sectors in which China is an important player in GVCs (Figure 4.11, panel 3).[15]

[14]Mano (2016) applies a similar modeling framework to China, in which the rebalancing from investment toward consumption and movement along the value chain can have important spillovers and generate significant sectoral reallocation. An important caveat is that the results depend on the extent of substitutability and complementarity implied by the calibration of the model. Indeed, halving the trade elasticity from four to two delivers significantly less short-term expansion in sectoral value added, along both the intensive and extensive margins. The sensitivity of results to different parameters is discussed in Online Annex 4.4.

[15]Alternative scenarios provide substantially different results. For instance, a positive shock to India's information technology sector, shown in Online Annex 4.4, exhibits significantly less variation in the sectoral responses, with this smaller variation driven by a large contraction of the information technology sector outside India, which is the result of increased competition, whereas all other sectors expand.

Figure 4.11. Changes in Sectoral Value Added and Prices

(Percent)



Sources: Bonadio and others 2021, 2023; Huo, Levchenko, and Pandalai-Nayar (forthcoming); Organisation for Economic Co-operation and Development, Inter-Country Input-Output Tables; and IMF staff calculations.
Note: Sample contains 36 advanced economies, 26 emerging market economies, 4 low-income developing countries, and a rest of the world region. Developing economies include the rest of the world region. Bars indicate the change in global sectoral value added excluding countries shocked in each scenario. See Figure 4.1 for a list of G20 EMs. GVC = global value chain; incl. = including; Util. and const. = Utilities and construction.

Spillovers to Sectoral Employment

The spillovers to sectoral activity from productivity shocks originating in G20 EMs inevitably have implications for sectoral employment. In contrast with the previous subsection, which assessed specific downside scenarios, this subsection considers spillovers from *positive* sectoral TFP shocks in any G20 economy-sector pair. Where sectoral activity comoves positively in response to the positive shock in a particular economy-sector pair, employment will also increase, while employment declines in those sectors where activity comoves negatively. Going one step

Table 4.1. Sectors in G20 Economies with the Largest Employment Spillovers

Advanced Economies			Emerging Market Economies		
Source Group	Source Sector	Number of Destination Sectors Affected	Source Group	Source Sector	Number of Destination Sectors Affected
		1. Complementarity			
AE	Financial and insurance activities	6	EM	Computer, electronic, and optical products	12
EM	Computer, electronic, and optical equipment	6	EM	Textiles, textile products, leather, and footwear	2
AE	Motor vehicles, trailers, and semi-trailers	5	EM	Mining and quarrying, energy producing products	2
AE	Professional, scientific, and technical activities	4	EM	Basic metals	2
EM	Textiles, textile products, leather, and footwear	3	EM	Machinery and equipment	2
AE	Wholesale, and retail trade	2	AE	Coke and refined petroleum products	2
EM	Basic metals	1	EM	Coke and refined petroleum products	2
			EM	Motor vehicles, trailers, and semi-trailers	1
			EM	Wholesale and retail trade	1
			AE	Computer, electronic, and optical equipment	1
			AE	Education	1
			AE	Wholesale and retail trade	1
			AE	Basic metals	1
		2. Competition			
AE	Wholesale and retail trade	12	AE	Wholesale and retail trade	7
AE	Professional, scientific, and technical activities	3	EM	Textiles, textile products, leather, and footwear	6
EM	Wholesale and retail trade	3	EM	Agriculture, hunting, forestry	5
EM	Machinery and equipment	2	EM	Wholesale and retail trade	3
AE	Administrative and support services	2	AE	Agriculture, hunting, forestry	2
AE	Accommodation and food service activities	1	EM	Food products, beverages, and tobacco	2
EM	Textiles, textile products, leather, and footwear	1	EM	Mining and quarrying, energy producing products	2
EM	Computer, electronic, and optical equipment	1	AE	Motor vehicles, trailers, and semi-trailers	1
EM	Education	1	EM	Computer, electronic, and optical equipment	1
EM	Accommodation and food service activities	1	AE	Mining and quarrying, energy producing products	1

Sources: Bonadio and others 2021, 2023; Huo, Levchenko, and Pandalai-Nayar (forthcoming); Organisation for Economic Co-operation and Development (OECD), Inter-Country Input-Output Tables; OECD, Trade in Employment Database; and IMF staff calculations.

Note: Sample covers G20 economies, excluding Australia; regional aggregates for Asia and Pacific, Middle East and Central Asia, Europe, and Western Hemisphere; and a rest of the world aggregate. Computed using the contribution to total employment from each economy-sector's response to all possible positive productivity shocks from the source economy-sector. The source sectors driving the top three sector responses by economy in which employment positively comoves with the economy-sector in which the shock originates are summarized under "Complementarity" (panel 1), while negative comovement between economy-sectors is summarized under "Competition" (panel 2). Thus, the entries in the two columns "Number of Destination Sectors Affected" in each panel sum to 57 = 19 economies × 3 sectors. AE = advanced economy; EM = emerging market.

further, it is possible to catalog the economy-sector pairs in the G20 in which positive productivity shocks have the largest positive ("complementarity") or negative ("competition") employment spillovers on other economy-sector pairs in the G20 (Table 4.1).[16]

Overall, positive sectoral productivity shocks in G20 economies tend to increase employment in other foreign sectors along the global value chain while simultaneously displacing jobs in the same sectors abroad.

Manufacturing sectors in G20 EMs—notably China—remain an important source of positive spillovers for one another, while positive spillovers from advanced economies to emerging markets in these sectors are less widespread. For advanced economies, the largest positive employment spillovers from G20 EMs (mostly China) tend to emanate from computer, electronic, and optical equipment, as well as textiles. In addition to these sectors, emerging markets also see greater job opportunities materializing from positive shocks in basic metals, machinery, and energy commodities in G20 EMs (predominantly China and Saudi Arabia). In contrast, positive employment spillovers between advanced economies are driven by shocks to both services—financial and insurance activities and professional, scientific, and technical activities (from the United States)—and manufacturing, such as motor vehicles (from Germany and the United States).

Turning to negative employment spillovers, services and higher-tech manufacturing in advanced economies are identified as sectors that are most negatively exposed to positive shocks in G20 EM sectors, while agriculture and relatively low-tech manufacturing, such as textiles, are at the highest risk of job losses in emerging markets. In both cases, China again emerges as a key source of spillovers. Positive shocks from services sectors in advanced economies stand out as sources of negative spillovers to both income groups (wholesale and retail trade, from France, Germany, and the United States) and advanced economies (professional, scientific and technical activities, from the United States).[17] Moving to spillovers from G20 EMs, the sectors that generate the largest negative employment spillovers for advanced economies are wholesale and retail trade and machinery and equipment (from China), while the most influential sectors for emerging markets are textiles (from China) and agriculture (from Brazil, China, and Russia).

Can the Other G20 Emerging Markets Support Global Growth?

This final section of the chapter uses simulations from the IMF's Global Integrated Monetary and Fiscal (GIMF) model to consider the extent to which spillovers from G20 EMs (excluding China) could support global and regional growth.[18] To investigate the potential for a G20 EM upside scenario using the model, a series of positive short-term five-year aggregate demand and supply shocks—to household consumption and private investment—is constructed for each of the G20 EMs excluding China. The size of the shock is calibrated to capture a plausible upside to the WEO baseline: specifically, a 30 percent probability that growth in each G20 EM simultaneously could be higher than in this scenario.[19]

These positive shocks raise aggregate GDP growth for the other G20 EMs by 0.7 percentage point over the WEO forecast horizon, though with substantial heterogeneity among them. Global growth also accelerates by half a percentage point. About 85 percent is driven by the size of the shocks, while the remaining 15 percent results from the other G20 EM spillovers

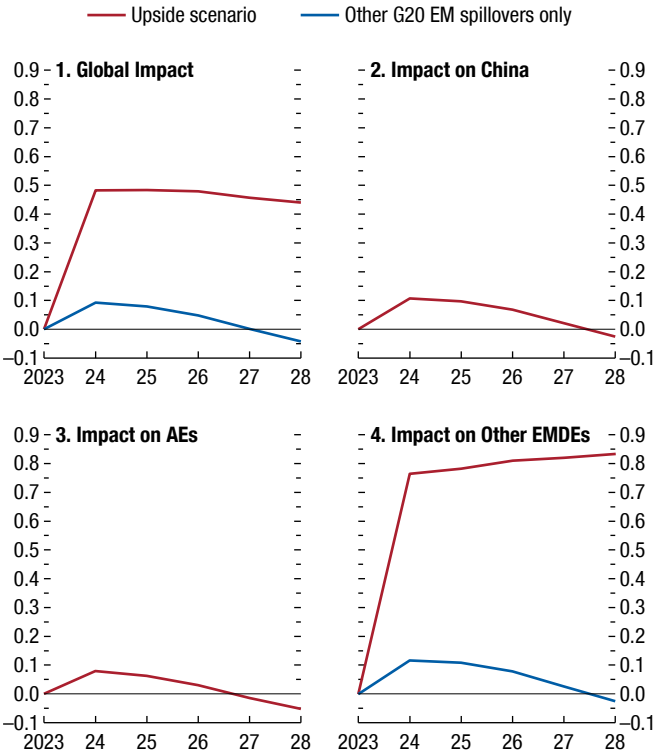
[16]This subsection combines the global trade model with employment data and considers data for 19 countries (all G20 economies excluding Australia), four regional aggregates (Asia and Pacific, Europe, Middle East and Central Asia, and Western Hemisphere), and a rest of the world aggregate. Details on the construction of Table 4.1 are provided in Online Annex 4.4. The results from the same exercise using data from 2000 are reported, showing a smaller role for shocks from G20 EMs, consistent with the latter's increasing global trade footprint, and with results more concentrated in commodity sectors, consistent with the movement of G20 EMs up the value chain.

[17]Wholesale and retail trade (International Standard Industrial Classification, Revision 4, Code G) includes import and export activities. The prevalence of wholesale and retail trade among the most affected sectors in part reflects the significant employment share of that sector—on average 15 percent of employment.

[18]The scenario is modeled using a new version of GIMF augmented with an aggregate representation of GVCs. GIMF is similar to most macro-focused dynamic stochastic general equilibrium models in that the standard trade elasticities imply easy adjustment of real exchange rates, even in the long term, limiting the movement of spillovers through trade channels. This version of GIMF with GVCs includes roundabout production in the GVC sector, which amplifies the impacts of shocks on trade flows involved in GVCs. For more details on the model and this scenario, see Online Annex 4.5.

[19]The size of the shock is specific to the growth distribution of each emerging market economy, based on the confidence bands for the G20 economies, as described in Chapter 1 of the April 2023 *World Economic Outlook* (Box 1.3). For specifics on the methodology and the model associated with it, the IMF's G20 model, see Andrle and Hunt (2020) and Andrle and others (2015).

Figure 4.12. What Is the Global Impact from a G20 Emerging Market Upside Scenario on Real GDP?
(Percent; deviations from baseline)



Source: IMF staff calculations.
Note: See Figure 4.1 for a list of G20 EMs. AEs = advanced economies; EMs = emerging markets; EMDEs = emerging market and developing economies.

onto one another, China, and the advanced economies (Figure 4.12, panel 1).

Spillovers on growth are more than 0.1 percentage point for the first few years in China (Figure 4.12, panel 2), whereas in advanced economies they are less than 0.1 percentage point per year and two-thirds the size of the impact on growth in China (Figure 4.12, panel 3). For advanced economies, spillovers originate mostly in energy exporters and Mexico—because of its strong ties with the United States. Finally, spillovers between emerging markets are larger and account for 13 percent of their growth pickup (Figure 4.12, panel 4). As an example, upside shocks in India play a prominent role through GVCs and as a source of additional demand.

Conclusions and Policy Implications

Stronger global integration, notably through trade and GVCs, means that domestic shocks in G20 EMs can drive larger spillovers to the global economy—in some cases now comparable in size to spillovers from advanced economies—and generate employment gains and losses through the reallocation of activity across sectors and economies. Looking forward, deeper geoeconomic fragmentation, by reshaping trade and investment flows along geopolitical fault lines (see Box 1.1 and Gopinath and others 2024), could reduce cross-country diversification and increase macroeconomic volatility. In addition, stronger trade and financial linkages within blocs could amplify regional spillovers from some G20 EMs (China, Russia), while price volatility for key commodities could increase (see Chapter 3 of the October 2023 WEO).

The growing importance of spillovers from domestic shocks in G20 EMs has implications for (1) the design of sound domestic macroeconomic policies directed at building buffers over the medium term against negative spillovers (for advanced and other emerging market and developing economies) and managing domestic shocks (for G20 EMs) and (2) multilateral cooperation and policy coordination.

As policymakers in *advanced economies* continue to try to manage the downward drift in inflation without damaging growth, they should be sensitive to spillovers from G20 EMs, notably those from supply-side shocks. For *emerging market and developing economies*, spillovers can be sizable and could put growth and income convergence at risk. The need to build buffers to better manage negative shocks poses pressing policy challenges in a context still characterized by the scars of the pandemic and subsequent shocks and by limited fiscal space, especially in poorer economies. As a source of larger global and regional spillovers—much like advanced economies—the *emerging markets of the G20* need to continue to strengthen their monetary, fiscal, and financial frameworks, while assessing their impact on other economies. Depending on country specificities, priorities could entail strengthening fiscal positions to provide buffers, reducing current account deficits to minimize external vulnerabilities, or reducing balance sheet vulnerabilities to ensure financial stability.

The reallocation across firms and sectors resulting from shocks in G20 EMs suggests that policymakers should pursue policies directed at taking advantage of new opportunities and at mitigating the effects on sectors and firms that are more exposed to negative spillovers.

- Given the potential for gains in some sectors from cross-border spillovers, policymakers should prioritize the design of a well-calibrated package

of structural reforms to sustain growth, even when fiscal policy space is limited. These reforms could cover governance, the external sector, labor markets, and business regulation, among other areas. Policies should be targeted to sectors that stand to benefit most from reallocation. In this context, industrial policies, including large-scale subsidies or export restrictions, should be used only amid large market failures or externalities, as they can deepen fragmentation through adverse cross-border spillovers.

- Policymakers should avoid protectionist measures to insulate domestic sectors from foreign competition, as these are likely to trigger retaliation from trading partners and can generate welfare losses. By contrast, sectors and firms hit by negative spillovers could be supported by inclusive policies—including targeted fiscal support—that facilitate efficient reallocation of labor across sectors, upgrades in skills, adaptation to increased competition from emerging markets, and mitigation of the harmful distributional impact of the spillovers (see Chapter 2 of the October 2019 WEO). Other structural reforms, such as promoting competition to prevent increases in market power or improving access to credit for viable firms, would also foster reallocation.

The continued rise of G20 EMs also underscores the need for effective multilateral cooperation and international policy coordination to manage spillovers and minimize fragmentation risks. Strengthening the global financial safety net would allow a timely and effective response to the costs of negative cross-border spillovers.

Box 4.1. Industrial Policies in Emerging Markets: Old and New

This box investigates the impact of domestic subsidies on trade flows to and from G20 EMs. As governments increasingly resort to industrial policies to achieve both economic and noneconomic objectives, the number of subsidies has more than tripled during the past decade. Data from the Global Trade Alert database—which records policy changes that are likely to discriminate against foreign firms—indicate that by 2022, about 6,000 policies entailing domestic subsidies were in force in G20 EMs alone (Figure 4.1.1, panel 1).

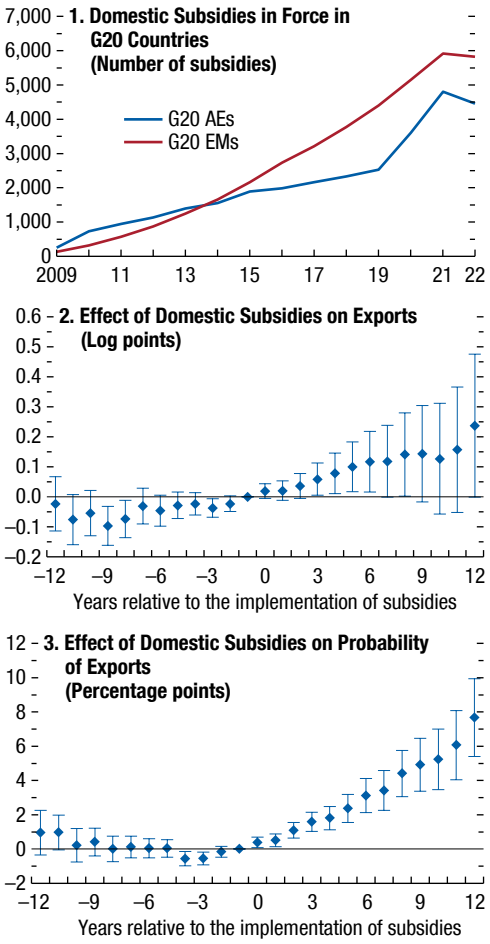
Subsidies can affect trade patterns by shaping firm-level productivity and industry-level comparative advantage (for instance, by promoting research and development in targeted firms or sectors, as discussed in Chapter 2 of the April 2024 *Fiscal Monitor*). Figure 4.1.1 (panels 2 and 3) shows the effects of domestic subsidies on goods exports using a difference-in-differences model that compares subsidized and unsubsidized products, before and after a subsidy's introduction.

At the intensive margin, exports of subsidized products grow faster over the course of the eight years following the introduction of the measure, at which time changes in exports of these products are about 10 percent higher than those of other products. At the extensive margin, domestic subsidies increase the probability of a product being exported by 3 percentage points relative to that for other products. While a similar analysis for imports does not show significant effects, the pro-trade effect of subsidies is confirmed in a gravity model, in which subsidies are found to increase international trade relative to domestic sales.

These results highlight how domestic subsidies in G20 EMs can alter comparative advantage patterns and hence affect export dynamics. Because these measures can have strong trade spillovers, international cooperation is needed to attenuate the possibility of a subsidy war through tit-for-tat behavior by others (Evenett and others 2024).

The authors of this box are Lorenzo Rotunno and Michele Ruta. The box draws from Rotunno and Ruta (2024).

Figure 4.1.1. The Rise of Domestic Subsidies and Their Impact on Exports



Sources: Global Trade Alert database; Rotunno and Ruta 2024; and IMF staff calculations.
Note: In panel 1, subsidies are defined as government measures that involve a financial transfer and create an advantage for the beneficiaries. Data exclude measures classified as export subsidies and include only measures that are classified as "distortive" (discriminating against foreign interests). In panel 2 and panel 3, the sample includes G20 EMs. The charts plot the estimates and 90 percent confidence intervals on the subsidy dummy interacted with periods before and after the treatment. The specification includes dummies for other policies, country-product fixed effects, country-product linear time trends, product-year and country-ISIC 2-digit-year fixed effects. See Figure 4.1 for a list of G20 EMs. AEs = advanced economies; EMs = emerging markets.

Box 4.2. Capital Flows to G20 Emerging Markets and the Allocation Puzzle

This box investigates the determinants behind the volume and distribution of net capital flows to emerging markets. The *Lucas paradox* refers to the observation that capital does not flow from capital-rich developed economies to more capital-poor developing economies in the amount the neoclassical growth model would predict. This result could be explained by differences in human capital as well as capital market imperfections (Lucas 1990), frictions associated with national borders (Kalemli-Özcan and others 2010), institutional quality (Alfaro, Kalemli-Özcan, and Volosovych 2008), and the degree of capital account openness (Reinhardt, Ricci, and Tressel 2013).

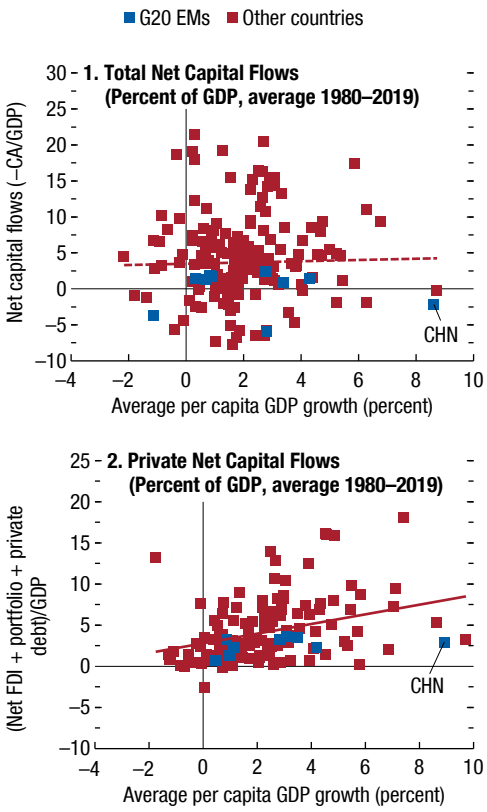
Subsequent research has documented that not only have capital flows from rich to poor economies been low, but their allocation across developing economies is negatively correlated or uncorrelated with productivity growth—the *allocation puzzle*, as defined by Gourinchas and Jeanne (2013). Differences between public and private flows could explain the puzzle: sovereign-to-sovereign transactions account for upstream capital flows, while private capital flows downstream; that is, it is positively correlated with countries' productivity growth (Aguiar and Amador 2011; Alfaro, Kalemli-Özcan, and Volosovych 2014; Aguiar 2023).

Revisiting the allocation puzzle for a large sample of countries between 1980 and 2019 confirms the lack of a clear pattern between total net capital flows and growth (Figure 4.2.1, panel 1). However, private capital flows do exhibit a clear positive correlation with growth (Figure 4.2.1, panel 2), as predicted by the neoclassical theory. The allocation puzzle is therefore driven largely by public flows, which, in turn, are influenced by net accumulation of reserves by faster-growing emerging markets.

The positive correlation between private flows and growth suggests that the increased financial integration by G20 EMs, as documented in this chapter, will continue to benefit these economies. Overall, capital flows can bring substantial benefits for countries by allowing agents to smooth consumption, finance investment, and contribute to a more efficient allocation of resources (IMF 2012). Policies that make good use of these benefits while managing the risks associated with capital flow volatilities ought to be promoted.

The authors of this box are Andrés Fernández Martin, Michael Gottschalk, and Manuel Perez-Archila.

Figure 4.2.1. Capital Flows to Emerging Markets: Revisiting the Allocation Puzzle



Sources: Alfaro, Kalemli-Özcan, and Volosovych 2014; and IMF staff calculations.
Note: Net flows are scaled by GDP. Lines report the estimated slope via ordinary least squares; solid (dashed) lines are (not) statistically significant at 10 percent or less. Average per capita GDP growth rates correspond to the period with available capital flow data. The sample comprises 178 countries in panel 1 and 135 in panel 2. See Figure 4.1 for a list of G20 EMs. CA = current account; CHN = China; EMs = emerging markets; FDI = foreign direct investment.

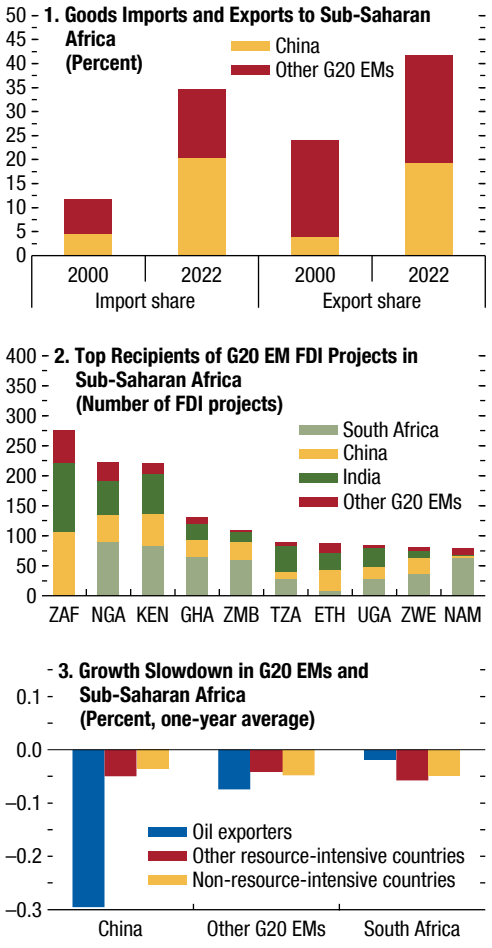
Box 4.3. Spillovers from G20 Emerging Markets to Sub-Saharan Africa

This box focuses on growth spillovers from G20 EMs to sub-Saharan Africa. Trade integration with G20 EMs has increased substantially over the past two decades, driven by China's rising share in the region's goods trade (Figure 4.3.1, panel 1). China's importance for the region is also reflected in its large investment and official lending flows (Horn, Reinhart and Trebesch 2021; Chen, Fornino, and Rawlings 2024). However, other G20 EMs are also strongly connected to sub-Saharan Africa, through trade and foreign direct investment (Figure 4.3.1, panel 2). While greater integration has spurred robust growth, it has also increased the region's exposure to global shocks. For instance, weak growth prospects in China could impact the region through lower cross-border investment and weaker external demand (see Box 1.2 and the October 2023 *Regional Economic Outlook: Sub-Saharan Africa*).

A global vector autoregression (GVAR) model is employed to quantify the impact of possible growth slowdowns in China, other G20 EMs, and South Africa on sub-Saharan African countries (excluding South Africa).[1] As expected, spillovers from China dominate, with commodity exporters—notably oil exporters (for example, Angola, Chad, and Nigeria)—particularly vulnerable: a 1 percentage point decline in growth in China leads to an average growth reduction after one year of about 0.3 percentage point in oil exporters and 0.05 percentage point in other resource-intensive countries (Figure 4.3.1, panel 3).

The regional impact of a growth shock in South Africa is comparable to those of other G20 EMs, but it is largest for non-oil exporters and highly differentiated across countries. Regional spillovers from South Africa are strongest for members of the Southern African Customs Union (Botswana, Eswatini, Lesotho, Namibia), up to 0.3 percentage point on average—and larger than those from China.

Figure 4.3.1. Role of G20 Emerging Markets in Sub-Saharan Africa



Sources: fDi Markets; IMF, *Direction of Trade Statistics;* and IMF staff calculations.
Note: The first panel shows the share of imports (exports) of goods for China and other G20 EMs to sub-Saharan African countries. Data labels in the second panel use International Organization for Standardization (ISO) country codes. The third panel shows first-year average responses to a 1 percentage point negative shock in China, other G20 EMs, and South Africa for sub-Saharan African countries (excluding South Africa). Country groupings are detailed in the October 2023 *Regional Economic Outlook: Sub-Saharan Africa*. See Figure 4.1 for a list of G20 EMs. EM = emerging market; FDI = foreign direct investment.

The authors of this box are Hany Abdel-Latif and Andrea F. Presbitero.

[1]The GVAR model discussed in this box employs annual data from 1990 to 2022 for 71 countries, including most sub-Saharan African economies. Countries are linked in the model through a bilateral trade weight matrix based on 2017–19 averages.

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STATISTICAL APPENDIX

The Statistical Appendix presents historical data as well as projections. It comprises eight sections: Assumptions, What's New, Data and Conventions, Country Notes, Classification of Economies, General Features and Composition of Groups in the *World Economic Outlook* Classification, Key Data Documentation, and Statistical Tables.

The first section summarizes the assumptions underlying the estimates and projections for 2024–25. The second section briefly describes the changes to the database and statistical tables since the October 2023 *World Economic Outlook* (WEO). The third section offers a general description of the data and the conventions used for calculating country group composites. The fourth section presents selected key information for each country. The fifth section summarizes the classification of economies in the various groups presented in the WEO, and the sixth section explains that classification in further detail. The seventh section provides information on methods and reporting standards for the member countries' national account and government finance indicators included in the report.

The last, and main, section comprises the statistical tables. Statistical Appendix A is included here; Statistical Appendix B is available online at www.imf.org/en/Publications/WEO.

Data in these tables have been compiled on the basis of information available through April 1, 2024. The figures for 2024–25 are shown with the same degree of precision as the historical figures solely for convenience; because they are projections, the same degree of accuracy is not to be inferred.

Assumptions

Real effective *exchange rates* for the advanced economies are assumed to remain constant at their average levels measured during January 30, 2024–February 27, 2024. For 2024 and 2025 these assumptions imply average US dollar–special drawing right conversion rates of 1.329 and 1.331, US dollar–euro conversion rates[1] of 1.078 and 1.073, and yen–US dollar conversion rates of 148.5 and 146.4, respectively.

It is assumed that the *price of oil* will average $78.61 a barrel in 2024 and $73.68 a barrel in 2025.

National authorities' established *policies* are assumed to be maintained. Box A1 describes the more specific policy assumptions underlying the projections for selected economies.

With regard to *interest rates*, it is assumed that the *three-month government bond yield* for the United States will average 5.2 percent in 2024 and 4.1 percent in 2025, that for the euro area will average 3.5 percent in 2024 and 2.6 percent in 2025, and that for Japan will average 0.0 percent in 2024 and 0.1 percent in 2025. Further it is assumed that the *10-year government bond yield* for the United States will average 4.1 percent in 2024 and 3.7 percent in 2025, that for the euro area will average 2.5 percent in 2024 and 2.6 percent in 2025, and that for Japan will average 1.0 percent in 2024 and 1.1 percent in 2025.

What's New

- *Ecuador*'s fiscal sector projections are excluded from publication for 2024–29 because of ongoing program discussions.
- *Vietnam* has been removed from the Low-Income Developing Countries (LIDCs) group and added to the Emerging Market and Middle-Income Economies (EMMIEs) group.
- For *West Bank and Gaza*, data for 2022–23 previously excluded from publication pending methodological adjustments to statistical series are now included. Projections for 2024–29 are excluded from publication on account of the unusually high degree of uncertainty.

[1]In regard to the introduction of the euro, on December 31, 1998, the Council of the European Union decided that, effective January 1, 1999, the irrevocably fixed conversion rates between the euro and currencies of the member countries adopting the euro are as described in Box 5.4 of the October 1998 WEO. See that box as well for details on how the conversion rates were established. For the most recent table of fixed conversion rates, see the Statistical Appendix of the April 2023 WEO.

Data and Conventions

Data and projections for 196 economies form the statistical basis of the WEO database. The data are maintained jointly by the IMF's Research Department and regional departments, with the latter regularly updating country projections based on consistent global assumptions.

Although national statistical agencies are the ultimate providers of historical data and definitions, international organizations are also involved in statistical issues, with the objective of harmonizing methodologies for the compilation of national statistics, including analytical frameworks, concepts, definitions, classifications, and valuation procedures used in the production of economic statistics. The WEO database reflects information from both national source agencies and international organizations.

Most countries' macroeconomic data as presented in the WEO conform broadly to the 2008 version of the *System of National Accounts* (SNA 2008). The IMF's sector statistical standards—the sixth edition of the *Balance of Payments and International Investment Position Manual* (BPM6), the *Monetary and Financial Statistics Manual and Compilation Guide,* and the *Government Finance Statistics Manual 2014* (GFSM 2014)—have been aligned with the SNA 2008. These standards reflect the IMF's special interest in countries' external positions, monetary developments, financial sector stability, and public sector fiscal positions. The process of adapting country data to the new standards begins in earnest when revised versions of the manuals are released. However, full concordance with the most recent versions of the manuals is ultimately dependent on the provision by national statistical compilers of revised country data; hence, the WEO estimates are only partly adapted to the most recent versions of these manuals. Nonetheless, for many countries, conversion to the updated standards will have only a small impact on major balances and aggregates. Many other countries have partly adopted the latest standards and will continue implementation over a number of years.[2]

The fiscal gross and net debt data reported in the WEO are drawn from official data sources and IMF staff estimates. While attempts are made to align data on gross and net debt with the definitions in the GFSM 2014, as a result of data limitations or specific country circumstances, these data can sometimes deviate from the formal definitions. Although every effort is made to ensure the WEO data are relevant and internationally comparable, differences in both sectoral and instrument coverage mean that the data are not universally comparable. As more information becomes available, changes in either data sources or instrument coverage can give rise to data revisions that are sometimes substantial. For clarification on the deviations in sectoral or instrument coverage, please refer to the metadata for the online WEO database.

Composite data for country groups in the WEO are either sums or weighted averages of data for individual countries. Unless noted otherwise, multiyear averages of growth rates are expressed as compound annual rates of change.[3] Arithmetically weighted averages are used for all data for the emerging market and developing economies group—except data on inflation and money growth, for which geometric averages are used. The following conventions apply:

Country group composites for exchange rates, interest rates, and growth rates of monetary aggregates are weighted by GDP converted to US dollars at market exchange rates (averaged over the preceding three years) as a share of group GDP.

Composites for other data relating to the domestic economy, whether growth rates or ratios, are weighted by GDP valued at purchasing power parity as a share of total world or group GDP.[4] For the aggregation of inflation in the world and advanced economies (and subgroups), annual rates are simple percent changes from the previous years; for the aggregation of inflation in emerging market and developing economies (and subgroups), annual rates are based on logarithmic differences.

[2]Many countries are implementing the SNA 2008 or European System of National and Regional Accounts 2010, and a few countries use versions of the SNA older than that from 1993. A similar adoption pattern is expected for the BPM6 and GFSM 2014. Please refer to Table G, which lists the statistical standards to which each country adheres.

[3]Averages for real GDP, inflation, GDP per capita, and commodity prices are calculated based on the compound annual rate of change, except in the case of the unemployment rate, which is based on the simple arithmetic average.

[4]See Box 1.1 of the October 2020 WEO for a summary of the revised purchasing-power-parity-based weights as well as "Revised Purchasing Power Parity Weights" in the July 2014 WEO *Update*, Appendix 1.1 of the April 2008 WEO, Box A2 of the April 2004 WEO, Box A1 of the May 2000 WEO, and Annex IV of the May 1993 WEO. See also Anne-Marie Gulde and Marianne Schulze-Ghattas, "Purchasing Power Parity Based Weights for the *World Economic Outlook*," in *Staff Studies for the World Economic Outlook* (Washington, DC: International Monetary Fund, December 1993), 106–23.

Composites for real GDP per capita in *purchasing-power-parity* terms are sums of individual country data after conversion to international dollars in the years indicated.

Unless noted otherwise, composites for all sectors for the euro area are corrected for reporting discrepancies in transactions within the area. Unadjusted annual GDP data are used for the euro area and for the majority of individual countries, except Cyprus, Ireland, Portugal, and Spain, which report calendar-adjusted data. For data prior to 1999, data aggregations apply 1995 European currency unit exchange rates.

Composites for fiscal data are sums of individual country data after conversion to US dollars at the average market exchange rates in the years indicated.

Composite unemployment rates and employment growth are weighted by labor force as a share of group labor force.

Composites relating to external sector statistics are sums of individual country data after conversion to US dollars at the average market exchange rates in the years indicated for balance of payments data and at end-of-year market exchange rates for debt denominated in currencies other than US dollars.

Composites of changes in foreign trade volumes and prices, however, are arithmetic averages of percent changes for individual countries weighted by the US dollar value of exports or imports as a share of total world or group exports or imports (in the preceding year).

Unless noted otherwise, group composites are computed if 90 percent or more of the share of group weights is represented.

Data refer to calendar years, except in the case of a few countries that use fiscal years; Table F lists the economies with exceptional reporting periods for national accounts and government finance data.

For some countries, the figures for 2023 and earlier are based on estimates rather than actual outturns; Table G lists the latest actual outturns for the indicators in the national accounts, prices, government finance, and balance of payments for each country.

Country Notes

Afghanistan: Data for 2021 and 2022 are reported for selected indicators, with estimates for fiscal data. Estimates and projections for 2023–29 are omitted because of an unusually high degree of uncertainty given that the IMF has paused its engagement with the country owing to a lack of clarity within the international community regarding the recognition of a government in Afghanistan. Data reported in the WEO contain a structural break in 2021 owing to the change from calendar year to solar year; the actual reported GDP growth rate for solar year 2021 is –20.7 percent.

Algeria: Total government expenditure and net lending/borrowing include net lending by the government, which mostly reflects support to the pension system and other public sector entities.

Argentina: The official national consumer price index (CPI) starts in December 2016. For earlier periods, CPI data for Argentina reflect the Greater Buenos Aires Area CPI (prior to December 2013); the national CPI (IPCNu, December 2013 to October 2015); the City of Buenos Aires CPI (November 2015 to April 2016); and the Greater Buenos Aires Area CPI (May 2016 to December 2016). Given limited comparability of these series because of differences in geographic coverage, weights, sampling, and methodology, the WEO does not report average CPI inflation for 2014–16 and end-of-period inflation for 2015–16. Also, Argentina discontinued the publication of labor market data starting in the fourth quarter of 2015, and new series became available starting in the second quarter of 2016.

Bangladesh: Data and forecasts are presented on a fiscal year basis. However, country group aggregates that include Bangladesh use calendar year estimates of real GDP and purchasing-power-parity GDP.

Costa Rica: The central government definition was expanded as of January 1, 2021, to include 51 public entities in accordance with Law 9524. Data back to 2019 are adjusted for comparability.

Dominican Republic: The fiscal series have the following coverage: public debt, debt service, and the cyclically adjusted/structural balances are for the consolidated public sector (which includes the central government, the rest of the nonfinancial public sector, and the central bank); the remaining fiscal series are for the central government.

Ecuador: Fiscal sector projections are excluded from publication for 2024–29 because of ongoing program discussions.

Eritrea: Data and projections for 2020–29 are excluded from the database because of constraints in data reporting.

India: Real GDP growth rates are calculated in accordance with national accounts with base year 2011/12.

Iran: Historical figures for nominal GDP in US dollars are computed using the official exchange rate up to 2017. From 2018 onward, the NIMA (the country's domestic Forex Management Integrated System) exchange rate, rather than the official exchange rate, is used to convert nominal rial GDP figures into US dollars. The IMF staff assesses that the NIMA rate better reflects the transaction-value-weighted exchange rate in the economy over that period of time.

Israel: Projections are subject to heightened uncertainty due to the conflict in Israel and Gaza and thus may undergo revisions.

Lebanon: Data for 2021–22 are IMF staff estimates and not provided by the national authorities. Estimates and projections for 2023–29 are omitted owing to an unusually high degree of uncertainty.

Sierra Leone: Although the currency was redenominated on July 1, 2022, local currency data are expressed in the old leone for the April 2024 WEO.

Sri Lanka: Data and projections for 2023–29 are excluded from publication owing to ongoing discussions on sovereign debt restructuring.

Sudan: Projections reflect the IMF staff's analysis based on the assumption that the ongoing conflict will end by mid-2024. Data for 2011 exclude South Sudan after July 9; data for 2012 and onward pertain to the current Sudan.

Syria: Data are excluded from 2011 onward because of the uncertain political situation.

Turkmenistan: Real GDP data are IMF staff estimates compiled in line with international methodologies (SNA), using official estimates and sources as well as United Nations and World Bank databases. Estimates of and projections for the fiscal balance exclude receipts from domestic bond issuances as well as privatization operations, in line with the GFSM 2014. The authorities' official estimates for fiscal accounts, which are compiled using domestic statistical methodologies, include bond issuance and privatization proceeds as part of government revenues.

Ukraine: Revised national accounts data are available beginning in 2000 and exclude Crimea and Sevastopol from 2010 onward.

Uruguay: In December 2020 the authorities began reporting the national accounts data according to the SNA 2008, with the base year 2016. The new series begin in 2016. Data prior to 2016 reflect the IMF staff's best effort to preserve previously reported data and avoid structural breaks.

Starting in October 2018 *Uruguay*'s public pension system received transfers in the context of Law 19,590 of 2017, which compensates persons affected by the creation of the country's mixed pension system. These funds are recorded as revenues, consistent with the IMF's methodology. Therefore, data for 2018–22 are affected by these transfers, which amounted to 1.2 percent of GDP in 2018, 1.0 percent of GDP in 2019, 0.6 percent of GDP in 2020, 0.3 percent of GDP in 2021, 0.1 percent of GDP in 2022, and 0 percent thereafter. See IMF Country Report 19/64 for further details.[5] The disclaimer about the public pension system applies only to the revenues and net lending/borrowing series.

The coverage of the fiscal data for *Uruguay* was changed from consolidated public sector to nonfinancial public sector with the October 2019 WEO. In Uruguay, nonfinancial public sector coverage includes the central government, local government, social security funds, nonfinancial public corporations, and Banco de Seguros del Estado. Historical data were also revised accordingly. Under this narrower fiscal perimeter—which excludes the central bank—assets and liabilities held by the nonfinancial public sector for which the counterpart is the central bank are not netted out in debt figures. In this context, capitalization bonds issued in the past by the government to the central bank are now part of the nonfinancial public sector debt.

Venezuela: Projecting the economic outlook, including assessing past and current economic developments used as the basis for the projections, is rendered difficult by the lack of discussions with the authorities (the most recent Article IV consultation took place in 2004), incomplete metadata for limited reported statistics, and difficulties in reconciling reported indicators with economic developments. The fiscal accounts include the budgetary central government; social security; FOGADE (the country's insurance deposit institution); and a reduced set of public enterprises, including Petróleos de Venezuela, S.A. Following some methodological upgrades to achieve a more robust nominal GDP, historical data and indicators expressed as a percentage of GDP have been revised from 2012 onward. For most indicators, data for 2018–22 are IMF staff estimates. The effects of hyperinflation and the paucity of reported data mean that the IMF staff's projected macroeconomic indicators should be interpreted with caution. Broad uncertainty surrounds these projections. Venezuela's consumer prices are excluded from all WEO group composites.

[5] *Uruguay: Staff Report for the 2018 Article IV Consultation,* Country Report 19/64 (Washington, DC: International Monetary Fund, February 2019).

West Bank and Gaza: Projections for 2024–29 are excluded from publication owing to the unusually high degree of uncertainty.

Zimbabwe: Authorities have recently finished redenominating their national accounts statistics following the introduction in 2019 of the Real Time Gross Settlement dollar, later renamed the Zimbabwe dollar. The Zimbabwe dollar previously ceased circulating in 2009, and during 2009–19 Zimbabwe operated under a multicurrency regime with the US dollar as the unit of account.

Classification of Economies

Summary of the Economy Classification

The economy classification in the WEO divides the world into two major groups: advanced economies and emerging market and developing economies.[6] This classification is not based on strict criteria, economic or otherwise, and has evolved over time. The objective is to facilitate analysis by providing a reasonably meaningful method of organizing data. Table A provides an overview of the classification, showing the number of economies in each group by region and summarizing some key indicators of their relative size (GDP valued at purchasing power parity, total exports of goods and services, and population).

Some economies remain outside the classification and therefore are not included in the analysis. Cuba and the Democratic People's Republic of Korea are examples of economies that are not IMF members, and the IMF therefore does not monitor them.

General Features and Composition of Groups in the *World Economic Outlook* Classification

Advanced Economies

Table B lists the 41 advanced economies. The seven largest in terms of GDP based on market exchange rates—the United States, Japan, Germany, France, Italy, the United Kingdom, and Canada—constitute the subgroup of major advanced economies, often referred to as the Group of Seven. 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.

Table C lists the member countries of the European Union, not all of which are classified as advanced economies in the WEO.

Emerging Market and Developing Economies

The group of emerging market and developing economies (155) comprises all those that are not classified as advanced economies.

The regional breakdowns of emerging market and developing economies employed in the WEO are emerging and developing Asia; emerging and developing Europe (sometimes also referred to as "central and eastern Europe"); Latin America and the Caribbean; Middle East and Central Asia (which comprises the regional subgroups Caucasus and Central Asia; and Middle East, North Africa, Afghanistan, and Pakistan); and sub-Saharan Africa.

Emerging market and developing economies are also classified according to *analytical criteria* that reflect the composition of export earnings and a distinction between net creditor and net debtor economies. Tables D and E show the detailed composition of emerging market and developing economies in the regional and analytical groups.

The analytical criterion *source of export earnings* distinguishes between the categories *fuel* (Standard International Trade Classification [SITC] 3) and *nonfuel* and then focuses on *nonfuel primary products* (SITCs 0, 1, 2, 4, and 68). Economies are categorized into one of these groups if their main source of export earnings exceeded 50 percent of total exports on average between 2018 and 2022.

The financial and income criteria focus on *net creditor economies, net debtor economies, heavily indebted poor countries* (HIPCs), *low-income developing countries* (LIDCs), and *emerging market and middle-income economies* (EMMIEs). Economies are categorized as net debtors when their latest net international investment position, where available, was less than zero or their current account balance accumulations from 1972 (or earliest available data) to 2022 were negative. Net debtor economies are further differentiated on the basis of *experience with debt servicing*.[7]

[6]As used here, the terms "country" and "economy" do not always refer to a territorial entity that is a state as understood by international law and practice. Some territorial entities included here are not states, although their statistical data are maintained on a separate and independent basis.

[7]During 2018–22, 39 economies incurred external payments arrears or entered into official or commercial bank debt-rescheduling agreements. This group is referred to as *economies with arrears and/or rescheduling during 2018–22.*

The HIPC group comprises the countries that are or have been considered by the IMF and the World Bank for participation in their debt initiative known as the HIPC Initiative, which aims to reduce the external debt burdens of all the eligible HIPCs to a "sustainable" level in a reasonably short period of time.[8] Many of these countries have already benefited from debt relief and have graduated from the initiative.

The LIDCs are countries that have per capita income levels below a certain threshold (based on $2,700 in 2017 as measured by the World Bank's Atlas method and updated following new information in early 2024), structural features consistent with limited development and structural transformation, and external financial linkages insufficiently close for them to be widely seen as emerging market economies.

The EMMIEs are those emerging market and developing economies not classified as LIDCs.

[8]See David Andrews, Anthony R. Boote, Syed S. Rizavi, and Sukwinder Singh, "Debt Relief for Low-Income Countries: The Enhanced HIPC Initiative," IMF Pamphlet Series 51 (Washington, DC: International Monetary Fund, November 1999).

Table A. Classification by *World Economic Outlook* Groups and Their Shares in Aggregate GDP, Exports of Goods and Services, and Population, 2023[1]

(Percent of total for group or world)

	Number of Economies	GDP[1]		Exports of Goods and Services		Population	
		Advanced Economies	World	Advanced Economies	World	Advanced Economies	World
Advanced Economies	**41**	**100.0**	**41.2**	**100.0**	**61.7**	**100.0**	**13.9**
United States		37.8	15.6	16.0	9.9	30.7	4.3
Euro Area	20	28.5	11.7	42.2	26.1	31.8	4.4
Germany		7.7	3.2	11.0	6.8	7.7	1.1
France		5.3	2.2	5.5	3.4	6.0	0.8
Italy		4.5	1.8	4.1	2.5	5.4	0.8
Spain		3.3	1.4	3.2	2.0	4.4	0.6
Japan		9.0	3.7	4.8	3.0	11.4	1.6
United Kingdom		5.4	2.2	5.6	3.5	6.2	0.9
Canada		3.3	1.4	3.8	2.3	3.7	0.5
Other Advanced Economies	17	16.1	6.6	27.6	17.0	16.1	2.2
Memorandum							
Major Advanced Economies	7	73.0	30.0	50.9	31.4	71.2	9.9
		Emerging Market and Developing Economies	World	Emerging Market and Developing Economies	World	Emerging Market and Developing Economies	World
Emerging Market and Developing Economies	**155**	**100.0**	**58.8**	**100.0**	**38.3**	**100.0**	**86.1**
Regional Groups							
Emerging and Developing Asia	30	56.8	33.4	49.4	18.9	55.6	47.9
China		31.8	18.7	29.7	11.3	20.9	18.0
India		12.9	7.6	6.5	2.5	21.2	18.2
Emerging and Developing Europe	15	12.6	7.4	15.6	6.0	5.4	4.7
Russia		5.0	2.9	3.9	1.5	2.2	1.9
Latin America and the Caribbean	33	12.4	7.3	14.2	5.4	9.5	8.1
Brazil		4.0	2.3	3.3	1.3	3.0	2.6
Mexico		3.2	1.9	5.5	2.1	1.9	1.7
Middle East and Central Asia	32	12.8	7.5	16.8	6.4	12.6	10.8
Saudi Arabia		2.2	1.3	3.1	1.2	0.5	0.4
Sub-Saharan Africa	45	5.3	3.1	4.1	1.6	16.9	14.5
Nigeria		1.3	0.8	0.5	0.2	3.3	2.8
South Africa		1.0	0.6	1.1	0.4	0.9	0.8
Analytical Groups[2]							
By Source of Export Earnings							
Fuel	26	10.2	6.0	15.9	6.1	9.8	8.4
Nonfuel	127	89.8	52.8	84.1	32.2	90.2	77.6
Of which, Primary Products	35	4.9	2.9	5.1	1.9	8.7	7.5
By External Financing Source							
Net Debtor Economies	120	51.9	30.5	48.6	18.6	69.9	60.2
Of which, Economies with Arrears and/or Rescheduling during 2018–22	39	5.3	3.1	3.9	1.5	12.5	10.8
Other Groups[2]							
Emerging Market and Middle-Income Economies	96	93.0	54.7	95.9	36.7	77.6	66.8
Low-Income Developing Countries	58	7.0	4.1	4.1	1.6	22.4	19.3
Heavily Indebted Poor Countries	39	2.8	1.6	2.2	0.8	12.3	10.6

[1] GDP shares are based on the purchasing-power-parity valuation of economies' GDP. The number of economies comprising each group reflects those for which data are included in the group aggregates.

[2] Syria and West Bank and Gaza are omitted from the source of export earnings composites, and Syria is omitted from the net external position group composites, because of insufficient data. Syria is not included in Emerging Market and Middle-Income Economies or Low-Income Developing Countries.

Table B. Advanced Economies by Subgroup

Major Currency Areas		
United States		
Euro Area		
Japan		
Euro Area		
Austria	Germany	Malta
Belgium	Greece	The Netherlands
Croatia	Ireland	Portugal
Cyprus	Italy	Slovak Republic
Estonia	Latvia	Slovenia
Finland	Lithuania	Spain
France	Luxembourg	
Major Advanced Economies		
Canada	Italy	United States
France	Japan	
Germany	United Kingdom	
Other Advanced Economies		
Andorra	Israel	San Marino
Australia	Korea	Singapore
Czech Republic	Macao SAR[2]	Sweden
Denmark	New Zealand	Switzerland
Hong Kong SAR[1]	Norway	Taiwan Province of China
Iceland	Puerto Rico	

[1] On July 1, 1997, Hong Kong was returned to the People's Republic of China and became a Special Administrative Region of China.

[2] On December 20, 1999, Macao was returned to the People's Republic of China and became a Special Administrative Region of China.

Table C. European Union

Austria	France	Malta
Belgium	Germany	The Netherlands
Bulgaria	Greece	Poland
Croatia	Hungary	Portugal
Cyprus	Ireland	Romania
Czech Republic	Italy	Slovak Republic
Denmark	Latvia	Slovenia
Estonia	Lithuania	Spain
Finland	Luxembourg	Sweden

Table D. Emerging Market and Developing Economies by Region and Main Source of Export Earnings[1]

	Fuel	Nonfuel Primary Products
Emerging and Developing Asia		
	Brunei Darussalam	Kiribati
	Timor-Leste	Marshall Islands
		Mongolia
		Papua New Guinea
		Solomon Islands
		Tuvalu
Latin America and the Caribbean		
	Ecuador	Argentina
	Guyana	Bolivia
	Venezuela	Chile
		Paraguay
		Peru
		Suriname
		Uruguay
Middle East and Central Asia		
	Algeria	Afghanistan
	Azerbaijan	Mauritania
	Bahrain	Somalia
	Iran	Sudan
	Iraq	Tajikistan
	Kazakhstan	
	Kuwait	
	Libya	
	Oman	
	Qatar	
	Saudi Arabia	
	Turkmenistan	
	United Arab Emirates	
	Yemen	
Sub-Saharan Africa		
	Angola	Benin
	Chad	Botswana
	Republic of Congo	Burkina Faso
	Equatorial Guinea	Burundi
	Gabon	Central African Republic
	Nigeria	Democratic Republic of the Congo
	South Sudan	Eritrea
		Ghana
		Guinea
		Guinea-Bissau
		Liberia
		Malawi
		Mali
		Sierra Leone
		South Africa
		Zambia
		Zimbabwe

[1] Emerging and developing Europe is omitted from the table because no economies in the group have fuel or nonfuel primary products as the main source of export earnings.

Table E. Emerging Market and Developing Economies by Region, Net External Position, Heavily Indebted Poor Countries, and Per Capita Income Classification

	Net External Position[1]	Heavily Indebted Poor Countries[2]	Per Capita Income Classification[3]
Emerging and Developing Asia			
Bangladesh	*		*
Bhutan	*		*
Brunei Darussalam	•		•
Cambodia	*		*
China	•		•
Fiji	*		•
India	*		•
Indonesia	*		•
Kiribati	•		*
Lao P.D.R.	*		*
Malaysia	•		•
Maldives	*		•
Marshall Islands	•		•
Micronesia	•		•
Mongolia	*		•
Myanmar	*		*
Nauru	•		•
Nepal	*		*
Palau	*		•
Papua New Guinea	*		*
Philippines	*		•
Samoa	*		•
Solomon Islands	*		*
Sri Lanka	*		•
Thailand	*		•
Timor-Leste	•		*
Tonga	*		•
Tuvalu	•		•
Vanuatu	*		•
Vietnam	*		•
Emerging and Developing Europe			
Albania	*		•
Belarus	*		•
Bosnia and Herzegovina	*		•
Bulgaria	*		•
Hungary	*		•
Kosovo	*		•
Moldova	*		*
Montenegro	*		•
North Macedonia	*		•
Poland	*		•
Romania	*		•
Russia	•		•
Serbia	*		•
Türkiye	*		•
Ukraine	*		•
Latin America and the Caribbean			
Antigua and Barbuda	*		•
Argentina	•		•
Aruba	*		•
The Bahamas	*		•
Barbados	*		•
Belize	*		•
Bolivia	*	•	•
Brazil	*		•
Chile	*		•
Colombia	*		•
Costa Rica	*		•
Dominica	*		•
Dominican Republic	*		•
Ecuador	*		•
El Salvador	*		•
Grenada	*		•
Guatemala	*		•
Guyana	*	•	•
Haiti	*	•	*
Honduras	*	•	*
Jamaica	*		•
Mexico	*		•
Nicaragua	*	•	*
Panama	*		•
Paraguay	*		•
Peru	*		•
St. Kitts and Nevis	*		•
St. Lucia	*		•
St. Vincent and the Grenadines	*		•
Suriname	*		•
Trinidad and Tobago	•		•
Uruguay	*		•
Venezuela	•		•

Table E. Emerging Market and Developing Economies by Region, Net External Position, Heavily Indebted Poor Countries, and Per Capita Income Classification *(continued)*

	Net External Position[1]	Heavily Indebted Poor Countries[2]	Per Capita Income Classification[3]
Middle East and Central Asia			
Afghanistan	•	•	*
Algeria	•		•
Armenia	*		•
Azerbaijan	•		•
Bahrain	•		•
Djibouti	*		*
Egypt	*		•
Georgia	*		•
Iran	•		•
Iraq	•		•
Jordan	*		•
Kazakhstan	*		•
Kuwait	•		•
Kyrgyz Republic	*		*
Lebanon	*		•
Libya	•		•
Mauritania	*	•	*
Morocco	*		•
Oman	*		•
Pakistan	*		•
Qatar	•		•
Saudi Arabia	•		•
Somalia	*	•	*
Sudan	*	*	*
Syria[4]	. . .		. . .
Tajikistan	*		*
Tunisia	*		•
Turkmenistan	•		•
United Arab Emirates	•		•
Uzbekistan	•		*
West Bank and Gaza	*		•
Yemen	*		*
Sub-Saharan Africa			
Angola	*		•
Benin	*	•	*
Botswana	•		•
Burkina Faso	*	•	*
Burundi	*	•	*
Cabo Verde	*		•
Cameroon	*	•	*
Central African Republic	*	•	*
Chad	*	•	*
Comoros	*	•	*
Democratic Republic of the Congo	*	•	*
Republic of Congo	*	•	*
Côte d'Ivoire	*	•	*
Equatorial Guinea	•		•
Eritrea	•	*	*
Eswatini	•		•
Ethiopia	*	•	*
Gabon	•		•
The Gambia	*	•	*
Ghana	*	•	*
Guinea	*	•	*
Guinea-Bissau	*	•	*
Kenya	*		*
Lesotho	*		*
Liberia	*	•	*
Madagascar	*	•	*
Malawi	*	•	*
Mali	*	•	*
Mauritius	•		•
Mozambique	*	•	*
Namibia	•		•
Niger	*	•	*
Nigeria	*		*
Rwanda	*	•	*
São Tomé and Príncipe	*	•	*
Senegal	*	•	*
Seychelles	*		•
Sierra Leone	*	•	*
South Africa	•		•
South Sudan	*		*
Tanzania	*	•	*
Togo	*	•	*
Uganda	*	•	*
Zambia	*	•	*
Zimbabwe	*		*

[1] Dot (star) indicates that the country is a net creditor (net debtor).
[2] Dot (star) indicates that the country has (has not) reached the initiative's completion point, which allows it to receive the full debt relief committed to at the initiative's decision point.
[3] Dot (star) indicates that the country is classified as an emerging market and middle-income economy (low-income developing country).
[4] Syria is omitted from the net external position group and per capita income classification group composites for lack of a fully developed database.

Table F. Economies with Exceptional Reporting Periods[1]

	National Accounts	Government Finance
Afghanistan	Apr/Mar	Apr/Mar
The Bahamas		Jul/Jun
Bangladesh	Jul/Jun	Jul/Jun
Barbados		Apr/Mar
Bhutan	Jul/Jun	Jul/Jun
Botswana		Apr/Mar
Dominica		Jul/Jun
Egypt	Jul/Jun	Jul/Jun
Eswatini		Apr/Mar
Ethiopia	Jul/Jun	Jul/Jun
Fiji		Aug/Jul
Haiti	Oct/Sep	Oct/Sep
Hong Kong SAR		Apr/Mar
India	Apr/Mar	Apr/Mar
Iran	Apr/Mar	Apr/Mar
Jamaica		Apr/Mar
Lesotho	Apr/Mar	Apr/Mar
Marshall Islands	Oct/Sep	Oct/Sep
Mauritius		Jul/Jun
Micronesia	Oct/Sep	Oct/Sep
Myanmar	Oct/Sep	Oct/Sep
Nauru	Jul/Jun	Jul/Jun
Nepal	Aug/Jul	Aug/Jul
Pakistan	Jul/Jun	Jul/Jun
Palau	Oct/Sep	Oct/Sep
Puerto Rico	Jul/Jun	Jul/Jun
Samoa	Jul/Jun	Jul/Jun
Singapore		Apr/Mar
St. Lucia		Apr/Mar
Thailand		Oct/Sep
Tonga	Jul/Jun	Jul/Jun
Trinidad and Tobago		Oct/Sep

[1] Unless noted otherwise, all data refer to calendar years.

Table G. Key Data Documentation

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Afghanistan	Afghan afghani	NSO	FY2022/23	2016	SNA 2008		NSO	FY2022/23
Albania	Albanian lek	IMF staff	2022	1996	ESA 2010	From 1996	NSO	2022
Algeria	Algerian dinar	NSO	2022	2001	SNA 1993	From 2005	NSO	2022
Andorra	Euro	NSO	2022	2010	…		NSO	2023
Angola	Angolan kwanza	NSO and MEP	2022	2002	ESA 1995		NSO	2023
Antigua and Barbuda	Eastern Caribbean dollar	CB	2022	2006[6]	SNA 1993		NSO	2022
Argentina	Argentine peso	NSO	2022	2004	SNA 2008		NSO	2022
Armenia	Armenian dram	NSO	2022	2005	SNA 2008		NSO	2022
Aruba	Aruban florin	NSO	2022	2013	SNA 1993	From 2000	NSO	2022
Australia	Australian dollar	NSO	2023	2023	SNA 2008	From 1980	NSO	2022
Austria	Euro	NSO	2023	2015	ESA 2010	From 1995	NSO	2023
Azerbaijan	Azerbaijan manat	NSO	2022	2005	SNA 1993	From 1994	NSO	2022
The Bahamas	Bahamian dollar	NSO	2022	2018	SNA 1993		NSO	2023
Bahrain	Bahrain dinar	NSO and IMF staff	2022	2010	SNA 2008		NSO	2023
Bangladesh	Bangladesh taka	NSO	2022/23	2015/16	SNA 2008		NSO	2022/23
Barbados	Barbados dollar	NSO and CB	2022	2010	SNA 2008		NSO	2022
Belarus	Belarusian ruble	NSO	2022	2018	SNA 2008	From 2005	NSO	2023
Belgium	Euro	CB	2023	2015	ESA 2010	From 1995	CB	2023
Belize	Belize dollar	NSO	2022	2014	SNA 2008		NSO	2023
Benin	CFA franc	NSO	2022	2015	SNA 2008		NSO	2023
Bhutan	Bhutanese ngultrum	NSO	2021/22	2016/17	SNA 2008		NSO	2021/22
Bolivia	Bolivian boliviano	NSO	2022	1990	SNA 2008		NSO	2023
Bosnia and Herzegovina	Bosnian convertible marka	NSO	2022	2015	ESA 2010	From 2000	NSO	2023
Botswana	Botswana pula	NSO	2022	2016	SNA 2008		NSO	2023
Brazil	Brazilian real	NSO	2023	1995	SNA 2008		NSO	2023
Brunei Darussalam	Brunei dollar	MoF	2023	2010	SNA 2008		MoF	2023
Bulgaria	Bulgarian lev	NSO	2023	2015	ESA 2010	From 1996	NSO	2023
Burkina Faso	CFA franc	NSO and MEP	2022	2015	SNA 2008		NSO	2023
Burundi	Burundi franc	NSO and IMF staff	2022	2005	SNA 1993		NSO	2022
Cabo Verde	Cabo Verdean escudo	NSO	2022	2015	SNA 2008	From 2011	NSO	2022
Cambodia	Cambodian riel	NSO	2022	2014	SNA 1993		NSO	2023
Cameroon	CFA franc	NSO	2022	2016	SNA 2008	From 2016	NSO	2022
Canada	Canadian dollar	NSO	2023	2017	SNA 2008	From 1980	MoF and NSO	2023
Central African Republic	CFA franc	NSO	2021	2005	SNA 1993		NSO	2022
Chad	CFA franc	NSO	2022	2017	SNA 2008		NSO	2022
Chile	Chilean peso	CB	2023	2018	SNA 2008	From 2003	NSO	2023
China	Chinese yuan	NSO	2023	2015	SNA 2008		NSO	2022
Colombia	Colombian peso	NSO	2023	2015	SNA 2008	From 2005	NSO	2023
Comoros	Comorian franc	NSO	2022	2007	SNA 1993		NSO	2023
Democratic Republic of the Congo	Congolese franc	NSO	2020	2005	SNA 1993	From 2005	NSO	2023
Republic of Congo	CFA franc	NSO	2020	2005	SNA 1993		NSO	2022
Costa Rica	Costa Rican colón	CB	2023	2017	SNA 2008		CB	2023

Table G. Key Data Documentation *(continued)*

	Government Finance					Balance of Payments		
Country	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Afghanistan	MoF	FY2022/23	2001	CG	C	CB	2020	BPM 6
Albania	IMF staff	2022	1986	CG,LG,SS,MPC, NFPC	…	CB	2022	BPM 6
Algeria	MoF	2022	1986	CG	C	CB	2022	BPM 6
Andorra	NSO and MoF	2022	…	CG,LG,SS	C	NSO	2022	BPM 6
Angola	MoF	2022	2001	CG,LG	Mixed	CB	2022	BPM 6
Antigua and Barbuda	MoF	2022	2001	CG	Mixed	CB	2022	BPM 6
Argentina	MEP	2022	1986	CG,SG,SS	C	NSO	2022	BPM 6
Armenia	MoF	2022	2001	CG	C	CB	2022	BPM 6
Aruba	MoF	2022	2001	CG	C	CB	2022	BPM 6
Australia	MoF	2022	2014	CG,SG,LG,TG	A	NSO	2023	BPM 6
Austria	NSO	2022	2014	CG,SG,LG,SS	A	CB	2022	BPM 6
Azerbaijan	MoF	2022	2001	CG	C	CB	2022	BPM 6
The Bahamas	MoF	2022/23	2014	CG	C	CB	2023	BPM 6
Bahrain	MoF	2022	2001	CG	C	CB	2022	BPM 6
Bangladesh	MoF	2022/23	2001	CG	C	CB	2022/23	BPM 6
Barbados	MoF	2022/23	2001	BCG	C	CB	2022	BPM 6
Belarus	MoF	2022	2001	CG,LG,SS	C	CB	2022	BPM 6
Belgium	CB	2022	ESA 2010	CG,SG,LG,SS	A	CB	2022	BPM 6
Belize	MoF	2022	1986	CG,MPC	Mixed	CB	2023	BPM 6
Benin	MoF	2022	1986	CG	C	CB	2021	BPM 6
Bhutan	MoF	2022/23	1986	CG	C	CB	2022/23	BPM 6
Bolivia	MoF	2022	2001	CG,LG,SS	C	CB	2022	BPM 6
Bosnia and Herzegovina	MoF	2022	2014	CG,SG,LG,SS	Mixed	CB	2022	BPM 6
Botswana	MoF	2022/23	1986	CG	C	CB	2022	BPM 6
Brazil	MoF	2023	2014	CG,SG,LG,SS	C	CB	2023	BPM 6
Brunei Darussalam	MoF	2022	1986	CG,BCG	C	NSO and MEP	2022	BPM 6
Bulgaria	MoF	2023	2001	CG,LG,SS	C	CB	2023	BPM 6
Burkina Faso	MoF	2022	2001	CG	CB	CB	2022	BPM 6
Burundi	MoF	2022	2001	CG	Mixed	CB	2022	BPM 6
Cabo Verde	MoF	2022	2001	CG	A	NSO	2022	BPM 6
Cambodia	MoF	2022	2001	CG,LG	C	CB	2022	BPM 5
Cameroon	MoF	2022	2001	CG	Mixed	MoF	2022	BPM 6
Canada	MoF and NSO	2023	2001	CG,SG,LG,SS	A	NSO	2023	BPM 6
Central African Republic	MoF	2022	2001	CG	C	CB	2021	BPM 5
Chad	MoF	2022	1986	CG	C	CB	2022	BPM 5
Chile	MoF	2023	2001	CG,LG	A	CB	2022	BPM 6
China	MoF, NAO and IMF staff	2023	…	CG,LG,SS	C	GAD	2022	BPM 6
Colombia	MoF	2023	2001	CG,SG,LG,SS	…	CB and NSO	2023	BPM 6
Comoros	MoF	2022	1986	CG	Mixed	CB and IMF staff	2022	BPM 5
Democratic Republic of the Congo	MoF	2022	2001	CG,LG	A	CB	2022	BPM 6
Republic of Congo	MoF	2021	2001	CG	A	CB	2020	BPM 6
Costa Rica	MoF and CB	2023	1986	CG,NFPC	C	CB	2022	BPM 6

Table G. Key Data Documentation *(continued)*

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Côte d'Ivoire	CFA franc	NSO	2022	2015	SNA 2008	From 2015	NSO	2023
Croatia	Euro	NSO	2022	2015	ESA 2010		NSO	2023
Cyprus	Euro	NSO	2023	2010	ESA 2010	From 1995	NSO	2023
Czech Republic	Czech koruna	NSO	2023	2015	ESA 2010	From 1995	NSO	2023
Denmark	Danish krone	NSO	2022	2010	ESA 2010	From 1980	NSO	2022
Djibouti	Djibouti franc	NSO	2021	2013	SNA 2008		NSO	2022
Dominica	Eastern Caribbean dollar	NSO	2022	2006	SNA 1993		NSO	2022
Dominican Republic	Dominican peso	CB	2022	2007	SNA 2008	From 2007	CB	2023
Ecuador	US dollar	CB	2022	2018	SNA 2008	From 2018	NSO and CB	2023
Egypt	Egyptian pound	MEP	2022/23	2021/22	SNA 2008		NSO	2022/23
El Salvador	US dollar	CB	2023	2014	SNA 2008		NSO	2023
Equatorial Guinea	CFA franc	MEP and CB	2022	2006	SNA 1993		MEP	2022
Eritrea	Eritrean nakfa	IMF staff	2019	2011	SNA 1993		IMF staff	2019
Estonia	Euro	NSO	2023	2015	ESA 2010	From 2010	NSO	2023
Eswatini	Swazi lilangeni	NSO	2022	2011	SNA 2008		NSO	2023
Ethiopia	Ethiopian birr	NSO	2021/22	2015/16	SNA 2008		NSO	2022
Fiji	Fijian dollar	NSO	2022	2014	SNA 2008		NSO	2023
Finland	Euro	NSO	2023	2015	ESA 2010	From 1980	NSO	2023
France	Euro	NSO	2023	2014	ESA 2010	From 1980	NSO	2023
Gabon	CFA franc	MEP	2021	2001	SNA 1993		NSO	2023
The Gambia	Gambian dalasi	NSO	2023	2013	SNA 2008		NSO	2022
Georgia	Georgian lari	NSO	2023	2019	SNA 2008	From 1996	NSO	2023
Germany	Euro	NSO	2023	2015	ESA 2010	From 1991	NSO	2023
Ghana	Ghanaian cedi	NSO	2022	2013	SNA 2008		NSO	2022
Greece	Euro	NSO	2023	2015	ESA 2010	From 1995	NSO	2023
Grenada	Eastern Caribbean dollar	NSO	2021	2006	SNA 1993		NSO	2022
Guatemala	Guatemalan quetzal	CB	2022	2013	SNA 2008	From 2001	NSO	2023
Guinea	Guinean franc	NSO	2021	2010	SNA 1993		NSO	2023
Guinea-Bissau	CFA franc	NSO	2022	2015	SNA 2008		NSO	2022
Guyana	Guyanese dollar	NSO	2022	2012[6]	SNA 1993		NSO	2022
Haiti	Haitian gourde	NSO	2020/21	2011/12	SNA 2008		NSO	2021/22
Honduras	Honduran lempira	CB	2022	2000	SNA 1993		CB	2023
Hong Kong SAR	Hong Kong dollar	NSO	2023	2021	SNA 2008	From 1980	NSO	2023
Hungary	Hungarian forint	NSO	2022	2015	ESA 2010	From 1995	NSO	2023
Iceland	Icelandic króna	NSO	2022	2015	ESA 2010	From 1990	NSO	2022
India	Indian rupee	NSO	2022/23	2011/12	SNA 2008		NSO	2022/23
Indonesia	Indonesian rupiah	NSO	2023	2010	SNA 2008		NSO	2023
Iran	Iranian rial	CB	2022/23	2016/17	SNA 2008		CB	2022/23
Iraq	Iraqi dinar	NSO	2022	2007	…		NSO	2023
Ireland	Euro	NSO	2023	2021	ESA 2010	From 1995	NSO	2023
Israel	Israeli new shekel	NSO	2023	2015	SNA 2008	From 1995	NSO	2023
Italy	Euro	NSO	2023	2015	ESA 2010	From 1980	NSO	2023
Jamaica	Jamaican dollar	NSO	2022	2007	SNA 1993		NSO	2023

Table G. Key Data Documentation *(continued)*

	Government Finance					Balance of Payments		
Country	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Côte d'Ivoire	MoF	2022	1986	CG	A	CB	2021	BPM 6
Croatia	MoF	2022	2014	CG,LG	A	CB	2022	BPM 6
Cyprus	NSO	2023	ESA 2010	CG,LG,SS	A	CB	2022	BPM 6
Czech Republic	MoF	2022	2014	CG,LG,SS	A	NSO	2022	BPM 6
Denmark	NSO	2022	2014	CG,LG,SS	A	NSO	2022	BPM 6
Djibouti	MoF	2022	2001	CG	A	CB	2021	BPM 5
Dominica	MoF	2022/23	1986	CG	C	CB	2022	BPM 6
Dominican Republic	MoF	2023	2014	CG,LG,SS	A	CB	2022	BPM 6
Ecuador	MoF	2022	2014	CG,SG,LG,SS	Mixed	CB	2022	BPM 6
Egypt	MoF	2021/22	…	CG,LG,SS,NFPC	C	CB	2022/23	BPM 5
El Salvador	MoF and CB	2023	1986	CG,LG,SS	C	CB	2023	BPM 6
Equatorial Guinea	MoF and MEP	2022	1986	CG	C	CB	2022	BPM 5
Eritrea	IMF staff	2019	2001	CG	C	IMF staff	2019	BPM 5
Estonia	MoF	2022	1986/2001	CG,LG,SS	C	CB	2022	BPM 6
Eswatini	MoF	2022/23	2001	CG	C	CB	2022	BPM 6
Ethiopia	MoF	2021/22	1986	CG,SG,LG	C	CB	2021/22	BPM 5
Fiji	MoF	2021/22	1986	CG	C	CB	2022	BPM 6
Finland	MoF	2022	2014	CG,LG,SS	A	NSO	2023	BPM 6
France	NSO	2022	2014	CG,LG,SS	A	CB	2022	BPM 6
Gabon	IMF staff	2021	2001	CG	A	IMF	2021	BPM 6
The Gambia	MoF	2023	1986	CG	C	CB and IMF staff	2023	BPM 6
Georgia	MoF	2023	2001	CG,LG	C	CB	2023	BPM 6
Germany	NSO	2023	ESA 2010	CG,SG,LG,SS	A	CB	2023	BPM 6
Ghana	MoF	2022	2001	CG	CB	CB	2022	BPM 5
Greece	NSO	2022	ESA 2010	CG,LG,SS	A	CB	2023	BPM 6
Grenada	MoF	2022	…	CG	CB	NSO and CB	2022	BPM 6
Guatemala	MoF	2022	2001	CG	C	CB	2022	BPM 6
Guinea	MoF	2023	1986	CG	C	CB and MEP	2022	BPM 6
Guinea-Bissau	MoF	2022	2001	CG	A	CB	2022	BPM 6
Guyana	MoF	2022	1986	CG,SS	C	CB	2022	BPM 6
Haiti	MoF	2021/22	1986	CG	C	CB	2020/21	BPM 5
Honduras	MoF	2023	2014	CG,LG,SS	Mixed	CB	2022	BPM 5
Hong Kong SAR	MoF	2021/22	2001	CG	C	NSO	2023	BPM 6
Hungary	MEP and NSO	2022	ESA 2010	CG,LG,SS	A	CB	2022	BPM 6
Iceland	NSO	2022	2014	CG,LG,SS	A	CB	2022	BPM 6
India	MoF and IMF staff	2021/22	1986	CG,LG,SG	C	CB	2022/23	BPM 6
Indonesia	MoF	2023	2014	CG,LG	A	CB	2023	BPM 6
Iran	MoF	2021/22	2001	CG	C	CB and IMF staff	2022/23	BPM 5
Iraq	MoF	2023	2001	CG	C	CB	2022	BPM 6
Ireland	MoF and NSO	2022	2001	CG,LG,SS	A	NSO	2023	BPM 6
Israel	MoF and NSO	2022	2014	CG,LG,SS	…	NSO	2022	BPM 6
Italy	NSO	2023	2001	CG,LG,SS	A	NSO	2022	BPM 6
Jamaica	MoF	2022/23	1986	CG	C	CB	2022	BPM 6

Table G. Key Data Documentation *(continued)*

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Japan	Japanese yen	GAD	2023	2015	SNA 2008	From 1980	GAD	2023
Jordan	Jordanian dinar	NSO	2022	2016	SNA 2008		NSO	2022
Kazakhstan	Kazakhstani tenge	NSO	2022	2005	SNA 1993	From 1994	NSO	2022
Kenya	Kenyan shilling	NSO	2022	2016	SNA 2008		NSO	2023
Kiribati	Australian dollar	NSO	2022	2019	SNA 2008		IMF staff	2023
Korea	South Korean won	CB	2023	2015	SNA 2008	From 1980	NSO	2023
Kosovo	Euro	NSO	2022	2016	ESA 2010		NSO	2022
Kuwait	Kuwaiti dinar	MEP and NSO	2022	2010	SNA 1993		NSO and MEP	2023
Kyrgyz Republic	Kyrgyz som	NSO	2023	2005	SNA 2008	From 2010	NSO	2023
Lao P.D.R.	Lao kip	NSO	2022	2012	SNA 2008		NSO	2022
Latvia	Euro	NSO	2023	2015	ESA 2010	From 1995	NSO	2023
Lebanon	Lebanese pound	NSO	2022	2010	SNA 2008	From 2010	NSO	2023
Lesotho	Lesotho loti	NSO	2022/23	2012/13	SNA 2008		NSO	2023
Liberia	US dollar	IMF staff	2022	2000	SNA 1993		CB	2022
Libya	Libyan dinar	MEP	2021	2013	SNA 1993		NSO	2022
Lithuania	Euro	NSO	2023	2015	ESA 2010	From 2005	NSO	2023
Luxembourg	Euro	NSO	2022	2015	ESA 2010	From 1995	NSO	2022
Macao SAR	Macanese pataca	NSO	2023	2021	SNA 2008	From 2001	NSO	2023
Madagascar	Malagasy ariary	NSO	2022	2007	SNA 1993		NSO	2023
Malawi	Malawian kwacha	NSO	2022	2017	SNA 2008		NSO	2023
Malaysia	Malaysian ringgit	NSO	2023	2015	SNA 2008		NSO	2023
Maldives	Maldivian rufiyaa	MoF and NSO	2022	2019	SNA 2008		CB	2022
Mali	CFA franc	NSO	2022	1999	SNA 1993		NSO	2023
Malta	Euro	NSO	2023	2015	ESA 2010	From 2000	NSO	2023
Marshall Islands	US dollar	NSO	2021/22	2014/15	SNA 2008		NSO	2021/22
Mauritania	New Mauritanian ouguiya	NSO	2023	1998	SNA 2008	From 2014	NSO	2023
Mauritius	Mauritian rupee	NSO	2023	2006	SNA 2008	From 1999	NSO	2023
Mexico	Mexican peso	NSO	2023	2018	SNA 2008		NSO	2023
Micronesia	US dollar	NSO	2021/22	2003/04	SNA 2008		NSO	2022/23
Moldova	Moldovan leu	NSO	2022	1995	SNA 2008		NSO	2023
Mongolia	Mongolian tögrög	NSO	2023	2015	SNA 2008		NSO	2023
Montenegro	Euro	NSO	2023	2006	ESA 2010		NSO	2023
Morocco	Moroccan dirham	NSO	2022	2014	SNA 2008	From 2007	NSO	2022
Mozambique	Mozambican metical	NSO	2022	2019	SNA 2008		NSO	2023
Myanmar	Myanmar kyat	MEP and IMF staff	2020/21	2015/16	…		NSO and IMF staff	2020/21
Namibia	Namibian dollar	NSO	2022	2015	SNA 1993		NSO	2023
Nauru	Australian dollar	IMF staff	2020/21	2006/07	SNA 2008		NSO and IMF staff	2020/21
Nepal	Nepalese rupee	NSO	2021/22	2010/11	SNA 2008		CB	2022/23
The Netherlands	Euro	NSO	2023	2015	ESA 2010	From 1980	NSO	2023
New Zealand	New Zealand dollar	NSO	2022	2009[6]	SNA 2008	From 1987	NSO and IMF staff	2022
Nicaragua	Nicaraguan córdoba	CB	2022	2006	SNA 2008	From 1994	CB	2023
Niger	CFA franc	NSO	2021	2015	SNA 2008		NSO	2022
Nigeria	Nigerian naira	NSO	2022	2010	SNA 2008		NSO	2023
North Macedonia	Macedonian denar	NSO	2023	2005	ESA 2010		NSO	2023
Norway	Norwegian krone	NSO	2023	2021	ESA 2010	From 1980	NSO	2023

Table G. Key Data Documentation *(continued)*

	Government Finance					Balance of Payments		
Country	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Japan	GAD	2022	2014	CG,LG,SS	A	MoF	2023	BPM 6
Jordan	MoF	2022	2001	CG,NFPC	C	CB	2022	BPM 6
Kazakhstan	MoF	2022	2001	CG,LG	C	CB	2022	BPM 6
Kenya	MoF	2023	2001	CG	C	CB	2023	BPM 6
Kiribati	MoF	2021	1986	CG	C	NSO and IMF staff	2022	BPM 6
Korea	MoF	2022	2001	CG,SS	C	CB	2023	BPM 6
Kosovo	MoF	2022	1986	CG,LG	C	CB	2022	BPM 6
Kuwait	MoF	2022	2014	CG,SS	Mixed	CB	2022	BPM 6
Kyrgyz Republic	MoF	2022	…	CG,LG,SS	C	CB	2022	BPM 6
Lao P.D.R.	MoF	2022	2001	CG	C	CB	2022	BPM 6
Latvia	MoF	2023	ESA 2010	CG,LG,SS	C	CB	2023	BPM 6
Lebanon	MoF	2021	2001	CG	C	CB and IMF staff	2021	BPM 6
Lesotho	MoF	2022/23	2014	CG,LG	C	CB	2022/23	BPM 6
Liberia	MoF	2022	2001	CG	A	CB	2022	BPM 5
Libya	CB	2023	1986	CG,SG,LG	C	CB and IMF staff	2022	BPM 5
Lithuania	MoF	2022	2014	CG,LG,SS	A	CB	2022	BPM 6
Luxembourg	MoF	2022	2001	CG,LG,SS	A	NSO	2022	BPM 6
Macao SAR	MoF	2022	2014	CG,SS	C	NSO	2022	BPM 6
Madagascar	MoF	2022	1986	CG	CB	CB	2022	BPM 6
Malawi	MoF	2023	2014	CG	C	NSO and GAD	2022	BPM 6
Malaysia	MoF	2022	2001	CG,SG,LG	C	NSO	2023	BPM 6
Maldives	MoF	2022	1986	CG	C	CB	2022	BPM 6
Mali	MoF	2022	2001	CG	Mixed	CB	2021	BPM 6
Malta	NSO	2022	2001	CG,SS	A	NSO	2022	BPM 6
Marshall Islands	MoF	2021/22	2001	CG,LG,SS	A	NSO	2021/22	BPM 6
Mauritania	MoF	2023	1986	CG	C	CB	2023	BPM 6
Mauritius	MoF	2022/23	2001	CG,LG	C	CB	2022	BPM 6
Mexico	MoF	2022	2014	CG,SS	C	CB	2023	BPM 6
Micronesia	MoF	2020/21	2001	CG,SG	A	NSO	2017/18	BPM 6
Moldova	MoF	2023	1986	CG,LG	C	CB	2022	BPM 6
Mongolia	MoF	2023	2001	CG,SG,LG,SS	C	CB	2023	BPM 6
Montenegro	MoF	2023	1986	CG,LG,SS	C	CB	2023	BPM 6
Morocco	MEP	2022	2001	CG	A	GAD	2022	BPM 6
Mozambique	MoF	2022	2001	CG,SG, LG	Mixed	CB	2022	BPM 6
Myanmar	IMF staff	2019/20	2014	CG	C	IMF staff	2021/22	BPM 6
Namibia	MoF	2022	2001	CG	C	CB	2022	BPM 6
Nauru	MoF	2020/21	2001	CG	Mixed	IMF staff	2021/22	BPM 6
Nepal	MoF	2022/23	2001	CG	C	CB	2022/23	BPM 5
The Netherlands	MoF	2022	2001	CG,LG,SS	A	CB	2022	BPM 6
New Zealand	NSO	2023	2014	CG, LG	A	NSO	2022	BPM 6
Nicaragua	MoF	2022	1986	CG,LG,SS	C	CB	2022	BPM 6
Niger	MoF	2022	1986	CG	A	CB	2022	BPM 6
Nigeria	MoF	2022	2001	CG,SG,LG	C	CB	2022	BPM 6
North Macedonia	MoF	2023	1986	CG,SG,SS	C	CB	2023	BPM 6
Norway	NSO and MoF	2023	2014	CG,LG,SS	A	NSO	2023	BPM 6

Table G. Key Data Documentation *(continued)*

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Oman	Omani rial	NSO	2022	2018	SNA 2008		NSO	2023
Pakistan	Pakistan rupee	NSO	2022/23	2015/16	SNA 2008		NSO	2022/23
Palau	US dollar	MoF	2021/22	2018/19	SNA 1993		MoF	2022/23
Panama	US dollar	NSO	2022	2018	SNA 1993	From 2018	NSO	2023
Papua New Guinea	Papua New Guinea kina	NSO and MoF	2022	2013	SNA 2008		NSO	2022
Paraguay	Paraguayan guaraní	CB	2022	2014	SNA 2008		CB	2023
Peru	Peruvian sol	CB	2023	2007	SNA 2008		CB	2023
Philippines	Philippine peso	NSO	2023	2018	SNA 2008		NSO	2023
Poland	Polish zloty	NSO	2023	2015	ESA 2010	From 2015	NSO	2023
Portugal	Euro	NSO	2023	2016	ESA 2010	From 1980	NSO	2023
Puerto Rico	US dollar	NSO	2021/22	1954	…		NSO	2022
Qatar	Qatari riyal	NSO and MEP	2022	2018	SNA 1993		NSO and MEP	2023
Romania	Romanian leu	NSO	2022	2015	ESA 2010	From 2000	NSO	2023
Russia	Russian ruble	NSO	2022	2021	SNA 2008	From 1995	NSO	2023
Rwanda	Rwandan franc	NSO	2023	2017	SNA 2008		NSO	2023
Samoa	Samoan tala	NSO	2022/23	2012/13	SNA 2008		NSO	2022/23
San Marino	Euro	NSO	2021	2007	ESA 2010		NSO	2022
São Tomé and Príncipe	São Tomé and Príncipe dobra	NSO	2022	2008	SNA 1993		NSO	2022
Saudi Arabia	Saudi riyal	NSO	2023	2018	SNA 2008	From 2018	NSO	2023
Senegal	CFA franc	NSO	2021	2014	SNA 2008		NSO	2021
Serbia	Serbian dinar	NSO	2022	2015	ESA 2010	From 2010	NSO	2023
Seychelles	Seychelles rupee	NSO	2022	2014	SNA 1993		NSO	2023
Sierra Leone	Sierra Leonean leone	NSO	2023	2006	SNA 2008	From 2010	NSO	2023
Singapore	Singapore dollar	NSO	2022	2015	SNA 2008	From 2015	NSO	2023
Slovak Republic	Euro	NSO	2023	2015	ESA 2010	From 1997	NSO	2023
Slovenia	Euro	NSO	2023	2010	ESA 2010	From 2000	NSO	2023
Solomon Islands	Solomon Islands dollar	NSO and CB	2022	2012	SNA 1993		NSO	2022
Somalia	US dollar	NSO	2022	2022	SNA 2008		NSO	2023
South Africa	South African rand	NSO	2022	2015	SNA 2008		NSO	2023
South Sudan	South Sudanese pound	NSO and IMF staff	2021	2010	SNA 1993		NSO	2022
Spain	Euro	NSO	2023	2015	ESA 2010	From 1995	Other	2023
Sri Lanka	Sri Lankan rupee	NSO	2021	2015	SNA 2008		NSO	2021
St. Kitts and Nevis	Eastern Caribbean dollar	NSO	2022	2006	SNA 1993		NSO	2022
St. Lucia	Eastern Caribbean dollar	NSO	2022	2018	SNA 2008		NSO	2022
St. Vincent and the Grenadines	Eastern Caribbean dollar	NSO	2021	2018	SNA 1993		NSO	2022
Sudan	Sudanese pound	NSO	2019	1982	…		NSO	2022
Suriname	Surinamese dollar	NSO	2022	2015	SNA 2008		NSO	2022

Table G. Key Data Documentation *(continued)*

	Government Finance					Balance of Payments		
Country	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Oman	MoF	2022	2001	CG	C	CB	2022	BPM 6
Pakistan	MoF	2022/23	1986	CG,SG,LG	C	CB	2022/23	BPM 6
Palau	MoF	2021/22	2001	CG	A	MoF	2021/22	BPM 6
Panama	MoF	2023	2014	CG,SG,LG,SS	C	NSO	2022	BPM 6
Papua New Guinea	MoF	2022	2014	CG	C	CB	2022	BPM 6
Paraguay	MoF	2023	2001	CG,SG,LG,SS,MPC, NFPC	C	CB	2022	BPM 6
Peru	CB and MoF	2023	2001	CG,SG,LG,SS	Mixed	CB	2023	BPM 5
Philippines	MoF	2022	2014	CG,LG,SS	C	CB	2023	BPM 6
Poland	MoF and NSO	2022	ESA 2010	CG,LG,SS	A	CB	2023	BPM 6
Portugal	NSO	2022	2001	CG,LG,SS	A	CB	2023	BPM 6
Puerto Rico	MEP	2021/22	2001	CG	A	…	…	…
Qatar	MoF	2022	1986	CG	C	CB and IMF staff	2022	BPM 6
Romania	MoF	2023	2014	CG,LG,SS	C	CB	2023	BPM 6
Russia	MoF	2023	2014	CG,SG,SS	Mixed	CB	2023	BPM 6
Rwanda	MoF	2023	2014	CG	Mixed	CB	2023	BPM 6
Samoa	MoF	2022/23	2001	CG	A	CB	2022/23	BPM 6
San Marino	MoF	2022	…	CG	A	Other	2021	BPM 6
São Tomé and Príncipe	MoF and Customs	2022	2001	CG	C	CB	2022	BPM 6
Saudi Arabia	MoF	2022	2014	CG	C	CB	2022	BPM 6
Senegal	MoF	2021	2001	CG	C	CB and IMF staff	2021	BPM 6
Serbia	MoF	2023	2014	CG,SG,LG,SS,other	C	CB	2022	BPM 6
Seychelles	MoF	2023	2001	CG,SS	C	CB	2022	BPM 6
Sierra Leone	MoF	2023	1986	CG	C	CB	2023	BPM 6
Singapore	MoF and NSO	2022/23	2014	CG	C	NSO	2022	BPM 6
Slovak Republic	NSO	2022	2001	CG,LG,SS	A	CB	2022	BPM 6
Slovenia	MoF	2022	2001	CG,LG,SS	A	CB	2023	BPM 6
Solomon Islands	MoF	2022	1986	CG	C	CB	2022	BPM 6
Somalia	MoF	2023	2001	CG	C	CB and IMF staff	2023	BPM 5
South Africa	MoF	2023	2001	CG,SG,SS	C	CB	2023	BPM 6
South Sudan	MoF and MEP	2021	2014	CG	C	MoF, NSO, MEP, and IMF staff	2021	BPM 6
Spain	MoF and NSO	2022	ESA 2010	CG,SG,LG,SS	A	CB	2023	BPM 6
Sri Lanka	MoF	2021	1986	CG	C	CB	2021	BPM 6
St. Kitts and Nevis	MoF	2022	1986	CG,SG,LG	C	CB	2022	BPM 6
St. Lucia	MoF	2022/23	1986	CG	C	CB	2022	BPM 6
St. Vincent and the Grenadines	MoF	2023	1986	CG	C	CB	2022	BPM 6
Sudan	MoF	2021	2001	CG	Mixed	CB	2021	BPM 6
Suriname	MoF	2022	1986	CG	Mixed	CB	2022	BPM 6

Table G. Key Data Documentation *(continued)*

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Sweden	Swedish krona	NSO	2023	2022	ESA 2010	From 1993	NSO	2023
Switzerland	Swiss franc	NSO	2023	2015	ESA 2010	From 1980	NSO	2023
Syria	Syrian pound	NSO	2010	2000	SNA 1993		NSO	2011
Taiwan Province of China	New Taiwan dollar	NSO	2023	2016	SNA 2008		NSO	2023
Tajikistan	Tajik somoni	NSO	2022	1995	SNA 1993		NSO	2022
Tanzania	Tanzanian shilling	NSO	2022	2015	SNA 2008		NSO	2022
Thailand	Thai baht	MEP	2023	2002	SNA 1993	From 1993	MEP	2023
Timor-Leste	US dollar	NSO	2022	2015	SNA 2008		NSO	2022
Togo	CFA franc	NSO	2021	2016	SNA 2008		NSO	2021
Tonga	Tongan pa'anga	CB	2021/22	2016/17	SNA 2008		CB	2022/23
Trinidad and Tobago	Trinidad and Tobago dollar	NSO	2022	2012	SNA 2008		NSO	2023
Tunisia	Tunisian dinar	NSO	2022	2015	SNA 1993	From 2009	NSO	2023
Türkiye	Turkish lira	NSO	2023	2009	ESA 2010	From 2009	NSO	2023
Turkmenistan	New Turkmen manat	IMF staff	2022	2006	SNA 2008	From 2007	NSO	2022
Tuvalu	Australian dollar	PFTAC advisors	2021	2016	SNA 1993		NSO	2022
Uganda	Ugandan shilling	NSO	2022	2016	SNA 2008		CB	2023
Ukraine	Ukrainian hryvnia	NSO	2022	2016	SNA 2008	From 2005	NSO	2023
United Arab Emirates	U.A.E. dirham	NSO	2022	2010	SNA 2008		NSO	2022
United Kingdom	British pound	NSO	2022	2019	ESA 2010	From 1980	NSO	2023
United States	US dollar	NSO	2023	2012	SNA 2008	From 1980	NSO	2023
Uruguay	Uruguayan peso	CB	2023	2016	SNA 2008		NSO	2023
Uzbekistan	Uzbek som	NSO	2023	2020	SNA 1993		NSO and IMF staff	2023
Vanuatu	Vanuatu vatu	NSO	2020	2006	SNA 1993		NSO	2022
Venezuela	Venezuelan bolívar	CB	2018	1997	SNA 1993		CB	2023
Vietnam	Vietnamese dong	NSO	2023	2010	SNA 1993		NSO	2023
West Bank and Gaza	Israeli new shekel	NSO	2022	2015	SNA 2008		NSO	2023
Yemen	Yemeni rial	IMF staff	2022	1990	SNA 1993		NSO,CB, and IMF staff	2022
Zambia	Zambian kwacha	NSO	2022	2010	SNA 2008		NSO	2022
Zimbabwe	Zimbabwe dollar	NSO	2022	2012	SNA 2008		NSO	2023

Table G. Key Data Documentation *(continued)*

	Government Finance					Balance of Payments		
Country	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Sweden	MoF	2022	2001	CG,LG,SS	A	NSO	2022	BPM 6
Switzerland	MoF	2023	2001	CG,SG,LG,SS	A	CB	2023	BPM 6
Syria	MoF	2009	1986	CG	C	CB	2009	BPM 5
Taiwan Province of China	MoF	2022	2001	CG,LG,SS	C	CB	2022	BPM 6
Tajikistan	MoF	2022	1986	CG,LG,SS	C	CB	2022	BPM 6
Tanzania	MoF	2022	1986	CG,LG	C	CB	2022	BPM 6
Thailand	MoF	2021/22	2001	CG,BCG,LG,SS	A	CB	2022	BPM 6
Timor-Leste	MoF	2022	2001	CG	C	CB	2022	BPM 6
Togo	MoF	2021	2001	CG	C	CB	2021	BPM 6
Tonga	MoF	2020/21	2014	CG	C	CB and NSO	2020/21	BPM 6
Trinidad and Tobago	MoF	2022/23	1986	CG	C	CB	2022	BPM 6
Tunisia	MoF	2022	1986	CG	C	CB	2022	BPM 5
Türkiye	MoF	2023	2001	CG,LG,SS,other	A	CB	2023	BPM 6
Turkmenistan	MoF	2022	1986	CG,LG	C	NSO	2022	BPM 6
Tuvalu	MoF	2022	…	CG	Mixed	IMF staff	2021	BPM 6
Uganda	MoF	2022	2001	CG	C	CB	2022	BPM 6
Ukraine	MoF	2023	2001	CG,LG,SS	C	CB	2023	BPM 6
United Arab Emirates	MoF	2022	2014	CG,SG,SS	Mixed	CB	2021	BPM 5
United Kingdom	NSO	2023	2001	CG,LG	A	NSO	2023	BPM 6
United States	MEP	2022	2014	CG,SG,LG	A	NSO	2022	BPM 6
Uruguay	MoF	2022	1986	CG,LG,SS,NFPC, NMPC	C	CB	2022	BPM 6
Uzbekistan	MoF	2023	2014	CG,SG,LG,SS	C	CB and MEP	2022	BPM 6
Vanuatu	MoF	2020	2001	CG	C	CB	2021	BPM 6
Venezuela	MoF	2017	2001	BCG,NFPC,SS,other	C	CB	2018	BPM 6
Vietnam	MoF	2021	2001	CG,SG,LG	C	CB	2022	BPM 6
West Bank and Gaza	MoF	2022	2001	CG	Mixed	NSO	2022	BPM 6
Yemen	MoF	2022	2001	CG,LG	C	IMF staff	2022	BPM 5
Zambia	MoF	2022	1986	CG	C	CB	2022	BPM 6
Zimbabwe	MoF	2023	1986	CG	C	CB and MoF	2022	BPM 6

Note: BPM = *Balance of Payments Manual*; CPI = consumer price index; ESA = European System of National Accounts; SNA = System of National Accounts.

[1] CB = central bank; Customs = Customs Authority; GAD = General Administration Department; MEP = Ministry of Economy, Planning, Commerce, and/or Development; MoF = Ministry of Finance and/or Treasury; NAO = national audit office; NSO = National Statistics Office; PFTAC = Pacific Financial Technical Assistance Centre.

[2] National accounts base year is the period with which other periods are compared and the period for which prices appear in the denominators of the price relationships used to calculate the index.

[3] Use of chain-weighted methodology allows countries to measure GDP growth more accurately by reducing or eliminating the downward biases in volume series built on index numbers that average volume components using weights from a year in the moderately distant past.

[4] BCG = budgetary central government; CG = central government; LG = local government; MPC = monetary public corporation, including central bank; NFPC = nonfinancial public corporation; NMPC = nonmonetary financial public corporation; SG = state government; SS = social security fund; TG = territorial governments.

[5] Accounting standard: A = accrual accounting; C = cash accounting; CB = commitments basis accounting; Mixed = combination of accrual and cash accounting.

[6] Base year deflator is not equal to 100 because the nominal GDP is not measured in the same way as real GDP or the data are seasonally adjusted.

Box A1. Economic Policy Assumptions underlying the Projections for Selected Economies

Fiscal Policy Assumptions

The short-term fiscal policy assumptions used in the *World Economic Outlook* (WEO) are normally based on officially announced budgets, adjusted for differences between the national authorities and the IMF staff regarding macroeconomic assumptions and projected fiscal outturns. When no official budget has been announced, projections incorporate policy measures judged likely to be implemented. The medium-term fiscal projections are similarly based on a judgment about policies' most likely path. For cases in which 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. Specific assumptions used in regard to some of the advanced economies follow. (See also Tables B5 to B9 in the online section of the Statistical Appendix for data on fiscal net lending/borrowing and structural balances.)[1]

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

Australia: Fiscal projections are based on data from the Australian Bureau of Statistics, the fiscal year (FY)2023/24 budgets published by the Commonwealth government and state/territory governments, and the IMF staff's estimates and projections.

Austria: Fiscal projections are based on the 2024 budget. The Next Generation EU (NGEU) fund and the latest announcement on fiscal measures have also been incorporated.

Belgium: Projections are based on the Belgian Stability Programme 2023–26, the 2024 Budgetary Plan, and other available information on the authorities' fiscal plans, with adjustments for the IMF staff's assumptions.

Brazil: Fiscal projections for 2024 reflect current policies in place.

Canada: Projections use the baseline forecasts from the Government of Canada's 2023 Fall Economic Statement and the latest provincial budget updates. The IMF staff makes some adjustments to these forecasts, including those for differences in macroeconomic projections. The IMF staff's forecast also incorporates the most recent data releases from Statistics Canada's National Economic Accounts, including quarterly federal, provincial, and territorial budgetary outturns.

Chile: Fiscal projections are based on the authorities' budget projections, adjusted to reflect the IMF staff's macroeconomic projections.

China: IMF staff fiscal projections incorporate the 2024 budget as well as estimates of off-budget financing.

Denmark: Estimates for the current year are aligned with the latest official budget numbers, adjusted where appropriate for the IMF staff's macroeconomic assumptions. Beyond the current year, the projections incorporate key features of the medium-term fiscal plan as embodied in the authorities' latest budget. Structural balances are net of temporary fluctuations in some revenues (for example, North Sea revenue, pension yield tax revenue) and one-offs (COVID-19–related one-offs are, however, included).

France: Projections for 2023 onward are based on the country's 2018–24 budget laws, Stability Programme 2023–27, draft medium-term programming bill, and other available information on the authorities' fiscal plans, adjusted for differences in revenue projections and assumptions on macroeconomic and financial variables.

[1]The output gap is actual minus potential output, as a percentage of potential output. Structural balances are expressed as a percentage of potential output. The structural balance is the actual net lending/borrowing minus the effects of cyclical output from potential output, corrected for one-time and other factors, such as asset and commodity prices and output composition effects. Changes in the structural balance consequently include effects of temporary fiscal measures, the impact of fluctuations in interest rates and debt-service costs, and other noncyclical fluctuations in net lending/borrowing. The computations of structural balances are based on the IMF staff's estimates of potential GDP and revenue and expenditure elasticities. (See Annex I of the October 1993 *World Economic Outlook*.) Estimates of the output gap and of the structural balance are subject to significant margins of uncertainty. Net debt is calculated as gross debt minus financial assets corresponding to debt instruments.

Box A1 *(continued)*

Germany: Projections are based on the latest approved federal budget, draft federal budget (if applicable), EU Stability Programme, and medium-term budget plan. They also take into account data updates from the federal statistical office (Destatis) and the Ministry of Finance.

Greece: Data since 2010 reflect adjustments in line with the primary balance definition under the enhanced surveillance framework for Greece.

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

Hungary: Fiscal projections include the IMF staff's projections for the macroeconomic framework and fiscal policy plans announced in the 2023 and 2024 budgets.

India: Projections are based on available information on the authorities' fiscal plans, with adjustments for the IMF staff's assumptions. Subnational data are incorporated with a lag of up to one year; general government data are thus finalized well after central government data. IMF and Indian presentations differ, particularly regarding disinvestment and license-auction proceeds, net versus gross recording of revenues in certain minor categories, and some public sector lending. Starting with FY2020/21 data, expenditure also includes the off-budget component of food subsidies, consistent with the revised treatment of food subsidies in the budget. The IMF staff adjusts expenditure to take out payments for previous years' food subsidies, which are included as expenditure in budget estimates for FY2020/21.

Indonesia: The IMF staff's projections are based on maintaining a neutral fiscal stance, accompanied by moderate tax policy and administration reforms, some expenditure realization, and a gradual increase in capital spending over the medium term in line with fiscal space.

Ireland: Fiscal projections are based on the country's Budget 2023.

Italy: The IMF staff's estimates and projections are informed by the fiscal plans included in the government's 2024 budget and the updated national accounts for 2023. The stock of maturing postal bonds is included in the debt projections.

Japan: The projections reflect fiscal measures the government has already announced, with adjustments for the IMF staff's assumptions.

Korea: The forecast incorporates the latest annual budget, any supplementary budget, any proposed new budget and medium-term fiscal plan, and the IMF staff estimations.

Mexico: The 2020 public sector borrowing requirements estimated by the IMF staff adjust for some statistical discrepancies between above-the-line and below-the-line numbers. Fiscal projections for 2024 are informed by the estimates in Pre-Criterios 2025; projections for 2024 onward assume continued compliance with rules established in the Federal Budget and Fiscal Responsibility Law.

The Netherlands: Fiscal projections for 2023–29 are based on the IMF staff's forecast framework and are also informed by the authorities' draft budget plan and Bureau for Economic Policy Analysis projections.

New Zealand: Fiscal projections are based on the FY2023/24 Half-Year Economic and Fiscal Update.

Portugal: The projections for the current year are based on the authorities' approved budget, adjusted to reflect the IMF staff's macroeconomic forecast. Projections thereafter are based on the assumption of unchanged policies. Projections for 2024 reflect information available in the 2024 budget proposal.

Puerto Rico: Fiscal projections are informed by the Certified Fiscal Plan for the Commonwealth of Puerto Rico, which was prepared in October 2023, certified by the Financial Oversight and Management Board.

Russia: The fiscal rule was suspended in March 2022 by the government in response to the sanctions imposed after the invasion of Ukraine, allowing for windfall oil and gas revenues above benchmark to be used to finance a larger deficit in 2022 as well as savings accumulated in the National Welfare Fund. The 2023–25 budget was based on a modified rule with a two-year transition period which set the benchmark oil and gas revenues fixed in rubles at Rub 8 trillion, compared with a fixed benchmark oil price at $40 a barrel under the 2019 fiscal rule. However, in late September 2023, the Ministry of Finance proposed reverting to the

Box A1 *(continued)*

earlier version of the fiscal rule from 2024 onward but sets the benchmark oil price at $60 a barrel. The new rule allows for higher oil and gas revenues to be spent, but it simultaneously targets a smaller primary structural deficit.

Saudi Arabia: The IMF staff's baseline fiscal projections are based primarily on its understanding of government policies as outlined in the 2024 budget and recent official announcements. Export oil revenues are based on WEO baseline oil price assumptions and the IMF staff's understanding of oil production adjustments under the OPEC+ (Organization of the Petroleum Exporting Countries, including Russia and other non-OPEC oil exporters) agreement and those unilaterally announced by Saudi Arabia.

Singapore: FY2023 projections are based on revised figures based on budget execution through the end of 2023. FY2024 projections are based on the initial budget of February 16, 2024. Staff projections include (1) an increase in the Goods and Services Tax from 8 percent to 9 percent on January 1, 2024; and (2) an increase of the carbon tax from S$5 a tonne to S$25 a tonne in 2024 and 2025 and S$45 a tonne in 2026 and 2027.

South Africa: Fiscal assumptions are informed by the 2023 budget. Nontax revenue excludes transactions in financial assets and liabilities, as they involve primarily revenues associated with realized exchange rate valuation gains from the holding of foreign currency deposits, sale of assets, and conceptually similar items.

Spain: Fiscal projections for 2023 assume energy support measures amounting to 1 percent of GDP, which are phased out throughout 2024. Figures for 2021–28 reflect disbursements of grants and loans under the EU Recovery and Resilience Facility.

Sweden: Fiscal estimates are based on the authorities' budget projections, adjusted to reflect the IMF staff's macroeconomic forecasts.

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.

Türkiye: The basis for the projections is the IMF-defined fiscal balance, which excludes some revenue and expenditure items that are included in the authorities' headline balance.

United Kingdom: Fiscal projections are based on the March 2024 forecast from the Office for Budget Responsibility (OBR) and the January 2024 release on public sector finances from the Office for National Statistics. The IMF staff's projections take the OBR forecast as a reference and overlay adjustments (for differences in assumptions) to both revenues and expenditures. The IMF staff's forecasts do not necessarily assume that the fiscal rules announced on November 17, 2022, will be met at the end of the forecast period. Data are presented on a calendar year basis.

United States: Fiscal projections are based on the February 2024 Congressional Budget Office baseline, adjusted for the IMF staff's policy and macroeconomic assumptions. Projections incorporate the effects of the Fiscal Responsibility Act.

Monetary Policy Assumptions

Monetary policy assumptions are based on the established policy framework in each economy. In most cases, this implies a nonaccommodative stance over the business cycle: official interest rates will increase when economic indicators suggest that inflation will rise above its acceptable rate or range; they will decrease when indicators suggest inflation will not exceed the acceptable rate or range, that output growth is below its potential rate, and that the margin of slack in the economy is significant. With regard to *interest rates*, please refer to the Assumptions section at the beginning of the Statistical Appendix.

Argentina: Monetary projections are consistent with the overall macroeconomic framework, the fiscal and financing plans, and the monetary and foreign exchange policies.

Brazil: Monetary policy assumptions are consistent with the convergence of inflation within the tolerance band by the end of 2024.

Canada: Projections reflect the gradual unwinding of monetary policy tightening by the Bank of Canada, as inflation slowly returns to its mid-range target of 2 percent by early 2025.

Chile: Monetary policy assumptions are consistent with attaining the inflation target.

Box A1 *(continued)*

China: The overall monetary policy stance was moderately accommodative in 2023 and is expected to remain broadly accommodative in 2024.

Denmark: Monetary policy is to maintain the peg to the euro.

Euro area: Monetary policy assumptions for euro area member countries are drawn from a suite of models (semi-structural, DSGE [dynamic stochastic general equilibrium], Taylor rule), market expectations, and the European Central Bank Governing Council communications.

Hong Kong Special Administrative Region: The IMF staff assumes that the currency board system will remain intact.

Hungary: The IMF staff's estimates and projections are informed by expert judgment based on recent developments.

India: Monetary policy projections are consistent with achieving the Reserve Bank of India's inflation target over the medium term.

Indonesia: Monetary policy assumptions are in line with inflation within the central bank's target band over the medium term.

Israel: Monetary policy assumptions are based on gradual normalization of monetary policy.

Japan: Monetary policy assumptions are in line with market expectations.

Korea: Projections assume that the policy rate will evolve in line with the Bank of Korea's forward guidance.

Mexico: Monetary policy assumptions are consistent with inflation converging to the central bank's target over the projection period.

New Zealand: Monetary projections are based on the IMF staff's analysis and expected inflation path.

Russia: Monetary policy projections assume that the Central Bank of the Russian Federation is adopting a tight monetary policy stance.

Saudi Arabia: Monetary policy projections are based on the continuation of the exchange rate peg to the US dollar.

Singapore: Broad money is projected to grow in line with the projected growth in nominal GDP.

South Africa: Monetary policy assumptions are consistent with maintaining inflation within the 3–6 percent target band over the medium term.

Sweden: Monetary policy assumptions are based on IMF staff estimates.

Switzerland: The inflation outlook suggests that the Swiss National Bank can keep interest rates on hold in 2024.

Türkiye: The baseline assumes that the monetary policy stance will remain in line with market expectations.

United Kingdom: Monetary policy assumptions for the UK are based on the IMF staff's assessment of the most likely path for interest rates, considering the broader macroeconomic outlook, model results, the Bank of England's inflation forecasts and communications, and market expectations.

United States: The IMF staff expects the Federal Open Market Committee to continue to adjust the federal funds target rate in line with the broader macroeconomic outlook.

List of Tables[1]

[1]When countries are not listed alphabetically, they are ordered on the basis of economic size.

Table A1. Summary of World Output[1]

(Annual percent change)

	Average									Projections		
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029
World	**3.7**	**3.3**	**3.8**	**3.6**	**2.8**	**–2.7**	**6.5**	**3.5**	**3.2**	**3.2**	**3.2**	**3.1**
Advanced Economies	**1.5**	**1.8**	**2.6**	**2.3**	**1.8**	**–3.9**	**5.7**	**2.6**	**1.6**	**1.7**	**1.8**	**1.7**
United States	1.6	1.8	2.5	3.0	2.5	–2.2	5.8	1.9	2.5	2.7	1.9	2.1
Euro Area	0.8	1.9	2.6	1.8	1.6	–6.1	5.9	3.4	0.4	0.8	1.5	1.2
Japan	0.5	0.8	1.7	0.6	–0.4	–4.1	2.6	1.0	1.9	0.9	1.0	0.4
Other Advanced Economies[2]	2.4	2.2	3.0	2.4	1.9	–4.0	6.4	3.2	1.4	1.6	2.2	1.9
Emerging Market and Developing Economies	**5.7**	**4.4**	**4.8**	**4.7**	**3.6**	**–1.8**	**7.0**	**4.1**	**4.3**	**4.2**	**4.2**	**3.9**
Regional Groups												
Emerging and Developing Asia	7.9	6.8	6.6	6.4	5.2	–0.5	7.7	4.4	5.6	5.2	4.9	4.5
Emerging and Developing Europe	3.2	1.8	4.2	3.6	2.5	–1.6	7.5	1.2	3.2	3.1	2.8	2.6
Latin America and the Caribbean	3.0	–0.8	1.4	1.1	0.2	–7.0	7.3	4.2	2.3	2.0	2.5	2.4
Middle East and Central Asia	4.2	4.2	2.6	2.8	1.7	–2.4	4.5	5.3	2.0	2.8	4.2	3.7
Sub-Saharan Africa	5.2	1.5	2.9	3.3	3.2	–1.6	4.7	4.0	3.4	3.8	4.0	4.3
Analytical Groups												
By Source of Export Earnings												
Fuel	4.2	2.0	0.8	0.9	–0.1	–3.8	4.4	5.2	2.3	3.0	4.1	3.1
Nonfuel	5.9	4.7	5.3	5.1	4.1	–1.5	7.3	3.9	4.6	4.3	4.2	4.0
Of which, Primary Products	3.9	1.4	2.8	1.6	0.8	–6.1	7.6	3.1	0.2	1.1	3.6	2.8
By External Financing Source												
Net Debtor Economies	4.8	3.9	4.7	4.6	3.3	–3.4	6.7	4.9	4.4	4.3	4.5	4.7
Net Debtor Economies by Debt-Servicing Experience												
Economies with Arrears and/or Rescheduling during 2018–22	4.2	2.9	4.0	3.6	3.3	–1.0	3.7	1.0	2.8	3.1	4.4	4.8
Other Groups												
European Union	1.1	2.0	3.0	2.3	2.0	–5.5	6.1	3.6	0.6	1.1	1.8	1.5
Middle East and North Africa	3.9	4.6	2.2	2.2	1.0	–2.7	4.3	5.2	1.9	2.7	4.2	3.5
Emerging Market and Middle-Income Economies	5.7	4.5	4.8	4.7	3.5	–2.0	7.2	4.0	4.4	4.1	4.1	3.8
Low-Income Developing Countries	5.8	3.4	4.5	4.8	4.6	0.5	4.5	4.2	4.0	4.7	5.2	5.2
Memorandum												
Median Growth Rate												
Advanced Economies	1.6	2.2	3.0	2.8	2.0	–3.9	6.4	3.0	1.1	1.5	2.0	2.0
Emerging Market and Developing Economies	4.3	3.4	3.8	3.5	3.3	–3.6	4.8	4.2	3.5	3.5	3.7	3.3
Emerging Market and Middle-Income Economies	3.8	3.0	2.8	3.0	2.5	–5.3	4.7	4.6	3.2	3.0	3.2	2.8
Low-Income Developing Countries	5.1	4.5	4.3	4.4	4.6	–0.9	4.8	3.9	4.1	4.4	4.8	4.6
Output per Capita[3]												
Advanced Economies	0.9	1.3	2.1	1.9	1.4	–4.5	5.6	2.2	1.1	1.3	1.4	1.4
Emerging Market and Developing Economies	4.0	2.8	3.3	3.3	2.3	–3.1	5.8	3.0	3.7	3.1	3.1	2.9
Emerging Market and Middle-Income Economies	4.2	3.1	3.6	3.7	2.6	–2.9	6.5	3.4	3.6	3.4	3.4	3.1
Low-Income Developing Countries	3.1	0.9	2.0	2.2	2.1	–1.9	1.7	1.8	2.7	2.4	2.8	2.9
World Growth Rate Based on Market Exchange Rates	**2.5**	**2.6**	**3.4**	**3.2**	**2.5**	**–3.0**	**6.2**	**3.0**	**2.7**	**2.7**	**2.7**	**2.5**
Value of World Output (billions of US dollars)												
At Market Exchange Rates	68,328	76,395	81,256	86,246	87,494	85,258	96,990	100,663	104,791	109,529	114,828	139,049
At Purchasing Power Parities	94,006	116,496	122,699	129,983	135,820	133,629	148,699	164,516	175,784	185,677	195,008	237,389

[1] Real GDP.

[2] Excludes euro area countries, Japan, and the United States.

[3] Output per capita is in international dollars at purchasing power parity.

Table A2. Advanced Economies: Real GDP and Total Domestic Demand[1]

(Annual percent change)

	Average									Projections			Q4 over Q4[2]	Projections	
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029	2023:Q4	2024:Q4	2025:Q4
Real GDP															
Advanced Economies	**1.5**	**1.8**	**2.6**	**2.3**	**1.8**	**–3.9**	**5.7**	**2.6**	**1.6**	**1.7**	**1.8**	**1.7**	**1.6**	**1.9**	**1.7**
United States	1.6	1.8	2.5	3.0	2.5	–2.2	5.8	1.9	2.5	2.7	1.9	2.1	3.1	2.1	1.8
Euro Area	0.8	1.9	2.6	1.8	1.6	–6.1	5.9	3.4	0.4	0.8	1.5	1.2	0.1	1.4	1.4
Germany	1.4	2.2	2.7	1.0	1.1	–3.8	3.2	1.8	–0.3	0.2	1.3	0.7	–0.2	0.7	1.8
France	0.9	1.1	2.3	1.9	1.8	–7.5	6.3	2.5	0.9	0.7	1.4	1.3	0.7	1.1	1.5
Italy	–0.5	1.3	1.7	0.9	0.5	–9.0	8.3	4.0	0.9	0.7	0.7	0.8	0.6	0.7	0.6
Spain	0.5	3.0	3.0	2.3	2.0	–11.2	6.4	5.8	2.5	1.9	2.1	1.6	2.0	1.9	2.1
The Netherlands	1.1	2.2	2.9	2.4	2.0	–3.9	6.2	4.3	0.1	0.6	1.3	1.6	–0.8	1.0	1.5
Belgium	1.4	1.3	1.6	1.8	2.2	–5.3	6.9	3.0	1.5	1.2	1.2	1.3	1.5	1.0	1.4
Ireland	3.5	1.8	9.3	8.5	5.3	6.6	15.1	9.4	–3.2	1.5	2.5	2.5	–9.1	7.9	0.5
Austria	1.2	2.0	2.3	2.4	1.5	–6.6	4.2	4.8	–0.7	0.4	1.6	0.9	–1.5	1.4	1.6
Portugal	–0.1	2.0	3.5	2.8	2.7	–8.3	5.7	6.8	2.3	1.7	2.1	1.9	2.2	2.2	1.8
Greece	–2.2	–0.5	1.1	1.7	1.9	–9.3	8.4	5.6	2.0	2.0	1.9	1.3	1.2	3.0	1.1
Finland	0.5	2.8	3.2	1.1	1.2	–2.4	2.8	1.3	–1.0	0.4	1.9	1.5	–1.6	2.5	1.1
Slovak Republic	3.8	1.9	2.9	4.0	2.5	–3.3	4.8	1.8	1.1	2.1	2.6	2.7	1.3	2.6	2.6
Croatia	0.2	3.6	3.4	2.8	3.4	–8.6	13.8	6.3	2.8	3.0	2.7	2.6	4.4	1.5	4.0
Lithuania	2.5	2.5	4.3	4.0	4.7	0.0	6.3	2.4	–0.3	2.2	2.5	2.2	0.2	2.9	2.0
Slovenia	1.1	3.2	4.8	4.5	3.5	–4.2	8.2	2.5	1.6	2.0	2.5	2.7	2.6	1.8	2.5
Luxembourg	2.5	5.0	1.3	1.2	2.9	–0.9	7.2	1.4	–1.1	1.3	2.9	2.3	–0.6	3.0	2.8
Latvia	1.5	2.4	3.3	4.0	0.6	–3.5	6.7	3.0	–0.3	1.7	2.4	2.5	0.4	2.0	2.4
Estonia	1.4	3.2	5.8	3.8	4.0	–1.0	7.2	–0.5	–3.0	–0.5	2.2	2.1	–2.5	1.1	2.6
Cyprus	0.5	6.6	5.7	5.6	5.5	–3.4	9.9	5.1	2.5	2.7	2.9	3.0	2.2	3.1	2.9
Malta	4.2	3.4	10.9	7.4	7.1	–8.2	12.5	8.1	5.6	5.0	4.0	3.5	4.3	5.4	3.2
Japan	0.5	0.8	1.7	0.6	–0.4	–4.1	2.6	1.0	1.9	0.9	1.0	0.4	1.3	1.7	0.5
United Kingdom	1.2	1.9	2.7	1.4	1.6	–10.4	8.7	4.3	0.1	0.5	1.5	1.4	–0.2	1.5	1.3
Korea	3.7	2.9	3.2	2.9	2.2	–0.7	4.3	2.6	1.4	2.3	2.3	2.0	2.2	2.2	2.5
Canada	1.6	1.0	3.0	2.7	1.9	–5.0	5.3	3.8	1.1	1.2	2.3	1.7	0.9	1.8	2.3
Australia	2.8	2.7	2.4	2.8	1.8	–2.1	5.6	3.8	2.1	1.5	2.0	2.3	1.5	1.7	2.3
Taiwan Province of China	3.6	2.2	3.3	2.8	3.1	3.4	6.6	2.6	1.4	3.1	2.7	2.0	3.6	2.4	2.3
Switzerland	2.0	2.1	1.4	2.9	1.2	–2.3	5.4	2.7	0.8	1.3	1.4	1.2	0.6	1.5	1.9
Singapore	5.6	3.6	4.5	3.5	1.3	–3.9	9.7	3.8	1.1	2.1	2.3	2.5	2.1	1.3	2.5
Sweden	2.0	2.1	2.6	2.0	2.0	–2.2	6.1	2.7	–0.2	0.2	2.2	2.1	–0.1	0.8	3.1
Czech Republic	2.1	2.5	5.2	3.2	3.0	–5.5	3.6	2.3	–0.4	0.7	2.0	2.3	–0.2	1.5	2.1
Hong Kong SAR	3.4	2.2	3.8	2.8	–1.7	–6.5	6.5	–3.7	3.2	2.9	2.7	2.6	4.3	4.3	1.9
Israel[3]	4.0	4.4	4.3	4.1	3.8	–1.5	9.3	6.5	2.0	1.6	5.4	3.6	–3.8	8.2	4.6
Norway	1.3	1.2	2.5	0.8	1.1	–1.3	3.9	3.0	0.5	1.5	1.9	1.4	1.0	0.5	4.6
Denmark	0.7	3.2	2.8	2.0	1.5	–2.4	6.8	2.7	1.8	2.1	1.5	1.4	3.1	1.1	1.5
New Zealand	2.0	3.9	3.3	3.5	3.1	–1.4	5.6	2.4	0.6	1.0	2.0	2.4	–0.3	1.4	3.1
Puerto Rico	–1.0	–1.3	–2.9	–4.4	1.7	–4.2	0.4	3.2	–0.7	–0.2	0.0	0.8	. . .	. . .	. . .
Macao SAR	6.8	–0.7	9.9	6.4	–2.6	–54.3	23.5	–21.4	80.5	13.9	9.6	3.0	. . .	. . .	. . .
Iceland	1.9	6.3	4.2	4.9	1.9	–6.9	5.1	8.9	4.1	1.7	2.0	2.5	0.6	2.9	3.8
Andorra	–1.2	3.7	0.3	1.6	2.0	–11.2	8.3	9.6	2.3	1.8	1.5	1.5	. . .	. . .	. . .
San Marino	–2.1	2.3	0.3	1.5	2.0	–6.8	14.2	5.0	2.3	1.3	1.3	1.3	. . .	. . .	. . .
Memorandum															
Major Advanced Economies	1.2	1.6	2.4	2.1	1.7	–4.1	5.5	2.2	1.7	1.7	1.6	1.6	1.9	1.7	1.6
Real Total Domestic Demand															
Advanced Economies	**1.3**	**2.1**	**2.6**	**2.3**	**2.1**	**–3.9**	**5.7**	**3.1**	**1.0**	**1.6**	**1.8**	**1.7**	**1.3**	**1.8**	**1.8**
United States	1.4	1.9	2.6	3.1	2.5	–1.9	6.9	2.3	1.9	2.7	1.8	2.1	2.8	2.2	1.8
Euro Area	0.5	2.4	2.3	1.9	2.3	–5.7	4.7	3.6	0.2	0.8	1.4	1.3	0.3	0.6	1.8
Germany	1.2	3.1	2.6	1.6	1.5	–3.1	2.5	3.2	–0.9	0.0	1.2	0.8	–1.0	0.6	1.7
France	1.1	1.5	2.4	1.4	2.1	–6.2	6.0	3.1	0.4	0.4	1.1	1.2	–0.6	1.1	1.3
Italy	–0.8	1.8	1.8	1.3	–0.2	–8.4	8.6	4.7	0.7	0.5	0.7	0.8	0.6	1.4	0.2
Spain	–0.3	2.1	3.3	3.0	1.7	–9.2	6.7	3.0	1.7	1.9	2.2	1.7	2.2	1.8	2.2
Japan	0.4	0.3	1.1	0.6	0.0	–3.3	1.5	1.5	0.9	0.8	1.1	0.4	–0.1	2.4	0.2
United Kingdom	1.3	3.1	2.2	0.8	1.8	–11.9	9.1	4.8	0.3	0.6	1.3	1.3	3.1	0.7	1.5
Canada	2.2	0.4	4.1	2.7	1.1	–6.1	6.5	5.1	–0.5	0.7	2.6	2.0	–0.2	1.6	2.6
Other Advanced Economies[4]	2.7	2.9	3.7	2.7	1.6	–2.4	5.8	3.5	0.7	1.4	2.4	2.1	–0.6	2.4	2.4
Memorandum															
Major Advanced Economies	1.1	1.8	2.4	2.2	1.8	–3.8	5.9	2.8	1.1	1.6	1.6	1.6	1.5	1.8	1.5

[1] In this and other tables, when countries are not listed alphabetically, they are ordered on the basis of economic size.

[2] From the fourth quarter of the preceding year.

[3] See the country-specific note for Israel in the "Country Notes" section of the Statistical Appendix.

[4] Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

Table A3. Advanced Economies: Components of Real GDP

(Annual percent change)

	Averages										Projections	
	2006–15	2016–25	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Private Consumer Expenditure												
Advanced Economies	**1.4**	**1.6**	**2.1**	**2.3**	**2.1**	**1.5**	**–5.3**	**5.8**	**3.5**	**1.5**	**1.6**	**1.7**
United States	1.7	2.4	2.5	2.6	2.7	2.0	–2.5	8.4	2.5	2.2	2.3	1.6
Euro Area	0.5	1.1	2.0	1.8	1.5	1.4	–7.7	4.4	4.2	0.5	1.3	1.8
Germany	0.9	0.9	2.4	1.4	1.5	1.6	–5.9	1.5	3.9	–0.7	1.3	2.3
France	1.0	1.0	1.8	1.5	1.0	1.8	–6.6	5.1	2.3	0.7	1.2	1.6
Italy	–0.3	0.7	1.2	1.5	0.9	0.2	–10.4	5.5	4.9	1.2	1.4	1.4
Spain	–0.1	1.2	2.7	3.0	1.7	1.1	–12.3	7.1	4.7	1.8	1.8	2.0
Japan	0.5	0.0	–0.4	1.1	0.2	–0.6	–4.4	0.8	2.2	0.6	0.3	0.9
United Kingdom	1.2	0.7	3.7	1.8	2.0	1.1	–13.2	7.4	5.0	0.4	–0.3	1.1
Canada	2.7	2.0	2.1	3.7	2.6	1.6	–6.3	5.1	5.1	1.7	1.8	3.0
Other Advanced Economies[1]	2.7	1.9	2.6	2.8	2.9	1.8	–5.5	4.5	4.1	2.1	1.9	2.2
Memorandum												
Major Advanced Economies	1.3	1.6	2.0	2.1	2.0	1.4	–4.8	6.1	3.1	1.4	1.6	1.6
Public Consumption												
Advanced Economies	**1.2**	**1.8**	**2.0**	**0.8**	**1.6**	**3.0**	**2.1**	**3.3**	**0.9**	**1.6**	**1.7**	**1.2**
United States	0.4	1.6	1.8	–0.1	1.4	3.9	2.9	0.3	–0.9	2.7	2.1	1.4
Euro Area	1.2	1.5	1.9	1.1	1.0	1.8	1.0	4.2	1.6	0.7	0.8	0.6
Germany	1.9	1.7	4.0	1.7	0.8	2.6	4.1	3.1	1.6	–1.5	0.5	0.4
France	1.4	1.1	1.4	1.4	0.8	1.0	–4.1	6.5	2.6	0.5	0.4	0.7
Italy	–0.4	0.1	0.7	–0.1	0.1	–0.6	0.1	1.4	1.0	1.2	–0.9	–1.5
Spain	1.7	1.9	1.0	1.0	2.3	1.9	3.6	3.4	–0.2	3.8	1.7	0.9
Japan	1.4	1.5	1.6	0.1	1.0	1.9	2.4	3.4	1.7	0.9	1.3	0.7
United Kingdom	1.2	2.1	0.7	0.7	0.6	4.0	–7.9	14.9	2.3	0.6	4.4	2.1
Canada	1.7	2.2	1.8	2.1	3.1	1.1	1.3	5.4	3.2	1.5	1.6	1.5
Other Advanced Economies[1]	2.9	3.0	3.5	2.4	3.5	3.7	4.6	4.5	2.7	1.4	1.7	1.5
Memorandum												
Major Advanced Economies	0.8	1.5	1.8	0.4	1.2	2.9	1.4	2.8	0.5	1.6	1.7	1.0
Gross Fixed Capital Formation												
Advanced Economies	**0.9**	**2.3**	**2.9**	**4.0**	**3.3**	**3.1**	**–3.1**	**5.6**	**1.8**	**1.5**	**1.6**	**2.5**
United States	1.2	2.9	2.9	4.3	5.0	2.9	–1.0	5.3	0.9	2.0	3.8	3.0
Euro Area	–0.1	2.0	4.0	3.9	3.1	6.9	–5.9	3.5	2.5	1.1	0.1	1.5
Germany	1.8	1.0	3.8	2.6	3.3	1.7	–2.4	–0.2	0.1	–0.7	0.3	1.4
France	0.5	2.0	2.7	4.7	3.3	4.1	–6.8	10.1	2.4	1.2	–1.0	0.5
Italy	–2.8	3.2	4.0	3.2	3.1	1.2	–7.9	20.3	8.6	4.7	–1.8	–1.1
Spain	–2.8	2.2	2.4	6.8	6.3	4.5	–9.0	2.8	2.4	0.8	2.2	4.0
Japan	–0.4	0.4	1.2	1.6	0.6	0.5	–3.6	–0.1	–1.4	2.1	1.7	1.2
United Kingdom	1.4	1.3	5.1	3.5	–0.5	2.2	–10.8	7.4	8.0	2.9	–4.0	0.7
Canada	1.7	0.6	–4.7	3.3	2.4	0.8	–3.8	9.3	–2.4	–3.2	2.6	2.8
Other Advanced Economies[1]	2.7	2.5	3.0	4.9	2.1	0.8	–1.0	8.4	2.8	0.5	0.0	3.7
Memorandum												
Major Advanced Economies	0.8	2.1	2.7	3.6	3.5	2.3	–3.2	5.7	1.5	1.7	1.9	2.0

Table A3. Advanced Economies: Components of Real GDP *(continued)*

(Annual percent change)

	Averages										Projections	
	2006–15	2016–25	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Final Domestic Demand												
Advanced Economies	**1.3**	**1.8**	**2.3**	**2.4**	**2.2**	**2.2**	**–3.5**	**5.3**	**2.6**	**1.5**	**1.6**	**1.8**
United States	1.4	2.4	2.4	2.6	3.0	2.4	–1.5	6.6	1.7	2.2	2.6	1.8
Euro Area	0.5	1.4	2.4	2.1	1.8	2.7	–5.5	4.1	3.2	0.7	0.9	1.5
Germany	1.3	1.1	3.1	1.7	1.8	1.8	–2.9	1.5	2.5	–0.9	0.9	1.7
France	1.0	1.2	1.9	2.2	1.5	2.1	–6.1	6.6	2.4	0.8	0.5	1.1
Italy	–0.8	1.1	1.6	1.5	1.2	0.2	–8.0	7.4	4.9	2.0	0.3	0.3
Spain	–0.3	1.6	2.3	3.3	2.7	1.9	–8.5	5.4	3.2	2.0	1.9	2.2
Japan	0.4	0.5	0.3	1.0	0.5	0.2	–2.9	1.2	1.1	1.0	1.3	0.9
United Kingdom	1.2	1.1	3.4	1.9	1.3	1.8	–11.8	8.9	5.0	0.9	–0.1	1.2
Canada	2.2	1.6	0.5	3.3	2.7	1.3	–4.1	6.1	2.8	0.5	0.8	2.6
Other Advanced Economies[1]	2.7	2.2	2.9	3.4	2.4	1.8	–2.4	5.5	3.4	1.5	1.3	2.4
Memorandum												
Major Advanced Economies	1.1	1.7	2.1	2.2	2.2	1.8	–3.4	5.6	2.3	1.5	1.7	1.6
Stock Building[2]												
Advanced Economies	**0.0**	**0.0**	**–0.2**	**0.2**	**0.1**	**–0.1**	**–0.3**	**0.3**	**0.5**	**–0.5**	**–0.1**	**0.0**
United States	0.1	0.0	–0.5	0.0	0.1	0.1	–0.5	0.3	0.6	–0.3	0.1	0.0
Euro Area	0.0	0.0	0.0	0.2	0.1	–0.3	–0.3	0.6	0.4	–0.5	–0.1	0.0
Germany	–0.1	0.1	0.0	0.9	–0.1	–0.3	–0.1	0.9	0.7	0.0	–0.8	–0.4
France	0.1	–0.1	–0.4	0.2	0.0	0.0	–0.2	–0.6	0.8	–0.4	–0.1	0.0
Italy	0.0	0.0	0.2	0.2	0.1	–0.5	–0.5	1.2	–0.2	–1.2	0.2	0.2
Spain	–0.2	–0.3	–0.1	0.0	0.3	–0.2	–0.8	–1.8	–0.2	–0.3	0.1	0.0
Japan	0.0	0.0	–0.1	0.1	0.2	–0.1	–0.5	0.5	0.3	–0.1	–0.1	0.1
United Kingdom	0.1	–0.1	–0.3	0.4	–0.6	0.0	0.1	–0.2	1.0	–0.9	–0.2	0.1
Canada	–0.1	0.1	0.0	0.9	0.0	–0.2	–0.7	0.8	1.2	–0.9	–0.1	0.0
Other Advanced Economies[1]	0.0	0.0	0.0	0.2	0.3	–0.2	0.0	0.3	0.2	–0.8	–0.1	0.0
Memorandum												
Major Advanced Economies	0.0	0.0	–0.3	0.2	0.0	0.0	–0.4	0.3	0.6	–0.4	–0.1	0.0
Foreign Balance[2]												
Advanced Economies	**0.2**	**0.0**	**–0.1**	**0.1**	**–0.1**	**–0.2**	**–0.2**	**0.0**	**–0.5**	**0.6**	**0.2**	**0.1**
United States	0.2	–0.2	–0.2	–0.2	–0.3	–0.1	–0.2	–1.3	–0.5	0.6	0.0	0.0
Euro Area	0.3	0.1	–0.4	0.4	0.0	–0.7	–0.6	1.4	0.0	0.3	0.2	0.1
Germany	0.3	–0.2	–0.6	0.2	–0.6	–0.3	–1.0	0.8	–1.3	0.5	0.4	0.1
France	–0.2	–0.1	–0.4	–0.1	0.4	–0.3	–1.3	0.2	–0.7	0.5	0.4	0.3
Italy	0.3	–0.1	–0.5	0.0	–0.3	0.7	–0.8	–0.1	–0.6	0.2	0.2	0.2
Spain	0.8	0.2	1.0	–0.2	–0.6	0.4	–2.2	–0.2	2.9	0.8	0.0	0.0
Japan	0.1	0.1	0.5	0.6	0.0	–0.5	–0.9	1.1	–0.5	0.9	0.2	0.0
United Kingdom	–0.2	0.0	–0.4	1.0	0.0	–0.3	1.7	–0.4	–1.7	0.1	–0.1	0.3
Canada	–0.5	–0.1	0.4	–1.1	0.0	0.8	0.3	–1.8	–1.4	1.6	0.5	–0.3
Other Advanced Economies[1]	0.6	0.3	0.1	–0.2	0.3	0.5	0.5	0.5	–0.7	1.3	0.7	0.3
Memorandum												
Major Advanced Economies	0.1	–0.1	–0.2	0.0	–0.2	–0.1	–0.4	–0.5	–0.7	0.6	0.1	0.0

[1] Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, the United Kingdom, United States) and euro area countries.

[2] Changes expressed as percent of GDP in the preceding period.

Table A4. Emerging Market and Developing Economies: Real GDP

(Annual percent change)

	Average									Projections		
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029
Emerging and Developing Asia	**7.9**	**6.8**	**6.6**	**6.4**	**5.2**	**–0.5**	**7.7**	**4.4**	**5.6**	**5.2**	**4.9**	**4.5**
Bangladesh	6.2	7.1	6.6	7.3	7.9	3.4	6.9	7.1	6.0	5.7	6.6	7.0
Bhutan	7.3	7.5	5.9	3.5	4.6	–2.5	–3.3	4.8	4.6	4.3	5.0	5.1
Brunei Darussalam	0.3	–2.5	1.3	0.1	3.9	1.1	–1.6	–1.6	1.4	2.4	2.5	3.1
Cambodia	7.6	7.9	8.1	8.8	7.9	–3.6	3.1	5.1	5.0	6.0	6.1	5.5
China	9.6	6.9	6.9	6.8	6.0	2.2	8.4	3.0	5.2	4.6	4.1	3.3
Fiji	2.2	2.4	5.4	3.8	–0.6	–17.0	–4.9	20.0	8.0	3.0	3.4	3.1
India[1]	6.8	8.3	6.8	6.5	3.9	–5.8	9.7	7.0	7.8	6.8	6.5	6.5
Indonesia	5.8	5.0	5.1	5.2	5.0	–2.1	3.7	5.3	5.0	5.0	5.1	5.1
Kiribati	3.6	7.1	3.7	3.5	3.3	–0.6	8.5	3.9	4.2	5.8	4.1	2.1
Lao P.D.R.	7.9	7.0	6.9	6.3	4.7	–0.4	2.1	2.3	3.7	4.0	4.0	4.6
Malaysia	4.9	4.4	5.8	4.8	4.4	–5.5	3.3	8.7	3.7	4.4	4.4	4.0
Maldives	6.6	6.6	7.1	8.7	7.3	–32.9	37.7	13.9	4.4	5.2	6.5	4.5
Marshall Islands	0.8	2.1	3.7	5.7	10.4	–2.8	1.1	–0.7	3.0	3.0	2.0	1.5
Micronesia	–0.1	0.9	2.3	0.1	3.8	–1.9	3.0	–0.9	0.8	1.1	1.7	0.7
Mongolia	8.0	1.5	5.6	7.7	5.6	–4.6	1.6	5.0	7.0	6.5	6.0	5.2
Myanmar	7.8	6.4	5.8	6.4	6.8	–1.2	–10.5	–4.0	2.5	1.5	2.0	2.0
Nauru	9.9	4.4	–6.0	–1.2	8.5	2.0	7.2	2.8	0.6	1.6	1.3	0.8
Nepal	4.4	0.4	9.0	7.6	6.7	–2.4	4.8	5.6	0.8	3.1	5.2	5.2
Palau	0.5	1.5	–3.5	1.3	1.4	–7.0	–13.4	–2.0	0.8	12.4	11.9	1.5
Papua New Guinea	5.6	5.5	3.5	–0.3	4.5	–3.2	–0.8	5.2	2.7	4.5	3.7	3.1
Philippines	5.5	7.1	6.9	6.3	6.1	–9.5	5.7	7.6	5.6	6.2	6.2	6.4
Samoa	1.3	8.0	1.4	–0.6	4.5	–3.1	–7.1	–5.3	8.0	5.4	3.4	2.0
Solomon Islands	4.3	5.6	3.1	2.7	1.7	–3.4	2.6	2.4	3.0	2.4	2.5	3.0
Sri Lanka[1]	6.4	5.1	6.5	2.3	–0.2	–4.6	3.5	–7.8	. . .	. . .	. . .	. . .
Thailand	3.3	3.4	4.2	4.2	2.1	–6.1	1.5	2.5	1.9	2.7	2.9	3.0
Timor-Leste[2]	5.7	3.4	–3.1	–0.7	2.1	–7.2	1.6	4.0	1.5	3.5	3.2	3.0
Tonga	0.6	6.6	3.3	0.2	0.7	0.5	–2.7	–2.0	2.6	2.5	2.4	1.2
Tuvalu	2.5	4.7	3.3	1.4	13.8	–4.3	1.8	0.7	3.9	3.5	2.5	1.9
Vanuatu	2.9	4.7	6.3	2.9	3.2	–5.0	–1.6	1.9	2.2	3.0	3.5	2.5
Vietnam	6.2	6.7	6.9	7.5	7.4	2.9	2.6	8.1	5.0	5.8	6.5	6.5
Emerging and Developing Europe	**3.2**	**1.8**	**4.2**	**3.6**	**2.5**	**–1.6**	**7.5**	**1.2**	**3.2**	**3.1**	**2.8**	**2.6**
Albania	3.5	3.3	3.8	4.0	2.1	–3.3	8.9	4.8	3.3	3.1	3.4	3.5
Belarus	4.2	–2.5	2.5	3.1	1.4	–0.7	2.4	–4.7	3.9	2.4	1.1	1.1
Bosnia and Herzegovina	2.5	3.2	3.2	3.8	2.9	–3.0	7.4	4.2	1.8	2.5	3.0	3.0
Bulgaria	2.4	3.0	2.7	2.7	4.0	–4.0	7.7	3.9	1.8	2.7	2.9	2.6
Hungary	1.0	2.2	4.3	5.4	4.9	–4.5	7.1	4.6	–0.9	2.2	3.3	3.2
Kosovo	4.6	5.6	4.8	3.4	4.8	–5.3	10.7	4.3	3.3	3.8	4.0	3.8
Moldova	3.5	4.4	4.2	4.1	3.6	–8.3	13.9	–5.0	1.0	2.6	4.8	5.0
Montenegro	2.8	2.9	4.7	5.1	4.1	–15.3	13.0	6.4	6.0	3.7	3.0	3.0
North Macedonia	3.2	2.8	1.1	2.9	3.9	–4.7	4.5	2.2	1.0	2.7	3.7	3.5
Poland	3.9	3.0	5.1	5.9	4.4	–2.0	6.9	5.3	0.2	3.1	3.5	3.0
Romania	2.8	2.9	8.2	6.0	3.9	–3.7	5.7	4.6	2.1	2.8	3.6	3.5
Russia	2.6	0.2	1.8	2.8	2.2	–2.7	6.0	–1.2	3.6	3.2	1.8	1.3
Serbia	1.9	3.3	2.1	4.5	4.3	–0.9	7.7	2.5	2.5	3.5	4.5	4.0
Türkiye	5.1	3.3	7.5	3.0	0.8	1.9	11.4	5.5	4.5	3.1	3.2	3.5
Ukraine[1]	–0.7	2.4	2.4	3.5	3.2	–3.8	3.4	–29.1	5.0	3.2	6.5	4.2
Latin America and the Caribbean	**3.0**	**–0.8**	**1.4**	**1.1**	**0.2**	**–7.0**	**7.3**	**4.2**	**2.3**	**2.0**	**2.5**	**2.4**
Antigua and Barbuda	0.8	5.5	3.1	6.8	4.3	–17.5	6.6	8.5	5.9	6.1	4.0	2.8
Argentina	3.2	–2.1	2.8	–2.6	–2.0	–9.9	10.7	5.0	–1.6	–2.8	5.0	2.3
Aruba	–0.3	1.7	7.0	2.4	–2.3	–24.0	27.6	10.5	5.3	1.1	1.0	1.1
The Bahamas	0.3	–0.8	2.5	2.9	–0.7	–23.5	17.0	14.4	4.3	2.3	1.8	1.5
Barbados	0.1	2.5	–0.7	–0.7	0.3	–12.7	–1.3	13.8	4.4	3.7	2.8	2.0
Belize	2.2	0.0	–1.8	1.1	4.2	–13.7	17.9	8.7	4.7	3.4	2.5	2.5
Bolivia	5.0	4.3	4.2	4.2	2.2	–8.7	6.1	3.6	2.5	1.6	2.2	2.3
Brazil	2.8	–3.3	1.3	1.8	1.2	–3.3	4.8	3.0	2.9	2.2	2.1	2.0
Chile	3.9	1.8	1.4	4.0	0.6	–6.1	11.3	2.1	0.2	2.0	2.5	2.3
Colombia	4.6	2.1	1.4	2.6	3.2	–7.2	10.8	7.3	0.6	1.1	2.5	3.0

Table A4. Emerging Market and Developing Economies: Real GDP *(continued)*

(Annual percent change)

	Average									Projections		
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029
Latin America and the Caribbean *(continued)*	**3.0**	**–0.8**	**1.4**	**1.1**	**0.2**	**–7.0**	**7.3**	**4.2**	**2.3**	**2.0**	**2.5**	**2.4**
Costa Rica	4.3	4.2	4.2	2.6	2.4	–4.3	7.9	4.6	5.1	4.0	3.5	3.3
Dominica	1.7	2.8	–6.6	3.5	5.5	–16.6	6.9	5.6	4.7	4.6	4.3	2.4
Dominican Republic	5.3	6.7	4.7	7.0	5.1	–6.7	12.3	4.9	2.4	5.4	5.0	5.0
Ecuador	4.3	–0.7	6.0	1.0	0.2	–9.2	9.8	6.2	2.3	0.1	0.8	2.5
El Salvador	2.1	2.5	2.3	2.4	2.4	–7.9	11.9	2.8	3.5	3.0	2.3	2.3
Grenada	1.1	3.7	4.4	4.4	0.7	–13.8	4.7	7.3	4.8	4.1	3.7	2.7
Guatemala	3.8	2.7	3.1	3.4	4.0	–1.8	8.0	4.1	3.5	3.5	3.7	3.9
Guyana	3.8	3.8	3.7	4.4	5.4	43.5	20.1	62.3	33.0	33.9	18.7	11.9
Haiti	2.3	1.8	2.5	1.7	–1.7	–3.3	–1.8	–1.7	–1.9	–3.0	1.5	1.5
Honduras	3.6	3.9	4.8	3.8	2.7	–9.0	12.5	4.0	3.5	3.6	3.7	3.9
Jamaica	0.1	1.5	0.7	1.8	1.0	–9.9	4.6	5.2	2.2	1.8	1.7	1.6
Mexico	1.9	1.8	1.9	2.0	–0.3	–8.6	5.7	3.9	3.2	2.4	1.4	2.1
Nicaragua	4.0	4.6	4.6	–3.4	–2.9	–1.8	10.3	3.8	4.7	3.5	3.5	3.5
Panama	7.6	5.0	5.6	3.7	3.3	–17.7	15.8	10.8	7.3	2.5	3.0	4.0
Paraguay	4.7	4.3	4.8	3.2	–0.4	–0.8	4.0	0.2	4.5	3.8	3.8	3.5
Peru	5.8	4.0	2.5	4.0	2.2	–10.9	13.4	2.7	–0.6	2.5	2.7	2.3
St. Kitts and Nevis	2.6	3.9	0.0	2.1	4.1	–14.6	–0.9	8.8	3.4	4.7	4.3	2.9
St. Lucia	1.5	3.8	3.4	2.9	–0.2	–23.6	11.3	15.7	3.0	2.4	2.1	1.5
St. Vincent and the Grenadines	1.1	4.1	1.5	3.2	0.7	–3.7	0.8	5.5	6.2	5.3	3.9	2.7
Suriname	3.1	–4.9	1.6	4.9	1.2	–16.0	–2.4	2.4	2.1	3.0	3.0	3.0
Trinidad and Tobago	3.1	–7.5	–4.8	–0.6	0.4	–9.1	–1.0	1.5	2.1	2.4	2.3	2.8
Uruguay[1]	4.7	1.7	1.7	0.2	0.9	–7.4	5.6	4.7	0.4	3.7	2.9	2.2
Venezuela[1]	1.9	–17.0	–15.7	–19.7	–27.7	–30.0	1.0	8.0	4.0	4.0	3.0	. . .
Middle East and Central Asia	**4.2**	**4.2**	**2.6**	**2.8**	**1.7**	**–2.4**	**4.5**	**5.3**	**2.0**	**2.8**	**4.2**	**3.7**
Afghanistan[1]	8.0	2.2	2.6	1.2	3.9	–2.4	–14.5	–6.2	. . .	. . .	. . .	. . .
Algeria	3.0	3.9	1.5	1.4	0.9	–5.0	3.8	3.6	4.2	3.8	3.1	2.1
Armenia	4.1	0.2	7.5	5.2	7.6	–7.2	5.7	12.6	8.7	6.0	5.2	4.5
Azerbaijan	9.2	–3.1	0.2	1.5	2.5	–4.2	5.6	4.6	1.1	2.8	2.3	2.4
Bahrain	4.6	3.6	4.3	2.1	2.2	–4.6	2.6	4.9	2.6	3.6	3.2	2.8
Djibouti	5.3	7.1	5.5	4.8	5.5	1.3	4.5	3.9	7.0	6.5	6.0	5.5
Egypt	4.5	4.3	4.2	5.3	5.5	3.6	3.3	6.7	3.8	3.0	4.4	5.6
Georgia	5.4	3.4	5.2	6.1	5.4	–6.3	10.6	11.0	7.5	5.7	5.2	5.0
Iran	2.1	8.8	2.8	–1.8	–3.1	3.3	4.7	3.8	4.7	3.3	3.1	2.0
Iraq	5.7	15.2	–3.4	4.7	5.4	–12.1	1.6	7.0	–2.2	1.4	5.3	3.6
Jordan	4.5	2.0	2.5	1.9	1.8	–1.1	3.7	2.4	2.6	2.6	3.0	3.0
Kazakhstan	5.5	0.9	3.9	4.1	4.5	–2.6	4.1	3.3	5.1	3.1	5.6	2.4
Kuwait	2.4	2.9	–4.7	2.4	1.4	–5.3	1.7	6.1	–2.2	–1.4	3.8	2.6
Kyrgyz Republic	4.6	4.3	4.7	3.5	4.6	–7.1	5.5	6.3	4.2	4.4	4.2	4.0
Lebanon[1]	4.8	1.6	0.9	–1.9	–6.9	–25.9	–10.0	0.0	. . .	. . .	. . .	. . .
Libya	–4.7	–1.5	32.5	7.9	–11.2	–29.5	28.3	–8.3	10.2	7.8	6.9	2.3
Mauritania	4.0	1.3	6.3	4.8	3.1	–0.4	0.7	6.4	4.8	5.1	5.5	2.2
Morocco	4.4	0.5	5.1	3.1	2.9	–7.2	8.0	1.3	3.0	3.1	3.3	3.4
Oman	5.0	5.0	0.3	1.3	–1.1	–3.4	3.1	4.3	1.3	1.2	3.1	3.2
Pakistan	3.6	4.1	4.6	6.1	3.1	–0.9	5.8	6.2	–0.2	2.0	3.5	5.0
Qatar	12.4	3.1	–1.5	1.2	0.7	–3.6	1.6	4.2	1.6	2.0	2.0	1.6
Saudi Arabia	4.1	1.9	0.9	3.2	1.1	–3.6	5.1	7.5	–0.8	2.6	6.0	3.5
Somalia	. . .	–1.3	9.5	3.0	3.6	–2.6	3.3	2.4	2.8	3.7	3.9	4.5
Sudan[1]	0.6	4.7	0.8	–2.3	–2.5	–3.6	0.5	–2.5	–18.3	–4.2	5.4	4.5
Syria[1]	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Tajikistan	6.8	6.9	7.1	7.6	7.4	4.4	9.4	8.0	8.3	6.5	4.5	4.5
Tunisia	3.1	1.1	2.2	2.6	1.6	–8.6	4.6	2.6	0.4	1.9	1.8	1.2
Turkmenistan[1]	8.1	–0.5	2.1	1.7	–3.7	–2.1	–0.3	5.3	2.0	2.3	2.3	2.2
United Arab Emirates	4.0	5.6	0.7	1.3	1.1	–5.0	4.4	7.9	3.4	3.5	4.2	4.5
Uzbekistan	7.7	5.9	4.4	5.9	6.0	2.0	7.4	5.7	6.0	5.2	5.4	5.5
West Bank and Gaza[1]	4.8	8.9	1.4	1.2	1.4	–11.3	7.0	4.1	–6.1	. . .	. . .	. . .
Yemen	–1.8	–9.4	–5.1	0.8	2.1	–8.5	–1.0	1.5	–2.0	–1.0	1.5	5.5

Table A4. Emerging Market and Developing Economies: Real GDP *(continued)*

(Annual percent change)

	Average									Projections		
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029
Sub-Saharan Africa	**5.2**	**1.5**	**2.9**	**3.3**	**3.2**	**–1.6**	**4.7**	**4.0**	**3.4**	**3.8**	**4.0**	**4.3**
Angola	6.4	–2.6	–0.2	–1.3	–0.7	–5.6	1.2	3.0	0.5	2.6	3.1	3.6
Benin	4.2	3.3	5.7	6.7	6.9	3.8	7.2	6.3	5.8	6.0	6.0	6.0
Botswana	2.7	7.2	4.1	4.2	3.0	–8.7	11.9	5.8	3.2	3.6	4.6	4.0
Burkina Faso	5.5	6.0	6.2	6.6	5.5	1.9	6.9	1.8	3.6	5.5	5.8	5.0
Burundi	3.6	–0.6	0.5	1.6	1.8	0.3	3.1	1.8	2.7	4.3	5.4	5.0
Cabo Verde	3.8	4.3	4.6	3.7	6.9	–20.8	5.6	17.1	4.8	4.7	4.7	4.5
Cameroon	4.0	4.5	3.5	4.0	3.4	0.5	3.6	3.6	4.0	4.3	4.5	4.5
Central African Republic	–1.3	4.7	4.5	3.8	3.0	1.0	1.0	0.5	0.7	1.3	1.7	2.6
Chad	4.4	–6.3	–2.0	5.9	6.6	–2.1	–0.9	3.1	4.4	2.9	3.7	2.7
Comoros	2.5	3.3	3.8	3.6	1.8	–0.2	2.0	2.6	3.0	3.5	4.0	3.8
Democratic Republic of the Congo	6.9	0.4	3.7	4.8	4.5	1.7	6.0	8.8	6.1	4.7	5.7	4.1
Republic of Congo	4.2	–5.0	–5.6	–2.3	1.1	–6.3	1.1	1.7	4.0	4.4	3.2	4.0
Côte d'Ivoire	4.3	7.2	7.4	4.8	6.7	0.7	7.1	6.9	6.2	6.5	6.4	6.0
Equatorial Guinea	3.0	–8.8	–5.7	–6.2	–5.5	–4.8	–0.4	3.2	–5.9	0.5	–4.6	2.9
Eritrea[1]	1.8	7.4	–10.0	13.0	3.8	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Eswatini	3.1	1.1	2.0	2.4	2.7	–1.6	10.7	0.5	5.1	3.7	3.3	2.7
Ethiopia	10.6	8.0	10.2	7.7	9.0	6.1	6.3	6.4	7.2	6.2	6.5	7.0
Gabon	3.6	2.1	0.5	0.9	3.8	–1.8	1.5	3.0	2.3	2.9	2.7	2.6
The Gambia	2.3	1.9	4.8	7.2	6.2	0.6	5.3	4.9	5.6	6.2	5.8	5.0
Ghana	6.6	3.4	8.1	6.2	6.5	0.5	5.1	3.1	2.3	2.8	4.4	5.0
Guinea	3.9	10.8	10.3	6.4	5.6	4.7	5.6	4.0	5.7	4.1	5.6	5.6
Guinea-Bissau	3.4	5.3	4.8	3.8	4.5	1.5	6.4	4.2	4.2	5.0	5.0	4.5
Kenya	4.8	4.2	3.8	5.7	5.1	–0.3	7.6	4.8	5.5	5.0	5.3	5.3
Lesotho	3.5	1.9	–2.7	–1.5	–3.1	–5.3	1.7	1.6	1.9	2.4	2.5	2.1
Liberia	6.4	–1.6	2.5	1.2	–2.5	–3.0	5.0	4.8	4.6	5.3	6.2	6.2
Madagascar	2.7	4.0	3.9	3.2	4.4	–7.1	5.7	4.0	3.8	4.5	4.6	4.5
Malawi	5.7	2.3	4.0	4.4	5.4	0.9	4.6	0.8	1.6	3.3	3.8	4.6
Mali	4.1	5.9	5.3	4.7	4.8	–1.2	3.1	3.5	4.5	4.0	4.5	4.9
Mauritius	4.2	3.9	3.9	4.0	2.9	–14.5	3.4	8.9	6.9	4.9	3.7	3.3
Mozambique	7.4	4.7	2.6	3.5	2.3	–1.2	2.4	4.4	6.0	5.0	5.0	8.5
Namibia	4.3	0.0	–1.0	1.1	–0.8	–8.1	3.5	4.6	3.2	2.6	2.6	2.6
Niger	5.6	5.7	5.0	7.0	6.1	3.5	1.4	11.9	1.4	10.4	6.1	6.0
Nigeria	6.4	–1.6	0.8	1.9	2.2	–1.8	3.6	3.3	2.9	3.3	3.0	3.3
Rwanda	7.8	6.0	3.9	8.5	9.5	–3.4	10.9	8.2	6.9	6.9	7.0	7.3
São Tomé and Príncipe	4.2	5.2	4.1	4.4	2.0	2.6	1.9	0.1	–0.3	2.9	4.1	3.3
Senegal	3.5	6.4	7.4	6.2	4.6	1.3	6.5	4.0	4.1	8.3	10.2	4.0
Seychelles	5.2	12.1	7.0	4.9	5.5	–11.7	0.6	15.0	3.7	3.2	3.8	3.6
Sierra Leone	4.7	6.4	3.8	3.5	5.3	–2.0	4.1	3.5	3.4	4.0	4.5	4.5
South Africa	2.6	0.7	1.2	1.6	0.3	–6.0	4.7	1.9	0.6	0.9	1.2	1.4
South Sudan	. . .	–13.3	–5.8	–2.1	0.9	–6.5	5.3	–5.2	–0.1	5.6	6.8	5.8
Tanzania	6.3	6.9	6.7	7.0	6.9	4.5	4.8	4.7	5.0	5.5	6.0	6.5
Togo	4.8	5.7	4.0	4.8	4.9	2.0	6.0	5.8	5.4	5.3	5.3	5.5
Uganda	6.9	0.2	6.8	5.6	7.6	–1.1	5.5	6.3	4.8	5.6	6.5	7.0
Zambia	6.9	3.8	3.5	4.0	1.4	–2.8	6.2	5.2	4.3	4.7	4.8	4.9
Zimbabwe[1]	3.6	0.8	5.2	5.0	–6.3	–7.8	8.4	6.5	5.3	3.2	3.2	3.0

[1] See the country-specific notes for Afghanistan, Eritrea, India, Lebanon, Sri Lanka, Sudan, Syria, Turkmenistan, Ukraine, Uruguay, Venezuela, West Bank and Gaza, and Zimbabwe in the "Country Notes" section of the Statistical Appendix.

[2] Data for Timor-Leste exclude projections for oil exports from the Joint Petroleum Development Area.

Table A5. Summary of Inflation

(Percent)

	Average									Projections		
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029
GDP Deflators												
Advanced Economies	**1.4**	**0.9**	**1.5**	**1.7**	**1.5**	**1.6**	**3.2**	**5.5**	**4.2**	**2.6**	**2.1**	**1.9**
United States	1.8	1.0	1.8	2.3	1.7	1.3	4.6	7.0	3.6	2.4	1.8	1.9
Euro Area	1.4	0.9	1.1	1.5	1.7	1.8	2.2	4.7	6.0	2.9	2.5	1.9
Japan	–0.4	0.4	–0.1	0.0	0.6	0.9	–0.2	0.3	3.8	2.3	2.3	2.0
Other Advanced Economies[1]	1.8	1.2	1.9	1.7	1.3	2.0	3.6	5.8	3.1	2.5	2.2	2.0
Consumer Prices												
Advanced Economies	**1.7**	**0.7**	**1.7**	**2.0**	**1.4**	**0.7**	**3.1**	**7.3**	**4.6**	**2.6**	**2.0**	**2.0**
United States	2.0	1.3	2.1	2.4	1.8	1.2	4.7	8.0	4.1	2.9	2.0	2.1
Euro Area[2]	1.7	0.2	1.5	1.8	1.2	0.3	2.6	8.4	5.4	2.4	2.1	1.9
Japan	0.3	–0.1	0.5	1.0	0.5	0.0	–0.2	2.5	3.3	2.2	2.1	2.0
Other Advanced Economies[1]	2.1	0.9	1.8	1.9	1.4	0.6	2.5	6.5	4.9	2.5	2.1	2.0
Emerging Market and Developing Economies[3]	**6.0**	**4.4**	**4.5**	**5.0**	**5.1**	**5.2**	**5.9**	**9.8**	**8.3**	**8.3**	**6.2**	**4.2**
Regional Groups												
Emerging and Developing Asia	4.7	2.8	2.5	2.7	3.3	3.2	2.3	3.9	2.4	2.4	2.8	2.7
Emerging and Developing Europe	8.1	5.6	5.6	6.4	6.7	5.4	9.6	27.8	19.4	18.8	13.1	7.7
Latin America and the Caribbean[3]	4.8	5.5	6.3	6.6	7.6	6.4	9.8	14.0	14.4	16.7	7.7	3.6
Middle East and Central Asia	8.3	5.9	7.1	9.9	7.6	10.3	12.7	13.9	16.7	15.5	11.8	6.6
Sub-Saharan Africa	8.0	10.1	10.5	8.3	8.1	10.2	11.0	14.5	16.2	15.3	12.4	9.0
Analytical Groups												
By Source of Export Earnings												
Fuel	8.1	7.7	6.5	8.9	6.8	9.3	11.7	13.7	12.7	12.2	10.6	7.8
Nonfuel	5.7	3.9	4.2	4.5	4.9	4.7	5.3	9.4	7.9	7.9	5.7	3.8
Of which, Primary Products[4]	6.7	6.7	11.8	13.9	17.4	19.1	23.2	28.3	38.4	47.9	19.9	7.1
By External Financing Source												
Net Debtor Economies	6.8	5.3	5.7	5.6	5.4	5.9	7.4	12.9	11.6	10.2	7.7	5.1
Net Debtor Economies by Debt-Servicing Experience												
Economies with Arrears and/or Rescheduling during 2018–22	10.5	10.3	15.1	14.3	11.6	14.0	17.5	21.8	24.9	23.1	17.0	7.5
Other Groups												
European Union	1.8	0.1	1.6	1.9	1.4	0.7	2.9	9.3	6.3	2.7	2.4	2.0
Middle East and North Africa	8.1	5.7	7.2	11.2	7.9	10.7	13.8	14.3	16.0	15.4	12.4	6.9
Emerging Market and Middle-Income Economies	5.8	4.0	4.1	4.6	4.8	4.6	5.2	9.3	7.6	7.7	5.7	3.9
Low-Income Developing Countries	9.1	9.2	10.0	9.7	9.3	12.8	14.9	16.1	18.1	16.3	12.2	8.1
Memorandum												
Median Inflation Rate												
Advanced Economies	1.9	0.4	1.6	1.7	1.4	0.3	2.5	8.1	5.3	2.5	2.1	2.0
Emerging Market and Developing Economies[3]	4.9	2.7	3.3	3.2	2.6	2.8	3.9	7.9	6.0	4.1	3.9	3.0

[1] Excludes the United States, euro area countries, and Japan.

[2] Based on Eurostat's harmonized index of consumer prices.

[3] Excludes Venezuela but includes Argentina from 2017 onward. See the country-specific notes for Argentina and Venezuela in the "Country Notes" section of the Statistical Appendix.

[4] Includes Argentina from 2017 onward. See the country-specific note for Argentina in the "Country Notes" section of the Statistical Appendix.

Table A6. Advanced Economies: Consumer Prices[1]

(Annual percent change)

	Average									Projections			End of Period[2]		
														Projections	
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029	2023	2024	2025
Advanced Economies	**1.7**	**0.7**	**1.7**	**2.0**	**1.4**	**0.7**	**3.1**	**7.3**	**4.6**	**2.6**	**2.0**	**2.0**	**3.1**	**2.3**	**2.0**
United States	2.0	1.3	2.1	2.4	1.8	1.2	4.7	8.0	4.1	2.9	2.0	2.1	3.2	2.4	2.0
Euro Area[3]	1.7	0.2	1.5	1.8	1.2	0.3	2.6	8.4	5.4	2.4	2.1	1.9	2.9	2.3	2.0
Germany	1.6	0.4	1.7	1.9	1.4	0.4	3.2	8.7	6.0	2.4	2.0	2.0	3.0	2.2	2.0
France	1.5	0.3	1.2	2.1	1.3	0.5	2.1	5.9	5.7	2.4	1.8	1.7	4.2	1.8	1.9
Italy	1.8	–0.1	1.3	1.2	0.6	–0.1	1.9	8.7	5.9	1.7	2.0	2.0	0.5	2.2	1.9
Spain	1.8	–0.3	2.0	1.7	0.8	–0.3	3.0	8.3	3.4	2.7	2.4	1.8	3.3	2.4	2.2
The Netherlands	1.6	0.1	1.3	1.6	2.7	1.1	2.8	11.6	4.1	2.7	2.1	2.0	1.0	2.5	2.0
Belgium	1.9	1.8	2.2	2.3	1.2	0.4	3.2	10.3	2.3	3.6	2.0	2.0	0.5	3.4	1.7
Ireland	0.9	–0.2	0.3	0.7	0.9	–0.4	2.4	8.0	5.2	2.4	2.0	2.0	3.2	2.1	2.0
Austria	2.0	1.0	2.2	2.1	1.5	1.4	2.8	8.6	7.7	3.9	2.8	2.1	5.7	3.2	2.4
Portugal	1.6	0.6	1.6	1.2	0.3	–0.1	0.9	8.1	5.3	2.2	2.0	2.0	1.9	2.1	1.9
Greece	1.7	0.0	1.1	0.8	0.5	–1.3	0.6	9.3	4.2	2.7	2.1	1.9	3.7	2.7	2.0
Finland	2.0	0.4	0.8	1.2	1.1	0.4	2.1	7.2	4.3	1.2	1.9	2.0	1.3	1.9	2.0
Slovak Republic	2.0	–0.5	1.4	2.5	2.8	2.0	2.8	12.1	11.0	3.6	3.9	2.0	6.6	3.4	3.3
Croatia	2.3	–0.6	1.3	1.6	0.8	0.0	2.7	10.7	8.4	3.7	2.2	2.2	5.4	2.4	2.2
Lithuania	3.4	0.7	3.7	2.5	2.2	1.1	4.6	18.9	8.7	1.5	2.3	2.3	0.6	1.8	2.2
Slovenia	2.0	–0.1	1.4	1.7	1.6	–0.1	1.9	8.8	7.4	2.7	2.0	2.0	4.2	2.2	2.0
Luxembourg	2.1	0.0	2.1	2.0	1.7	0.0	3.5	8.2	2.9	2.5	3.1	2.1	3.2	1.7	3.3
Latvia	4.0	0.1	2.9	2.6	2.7	0.1	3.2	17.2	9.1	2.0	3.6	2.3	0.9	5.7	2.0
Estonia	3.7	0.8	3.7	3.4	2.3	–0.6	4.5	19.4	9.1	4.2	2.5	2.5	4.3	3.6	2.5
Cyprus	1.7	–1.2	0.7	0.8	0.5	–1.1	2.2	8.1	3.9	2.3	2.0	1.9	2.0	2.0	2.0
Malta	2.0	0.9	1.3	1.7	1.5	0.8	0.7	6.1	5.7	2.9	2.1	2.0	4.2	2.2	2.1
Japan	0.3	–0.1	0.5	1.0	0.5	0.0	–0.2	2.5	3.3	2.2	2.1	2.0	2.9	2.0	2.0
United Kingdom	2.5	0.7	2.7	2.5	1.8	0.9	2.6	9.1	7.3	2.5	2.0	2.0	4.0	2.2	2.0
Korea	2.5	1.0	1.9	1.5	0.4	0.5	2.5	5.1	3.6	2.5	2.0	2.0	3.2	2.2	2.0
Canada	1.7	1.4	1.6	2.3	1.9	0.7	3.4	6.8	3.9	2.6	1.9	2.0	3.2	2.1	1.9
Australia	2.6	1.3	2.0	1.9	1.6	0.9	2.8	6.6	5.6	3.5	3.0	2.5	4.0	3.4	2.8
Taiwan Province of China	1.1	1.4	0.6	1.4	0.6	–0.2	2.0	2.9	2.5	1.9	1.6	1.5	2.7	2.2	1.7
Switzerland	0.3	–0.4	0.5	0.9	0.4	–0.7	0.6	2.8	2.1	1.5	1.2	1.2	1.7	1.4	1.2
Singapore	2.6	–0.5	0.6	0.4	0.6	–0.2	2.3	6.1	4.8	3.0	2.5	2.0	3.7	2.9	2.5
Sweden	1.4	1.1	1.9	2.0	1.7	0.7	2.7	8.1	5.9	2.6	2.0	2.0	3.0	2.4	2.0
Czech Republic	2.1	0.7	2.5	2.1	2.8	3.2	3.8	15.1	10.7	2.1	2.0	2.0	6.9	2.2	2.0
Hong Kong SAR	3.2	2.4	1.5	2.4	2.9	0.3	1.6	1.9	2.1	2.3	2.3	2.5	2.4	1.8	2.4
Israel[4]	2.0	–0.5	0.2	0.8	0.8	–0.6	1.5	4.4	4.2	2.4	2.5	2.0	3.0	2.6	2.3
Norway	2.0	3.6	1.9	2.8	2.2	1.3	3.5	5.8	5.5	3.3	2.6	2.0	4.8	3.3	2.6
Denmark	1.6	0.0	1.1	0.7	0.7	0.3	1.9	8.5	3.4	1.5	2.0	2.0	0.5	1.9	1.9
New Zealand	2.2	0.6	1.9	1.6	1.6	1.7	3.9	7.2	5.7	3.1	2.5	2.0	4.7	2.4	2.4
Puerto Rico	2.2	–0.3	1.8	1.3	0.1	–0.5	2.4	6.0	2.8	1.9	2.3	2.3	1.5	2.2	2.3
Macao SAR	5.1	2.4	1.2	3.0	2.8	0.8	0.0	1.0	0.9	1.7	2.3	2.5	1.4	1.7	2.2
Iceland	5.8	1.7	1.8	2.7	3.0	2.8	4.5	8.3	8.7	5.6	3.4	2.5	7.8	4.8	2.8
Andorra	1.4	–0.4	2.6	1.0	0.5	0.1	1.7	6.2	5.6	4.3	2.4	1.7	4.6	3.8	2.0
San Marino	2.1	0.6	1.0	1.2	0.5	–0.1	2.1	5.3	6.1	2.3	2.0	2.0	6.1	2.3	2.0
Memorandum															
Major Advanced Economies	1.7	0.8	1.8	2.1	1.5	0.8	3.3	7.3	4.7	2.6	2.0	2.1	3.1	2.2	2.0

[1] Movements in consumer prices are shown as annual averages.

[2] Monthly year-over-year changes and, for several countries, on a quarterly basis.

[3] Based on Eurostat's harmonized index of consumer prices.

[4] See the country-specific note for Israel in the "Country Notes" section of the Statistical Appendix.

Table A7. Emerging Market and Developing Economies: Consumer Prices[1]

(Annual percent change)

	Average									Projections			End of Period[2]		
														Projections	
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029	2023	2024	2025
Emerging and Developing Asia	**4.7**	**2.8**	**2.5**	**2.7**	**3.3**	**3.2**	**2.3**	**3.9**	**2.4**	**2.4**	**2.8**	**2.7**	**1.8**	**2.8**	**2.8**
Bangladesh	7.6	5.9	5.4	5.8	5.5	5.6	5.6	6.1	9.0	9.3	6.1	5.5	9.7	7.9	6.0
Bhutan	7.1	3.3	4.3	3.7	2.8	3.0	8.2	5.9	4.6	4.9	4.6	4.0	3.9	5.0	4.1
Brunei Darussalam	0.5	–0.3	–1.3	1.0	–0.4	1.9	1.7	3.7	0.4	1.3	1.0	1.0	0.6	1.3	1.0
Cambodia	5.7	3.0	2.9	2.5	1.9	2.9	2.9	5.3	2.1	2.3	3.0	3.0	2.7	2.9	3.0
China	2.9	2.0	1.6	2.1	2.9	2.5	0.9	2.0	0.2	1.0	2.0	2.0	–0.3	1.9	2.0
Fiji	3.8	3.9	3.3	4.1	1.8	–2.6	0.2	4.3	2.3	4.0	3.2	2.8	5.1	3.0	3.1
India	8.0	4.5	3.6	3.4	4.8	6.2	5.5	6.7	5.4	4.6	4.2	4.0	5.1	4.4	4.1
Indonesia	6.7	3.5	3.8	3.3	2.8	2.0	1.6	4.1	3.7	2.6	2.6	2.5	2.8	2.5	2.6
Kiribati	2.0	1.9	0.4	0.6	–1.8	2.6	2.1	5.3	9.3	4.5	3.0	1.8	–2.1	4.8	2.5
Lao P.D.R.	4.8	1.6	0.8	2.0	3.3	5.1	3.8	23.0	31.2	21.5	14.7	3.0	24.4	18.5	11.0
Malaysia	2.6	2.1	3.8	1.0	0.7	–1.1	2.5	3.4	2.5	2.8	2.5	2.1	2.5	2.8	2.5
Maldives	6.2	0.8	2.3	1.4	1.3	–1.6	0.2	2.6	2.6	3.8	3.0	2.0	1.9	4.8	2.3
Marshall Islands	3.4	–1.5	0.1	0.8	–0.1	–0.7	2.2	3.2	6.8	4.3	2.3	2.0	6.0	2.6	2.0
Micronesia	3.9	–0.9	0.1	1.0	2.2	1.0	1.8	5.0	6.2	4.0	3.0	2.0	4.6	3.0	3.0
Mongolia	10.9	0.8	4.3	6.8	7.3	3.7	7.4	15.2	10.3	9.7	10.0	6.8	7.9	10.8	9.5
Myanmar	10.4	9.1	4.6	5.9	8.6	5.7	3.6	18.4	27.1	15.0	7.8	7.8	20.0	8.0	7.8
Nauru	4.9	8.2	5.1	–14.4	4.2	1.9	1.1	3.6	6.2	4.7	3.0	2.1	6.0	3.4	2.5
Nepal	8.7	9.9	4.5	4.1	4.6	6.1	3.6	6.3	7.8	6.3	5.6	5.4	7.4	5.7	5.5
Palau	4.0	–1.3	1.1	2.4	0.4	0.7	–0.5	13.2	12.3	3.1	2.2	2.3	8.7	2.3	–0.2
Papua New Guinea	5.1	6.7	5.4	4.4	3.9	4.9	4.5	5.3	2.3	4.2	4.8	4.5	3.5	5.0	4.8
Philippines	3.9	1.2	2.9	5.3	2.4	2.4	3.9	5.8	6.0	3.6	3.0	3.0	3.9	3.2	3.0
Samoa	3.7	0.1	1.3	3.7	2.2	1.5	–3.0	8.7	12.0	3.6	3.3	3.0	10.7	2.0	2.1
Solomon Islands	6.7	0.5	0.5	3.5	1.6	3.0	–0.1	5.5	4.5	3.5	3.2	3.0	3.6	3.4	3.1
Sri Lanka[3]	8.2	4.0	6.6	4.3	4.3	4.6	6.0	45.2	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Thailand	2.5	0.2	0.7	1.1	0.7	–0.8	1.2	6.1	1.2	0.7	1.2	2.0	–0.8	1.4	1.5
Timor-Leste	6.0	–1.5	0.5	2.3	0.9	0.5	3.8	7.0	8.4	3.5	2.2	2.0	8.7	2.5	2.0
Tonga	4.1	–0.6	7.2	6.8	3.3	0.4	1.4	8.5	10.2	5.4	4.2	3.2	7.3	5.8	3.3
Tuvalu	2.3	3.5	4.1	2.2	3.5	1.9	6.2	11.5	6.2	4.1	3.6	2.8	6.2	4.1	3.6
Vanuatu	2.5	0.8	3.1	2.4	2.7	5.3	2.3	6.7	12.0	7.6	6.0	3.9	11.3	7.1	4.9
Vietnam	9.3	2.7	3.5	3.5	2.8	3.2	1.8	3.2	3.3	3.7	3.4	3.4	3.6	3.6	3.4
Emerging and Developing Europe	**8.1**	**5.6**	**5.6**	**6.4**	**6.7**	**5.4**	**9.6**	**27.8**	**19.4**	**18.8**	**13.1**	**7.7**	**20.4**	**15.2**	**10.4**
Albania	2.5	1.3	2.0	2.0	1.4	1.6	2.0	6.7	4.8	3.5	3.0	3.0	3.9	3.0	3.0
Belarus	20.2	11.8	6.0	4.9	5.6	5.5	9.5	15.2	5.0	6.3	6.5	5.0	5.8	6.8	6.3
Bosnia and Herzegovina	2.0	–1.6	0.8	1.4	0.6	–1.1	2.0	14.0	6.1	3.0	2.7	2.0	2.2	2.9	2.1
Bulgaria	3.5	–1.3	1.2	2.6	2.5	1.2	2.8	13.0	8.6	3.4	2.7	2.0	5.0	2.9	2.3
Hungary	3.8	0.4	2.4	2.8	3.4	3.3	5.1	14.6	17.1	3.7	3.5	3.0	5.5	4.4	2.9
Kosovo	2.6	0.2	1.5	1.1	2.7	0.2	3.3	11.7	5.2	3.5	2.3	2.0	2.5	3.4	1.5
Moldova	7.6	6.4	6.5	3.6	4.8	3.8	5.1	28.6	13.4	5.0	5.0	5.0	4.2	5.0	5.0
Montenegro	2.9	–0.3	2.4	2.6	0.4	–0.2	2.4	13.0	8.6	4.2	2.7	1.9	4.3	4.2	2.1
North Macedonia	2.4	–0.2	1.4	1.5	0.8	1.2	3.2	14.2	9.4	4.0	2.5	2.0	3.6	4.0	2.0
Poland	2.2	–0.7	2.0	1.8	2.2	3.4	5.1	14.4	11.4	5.0	5.0	2.5	6.2	6.4	3.9
Romania	4.4	–1.6	1.3	4.6	3.8	2.6	5.0	13.8	10.4	6.0	4.0	3.0	6.6	4.7	3.5
Russia	9.4	7.0	3.7	2.9	4.5	3.4	6.7	13.7	5.9	6.9	4.5	4.0	7.4	5.3	4.4
Serbia	7.2	1.1	3.1	2.0	1.8	1.6	4.1	12.0	12.4	4.8	3.1	3.0	7.6	3.6	3.0
Türkiye	8.3	7.8	11.1	16.3	15.2	12.3	19.6	72.3	53.9	59.5	38.4	18.6	64.8	45.0	28.3
Ukraine	13.4	13.9	14.4	10.9	7.9	2.7	9.4	20.2	12.9	6.4	7.6	5.0	5.1	8.5	7.0
Latin America and the Caribbean[4]	**4.8**	**5.5**	**6.3**	**6.6**	**7.6**	**6.4**	**9.8**	**14.0**	**14.4**	**16.7**	**7.7**	**3.6**	**16.6**	**12.7**	**6.5**
Antigua and Barbuda	2.1	–0.5	2.4	1.2	1.4	1.1	1.6	7.5	5.1	2.6	2.0	2.0	3.3	2.2	2.0
Argentina[3]	. . .	. . .	25.7	34.3	53.5	42.0	48.4	72.4	133.5	249.8	59.6	8.9	211.4	149.4	45.0
Aruba	2.1	–0.9	–1.0	3.6	3.9	–1.3	0.7	5.5	3.4	2.3	1.8	2.0	2.3	1.8	1.8
The Bahamas	2.1	–0.3	1.5	2.3	2.5	0.0	2.9	5.6	3.1	2.0	2.2	2.0	1.9	2.4	2.1
Barbados	4.8	–0.3	3.5	5.2	1.6	0.5	1.5	5.0	5.0	3.9	2.8	2.4	4.8	2.7	2.6
Belize	1.6	0.7	1.1	0.3	0.2	0.1	3.2	6.3	4.4	3.1	2.3	1.3	3.7	2.6	1.3
Bolivia	6.0	3.6	2.8	2.3	1.8	0.9	0.7	1.7	2.6	4.5	4.2	3.8	2.1	4.8	4.0
Brazil	5.7	8.7	3.4	3.7	3.7	3.2	8.3	9.3	4.6	4.1	3.0	3.0	4.6	3.8	3.0
Chile	3.6	3.8	2.2	2.3	2.2	3.0	4.5	11.6	7.6	3.2	3.0	3.0	3.9	3.0	3.0
Colombia	4.0	7.5	4.3	3.2	3.5	2.5	3.5	10.2	11.7	6.4	3.6	3.0	9.3	5.3	3.0

Table A7. Emerging Market and Developing Economies: Consumer Prices[1] *(continued)*

(Annual percent change)

	Average									Projections			End of Period[2]		
														Projections	
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029	2023	2024	2025
Latin America and the Caribbean *(continued)*[4]	**4.8**	**5.5**	**6.3**	**6.6**	**7.6**	**6.4**	**9.8**	**14.0**	**14.4**	**16.7**	**7.7**	**3.6**	**16.6**	**12.7**	**6.5**
Costa Rica	6.7	0.0	1.6	2.2	2.1	0.7	1.7	8.3	0.5	0.3	2.9	3.0	–1.8	2.0	3.0
Dominica	1.7	0.1	0.3	1.0	1.5	–0.7	1.6	7.7	3.5	2.8	2.1	2.0	2.3	2.2	2.0
Dominican Republic	5.3	1.6	3.3	3.6	1.8	3.8	8.2	8.8	4.8	4.2	4.0	4.0	3.6	4.0	4.0
Ecuador	4.2	1.7	0.4	–0.2	0.3	–0.3	0.1	3.5	2.2	1.4	1.5	1.5	1.3	1.5	1.5
El Salvador	2.5	0.6	1.0	1.1	0.1	–0.4	3.5	7.2	4.0	0.9	1.7	1.8	1.2	1.7	1.7
Grenada	2.3	1.7	0.9	0.8	0.6	–0.7	1.2	2.6	3.0	1.7	2.0	2.0	2.7	1.8	2.0
Guatemala	5.0	4.4	4.4	3.7	3.7	3.2	4.3	6.9	6.2	4.0	4.0	4.0	4.2	4.0	4.0
Guyana	4.2	0.8	1.9	1.3	2.1	1.2	3.3	6.5	4.5	2.8	4.6	5.7	2.0	3.6	5.5
Haiti	6.5	11.4	10.6	11.4	17.3	22.9	15.9	27.6	44.1	23.0	14.3	11.5	31.8	22.1	13.4
Honduras	6.0	2.7	3.9	4.3	4.4	3.5	4.5	9.1	6.7	4.4	4.1	4.0	5.2	4.3	4.0
Jamaica	9.7	2.3	4.4	3.7	3.9	5.2	5.9	10.3	6.5	7.0	5.0	5.0	6.9	5.5	5.0
Mexico	4.0	2.8	6.0	4.9	3.6	3.4	5.7	7.9	5.5	4.0	3.3	3.0	4.4	3.5	3.0
Nicaragua	8.1	3.5	3.9	4.9	5.4	3.7	4.9	10.5	8.4	5.0	4.0	4.0	5.6	4.8	4.0
Panama	3.9	0.7	0.9	0.8	–0.4	–1.6	1.6	2.9	1.5	1.7	2.0	2.0	1.9	2.2	2.0
Paraguay	5.8	4.1	3.6	4.0	2.8	1.8	4.8	9.8	4.6	3.8	4.0	4.0	3.7	4.0	4.0
Peru	3.1	3.6	2.8	1.3	2.1	1.8	4.0	7.9	6.3	2.3	2.0	2.0	3.2	2.4	2.0
St. Kitts and Nevis	2.6	–0.7	0.7	–1.0	–0.3	–1.2	1.2	2.7	3.6	2.5	2.2	2.0	2.1	2.3	2.0
St. Lucia	2.6	–3.1	0.1	2.6	0.5	–1.8	2.4	6.4	3.7	1.8	2.0	2.0	2.2	1.8	2.0
St. Vincent and the Grenadines	2.6	–0.2	2.2	2.3	0.9	–0.6	1.6	5.7	4.6	3.0	2.0	2.0	4.1	2.0	2.0
Suriname	7.3	55.5	22.0	6.9	4.4	34.9	59.1	52.4	51.6	20.7	14.8	5.0	32.6	14.2	11.0
Trinidad and Tobago	7.5	3.1	1.9	1.0	1.0	0.6	2.1	5.8	4.6	1.5	2.2	1.8	0.7	2.2	2.1
Uruguay	7.8	9.6	6.2	7.6	7.9	9.8	7.7	9.1	5.9	5.8	5.5	4.6	5.1	5.7	5.5
Venezuela[3]	36.3	254.9	438.1	65,374.1	19,906.0	2,355.1	1,588.5	186.5	337.5	100.0	150.0	. . .	190.0	160.0	150.0
Middle East and Central Asia	**8.3**	**5.9**	**7.1**	**9.9**	**7.6**	**10.3**	**12.7**	**13.9**	**16.7**	**15.5**	**11.8**	**6.6**	**16.7**	**14.2**	**9.5**
Afghanistan[3]	6.4	4.4	5.0	0.6	2.3	5.6	7.8	10.6	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Algeria	4.5	6.4	5.6	4.3	2.0	2.4	7.2	9.3	9.3	7.6	6.4	5.0	7.8	7.0	6.1
Armenia	5.0	–1.4	1.2	2.5	1.4	1.2	7.2	8.6	2.0	3.1	3.7	4.0	–0.5	3.9	4.0
Azerbaijan	6.8	12.4	12.9	2.3	2.6	2.8	6.7	13.9	8.2	3.5	5.0	4.0	2.1	5.0	5.0
Bahrain	2.4	2.8	1.4	2.1	1.0	–2.3	–0.6	3.6	0.1	1.4	1.8	2.1	–0.3	1.4	1.8
Djibouti	3.7	2.4	0.6	0.1	3.3	1.8	1.2	5.2	1.8	1.8	1.9	2.0	3.3	1.8	2.0
Egypt	10.2	10.2	23.5	20.9	13.9	5.7	4.5	8.5	24.4	32.5	25.7	6.1	35.7	32.1	15.3
Georgia	5.1	2.1	6.0	2.6	4.9	5.2	9.6	11.9	2.5	2.6	4.2	3.0	0.4	4.0	3.7
Iran	19.0	9.1	9.6	30.2	34.7	36.4	40.2	45.8	41.5	37.5	32.5	25.0	40.0	35.0	30.0
Iraq	9.3	0.5	0.2	0.4	–0.2	0.6	6.0	5.0	4.4	4.0	4.0	3.6	4.0	4.0	4.0
Jordan	4.2	–0.6	3.6	4.5	0.7	0.4	1.3	4.2	2.2	2.7	2.4	2.5	2.0	2.7	2.4
Kazakhstan	8.3	14.6	7.4	6.0	5.2	6.8	8.0	15.0	14.6	8.7	7.0	5.0	9.8	7.8	6.4
Kuwait	. . .	2.9	1.6	0.6	1.1	2.1	3.4	4.0	3.6	3.2	2.7	1.8	3.4	3.3	2.6
Kyrgyz Republic	9.4	0.4	3.2	1.5	1.1	6.3	11.9	13.9	10.8	6.7	6.6	4.0	7.3	8.0	5.5
Lebanon[3]	3.8	–0.8	4.5	6.1	2.9	84.9	154.8	171.2	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Libya	5.9	25.9	25.9	14.0	–2.9	1.5	2.9	4.5	3.4	2.9	2.9	2.6	2.6	2.6	2.6
Mauritania	4.8	1.5	2.3	3.1	2.3	2.4	3.6	9.6	4.9	2.8	4.0	4.0	1.6	4.0	4.0
Morocco	1.6	1.5	0.8	1.6	0.2	0.7	1.4	6.6	6.1	2.2	2.5	2.0	3.4	2.5	2.2
Oman	3.8	0.9	1.5	0.7	0.5	–0.4	1.7	2.5	0.9	1.3	1.5	2.0	0.6	1.0	1.5
Pakistan	10.2	2.9	4.1	3.9	6.7	10.7	8.9	12.1	29.2	24.8	12.7	6.5	29.4	19.6	9.5
Qatar	4.3	2.7	0.6	0.1	–0.9	–2.5	2.3	5.0	3.1	2.6	2.4	2.0	1.6	2.6	2.4
Saudi Arabia	3.4	2.1	–0.8	2.5	–2.1	3.4	3.1	2.5	2.3	2.3	2.0	2.0	0.4	2.3	2.0
Somalia	. . .	0.0	4.0	4.3	4.5	4.3	4.6	6.8	6.1	4.8	3.9	3.0	6.6	4.3	3.7
Sudan[3]	20.0	17.8	32.4	63.3	51.0	163.3	359.1	138.8	171.5	145.5	62.7	8.3	146.6	114.6	43.0
Syria[3]	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Tajikistan	9.1	5.9	7.3	3.8	7.8	8.6	9.0	6.6	3.7	4.9	6.3	6.5	3.8	6.0	6.5
Tunisia	4.3	3.6	5.3	7.3	6.7	5.6	5.7	8.3	9.3	7.4	6.9	9.0	8.1	7.2	6.7
Turkmenistan	6.1	3.6	8.0	13.3	5.1	6.1	19.5	11.2	–1.7	5.0	7.9	8.0	1.5	7.8	8.0
United Arab Emirates	3.7	1.6	2.0	3.1	–1.9	–2.1	–0.1	4.8	1.6	2.1	2.0	2.0	1.6	2.1	2.0
Uzbekistan	11.5	8.8	13.9	17.5	14.5	12.9	10.8	11.4	10.0	11.6	9.7	5.0	8.8	12.1	8.6
West Bank and Gaza[3]	3.2	–0.2	0.2	–0.2	1.6	–0.7	1.2	3.7	5.9	. . .	. . .	. . .	15.2	. . .	. . .
Yemen	12.2	21.3	30.4	33.6	15.7	21.7	31.5	29.5	–1.2	16.9	17.3	10.0	0.5	20.0	15.0

Table A7. Emerging Market and Developing Economies: Consumer Prices[1] *(continued)*

(Annual percent change)

	Average									Projections			End of Period[2]		
														Projections	
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029	2023	2024	2025
Sub-Saharan Africa	**8.0**	**10.1**	**10.5**	**8.3**	**8.1**	**10.2**	**11.0**	**14.5**	**16.2**	**15.3**	**12.4**	**9.0**	**16.6**	**13.7**	**10.7**
Angola	11.5	30.7	29.8	19.6	17.1	22.3	25.8	21.4	13.6	22.0	12.8	7.4	20.0	18.0	9.9
Benin	2.6	–0.8	1.8	0.8	–0.9	3.0	1.7	1.4	2.8	3.0	2.0	2.0	0.4	3.0	2.0
Botswana	7.5	2.8	3.3	3.2	2.7	1.9	6.7	12.2	5.1	4.0	4.5	4.5	3.5	4.4	4.5
Burkina Faso	2.1	0.4	1.5	2.0	–3.2	1.9	3.9	13.8	0.9	2.1	2.0	2.0	1.1	2.6	2.0
Burundi	9.7	5.5	16.6	–2.8	–0.7	7.3	8.3	18.9	27.0	22.0	20.0	10.0	20.1	22.9	17.6
Cabo Verde	2.7	–1.4	0.8	1.3	1.1	0.6	1.9	7.9	3.1	2.0	2.0	2.0	1.3	2.0	2.0
Cameroon	2.8	0.9	0.6	1.1	2.5	2.5	2.3	6.3	7.2	5.9	5.5	2.5	6.0	5.5	5.2
Central African Republic	5.1	4.9	4.2	1.6	2.8	0.9	4.3	5.6	3.2	4.7	4.6	3.0	4.0	5.0	4.2
Chad	3.3	–1.6	–0.9	4.0	–1.0	5.3	–1.6	6.9	2.7	3.1	3.1	3.1	7.1	3.0	2.9
Comoros	3.1	0.8	0.1	1.7	3.7	0.8	0.0	12.4	8.5	2.0	2.2	1.9	–2.0	3.3	1.9
Democratic Republic of the Congo	12.8	3.2	35.7	29.3	4.7	11.4	9.0	9.3	19.9	17.2	8.5	7.0	23.8	11.7	7.0
Republic of Congo	3.3	3.2	0.4	1.2	0.4	1.4	2.0	3.0	4.5	3.6	3.0	3.0	4.5	3.6	3.0
Côte d'Ivoire	1.9	0.6	0.6	0.6	0.8	2.4	4.2	5.2	4.4	3.8	3.0	2.0	4.0	3.0	2.5
Equatorial Guinea	4.0	1.4	0.7	1.3	1.2	4.8	–0.1	4.9	2.5	4.4	1.8	1.5	2.1	5.7	0.4
Eritrea[3]	13.4	–5.6	–13.3	–14.4	1.3	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Eswatini	6.9	7.8	6.2	4.8	2.6	3.9	3.7	4.8	4.9	3.9	3.1	3.0	4.3	3.1	3.0
Ethiopia	16.8	6.6	10.7	13.8	15.8	20.4	26.8	33.9	30.2	25.6	18.2	14.3	28.7	21.5	15.7
Gabon	1.5	2.1	2.7	4.8	2.0	1.7	1.1	4.3	3.6	2.1	2.2	2.4	2.3	2.2	2.2
The Gambia	4.9	7.2	8.0	6.5	7.1	5.9	7.4	11.5	17.0	15.1	10.5	5.0	17.3	12.9	8.1
Ghana	11.7	17.5	12.4	9.8	7.1	9.9	10.0	31.7	37.5	22.3	11.5	8.0	23.2	15.0	8.0
Guinea	16.0	8.2	8.9	9.8	9.5	10.6	12.6	10.5	7.8	11.0	10.2	8.6	9.3	11.5	10.8
Guinea-Bissau	2.4	2.7	–0.2	0.4	0.3	1.5	3.3	7.9	7.2	3.0	2.0	2.0	3.1	3.0	2.0
Kenya	8.2	6.3	8.0	4.7	5.2	5.3	6.1	7.6	7.7	6.6	5.5	5.0	6.6	6.2	5.2
Lesotho	6.0	6.6	4.4	4.8	5.2	5.0	6.0	8.3	6.3	6.4	5.4	5.0	6.6	5.6	5.3
Liberia	9.3	8.8	12.4	23.5	27.0	17.0	7.8	7.6	10.1	6.3	5.1	4.8	10.0	5.4	5.6
Madagascar	8.3	6.1	8.6	8.6	5.6	4.2	5.8	8.2	9.9	7.8	7.3	5.9	7.5	7.7	7.4
Malawi	14.7	21.7	11.5	9.2	9.4	8.6	9.3	20.8	30.3	27.9	14.7	6.5	40.0	18.3	9.8
Mali	2.5	–1.8	2.4	1.9	–3.0	0.5	3.8	9.7	2.1	1.0	2.0	2.0	–0.6	0.7	2.0
Mauritius	5.1	1.0	3.7	3.2	0.5	2.5	4.0	10.8	7.0	4.9	3.6	3.5	3.9	5.1	4.0
Mozambique	7.8	17.4	15.1	3.9	2.8	3.1	5.7	9.8	6.1	4.4	5.5	5.5	4.3	4.7	5.5
Namibia	6.1	6.7	6.1	4.3	3.7	2.2	3.6	6.1	5.9	4.8	4.8	4.8	5.5	5.5	5.5
Niger	1.8	0.2	0.2	2.8	–2.5	2.9	3.8	4.2	3.7	6.4	4.6	2.0	7.2	3.6	5.1
Nigeria	10.0	15.7	16.5	12.1	11.4	13.2	17.0	18.8	24.7	26.3	23.0	14.0	28.9	24.0	19.0
Rwanda	6.6	5.7	4.8	1.4	2.4	7.7	0.8	13.9	14.0	5.8	5.0	5.0	6.4	5.4	5.0
São Tomé and Príncipe	14.8	5.4	5.7	7.9	7.7	9.8	8.1	18.0	21.2	14.2	7.8	5.0	17.1	10.9	5.4
Senegal	1.8	1.2	1.1	0.5	1.0	2.5	2.2	9.7	5.9	3.9	2.0	2.0	0.8	9.0	–9.5
Seychelles	8.2	–1.0	2.9	3.7	1.8	1.2	9.8	2.6	–1.0	–0.2	2.6	3.4	–2.7	0.8	3.1
Sierra Leone	8.0	10.9	18.2	16.0	14.8	13.4	11.9	27.2	47.7	39.1	21.7	7.5	52.2	26.1	17.4
South Africa	6.1	6.3	5.3	4.6	4.1	3.3	4.6	6.9	5.9	4.9	4.5	4.5	5.5	4.5	4.5
South Sudan	. . .	346.1	213.0	83.4	49.3	24.0	30.2	–3.2	40.2	54.8	21.7	8.3	70.3	60.3	9.1
Tanzania	9.2	5.2	5.3	3.5	3.4	3.3	3.7	4.4	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Togo	2.3	0.9	–0.2	0.9	0.7	1.8	4.5	7.6	5.1	2.7	2.0	1.7	2.6	2.2	1.8
Uganda	8.7	5.2	5.6	2.5	2.1	2.8	2.2	7.2	5.4	3.8	4.9	5.0	2.6	4.4	5.0
Zambia	9.4	17.9	6.6	7.5	9.2	15.7	22.0	11.0	11.0	11.4	7.8	7.0	13.0	8.6	7.0
Zimbabwe	0.8	–1.6	0.9	10.6	255.3	557.2	98.5	193.4	667.4	561.0	554.7	400.0	778.8	602.7	533.6

[1] Movements in consumer prices are shown as annual averages.

[2] Monthly year-over-year changes and, for several countries, on a quarterly basis.

[3] See the country-specific notes for Afghanistan, Argentina, Eritrea, Lebanon, Sri Lanka, Sudan, Syria, Venezuela, and West Bank and Gaza in the "Country Notes" section of the Statistical Appendix.

[4] Excludes Venezuela but includes Argentina from 2017 onward. See the country-specific notes for Argentina and Venezuela in the "Country Notes" section of the Statistical Appendix.

Table A8. Major Advanced Economies: General Government Fiscal Balances and Debt[1]

(Percent of GDP, unless noted otherwise)

	Average									Projections		
	2006–15	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029
Major Advanced Economies												
Net Lending/Borrowing	–5.2	–3.3	–3.3	–3.4	–3.8	–11.6	–8.7	–4.1	–7.0	–5.5	–5.3	–4.6
Output Gap[2]	–2.4	–1.6	–0.7	0.2	0.4	–3.1	0.1	0.7	0.3	–0.1	–0.2	–0.1
Structural Balance[2]	–4.0	–2.7	–3.0	–3.3	–3.9	–8.1	–7.9	–5.5	–6.8	–5.3	–5.2	–4.5
United States												
Net Lending/Borrowing[3]	–6.6	–4.4	–4.8	–5.3	–5.8	–13.9	–11.1	–4.1	–8.8	–6.5	–7.1	–6.0
Output Gap[2]	–4.1	–2.1	–1.3	0.0	0.7	–2.5	1.5	1.3	0.7	0.4	0.1	0.0
Structural Balance[2]	–4.4	–3.6	–4.3	–5.1	–6.0	–10.6	–10.8	–6.8	–8.6	–6.7	–7.1	–5.9
Net Debt	67.8	82.0	80.6	81.4	83.2	98.0	97.8	94.7	96.3	97.6	100.7	108.0
Gross Debt	90.0	106.6	105.5	106.8	108.1	132.0	125.0	120.0	122.1	123.3	126.6	133.9
Euro Area												
Net Lending/Borrowing	–3.2	–1.5	–0.9	–0.4	–0.6	–7.0	–5.2	–3.7	–3.5	–2.9	–2.6	–2.3
Output Gap[2]	–1.1	–1.7	–0.6	–0.1	0.1	–4.6	–1.7	0.3	–0.2	–0.6	–0.4	–0.1
Structural Balance[2]	–2.4	–0.5	–0.5	–0.3	–0.5	–4.0	–4.0	–3.5	–3.3	–2.6	–2.4	–2.2
Net Debt	66.4	74.6	72.5	70.8	69.1	79.0	77.6	75.5	74.5	74.9	74.9	75.4
Gross Debt	82.5	90.4	88.1	86.1	84.1	97.2	94.7	90.8	88.6	88.7	88.3	87.7
Germany												
Net Lending/Borrowing	–0.8	1.2	1.3	1.9	1.5	–4.3	–3.6	–2.5	–2.1	–1.5	–1.3	–0.5
Output Gap[2]	0.0	0.1	1.0	0.8	0.4	–3.1	–1.1	0.8	–0.5	–1.3	–0.9	0.0
Structural Balance[2]	–0.6	1.2	1.2	1.6	1.3	–2.9	–3.0	–2.2	–1.9	–0.9	–0.8	–0.5
Net Debt	57.0	49.3	45.5	42.8	40.3	45.7	46.8	47.1	46.4	46.4	45.7	43.0
Gross Debt	73.8	69.0	65.2	61.9	59.6	68.8	69.0	66.1	64.3	63.7	62.3	57.7
France												
Net Lending/Borrowing	–4.4	–3.6	–3.0	–2.3	–3.1	–9.0	–6.5	–4.8	–5.5	–4.9	–4.9	–3.9
Output Gap[2]	–0.9	–2.7	–1.5	–0.8	0.0	–4.5	–2.1	–0.9	–0.9	–0.8	–0.7	–0.2
Structural Balance[2]	–3.9	–1.9	–1.9	–1.5	–2.1	–6.0	–5.0	–4.2	–4.9	–4.3	–4.4	–3.8
Net Debt	73.0	89.2	89.4	89.2	88.9	101.2	100.4	101.2	102.4	103.4	104.6	106.9
Gross Debt	82.9	98.0	98.1	97.8	97.4	114.7	113.0	111.8	110.6	111.6	112.8	115.2
Italy												
Net Lending/Borrowing	–3.2	–2.4	–2.4	–2.2	–1.5	–9.4	–8.7	–8.6	–7.2	–4.6	–3.2	–3.0
Output Gap[2]	–2.8	–3.6	–2.2	–1.5	–1.2	–5.9	–3.1	0.1	0.3	0.3	0.2	–0.7
Structural Balance[2]	–1.8	–0.8	–1.3	–1.5	–0.8	–5.8	–8.1	–9.2	–7.8	–4.8	–3.6	–2.5
Net Debt	109.2	121.6	121.3	121.8	121.7	141.5	134.8	129.1	126.6	128.9	130.3	135.8
Gross Debt	120.2	134.8	134.2	134.5	134.2	154.9	147.1	140.5	137.3	139.2	140.4	144.9
Japan												
Net Lending/Borrowing	–6.3	–3.6	–3.1	–2.5	–3.0	–9.1	–6.1	–4.4	–5.8	–6.5	–3.2	–3.8
Output Gap[2]	0.1	0.1	1.0	1.9	0.7	–2.9	–1.6	–0.9	0.2	0.1	0.1	0.0
Structural Balance[2]	–6.2	–4.5	–3.7	–3.0	–3.3	–8.1	–5.4	–4.3	–5.8	–6.6	–3.2	–3.9
Net Debt	125.8	149.5	148.1	151.1	151.7	162.0	156.4	150.3	155.9	157.7	155.7	152.9
Gross Debt[4]	206.9	232.4	231.3	232.4	236.4	258.3	253.9	257.2	252.4	254.6	252.6	251.7
United Kingdom												
Net Lending/Borrowing	–6.0	–3.3	–2.5	–2.3	–2.5	–13.1	–7.9	–4.7	–6.0	–4.6	–3.7	–3.4
Output Gap[2]	–1.6	–1.4	–0.3	–0.3	0.0	–3.6	0.5	1.8	–0.3	–1.1	–1.1	0.0
Structural Balance[2]	–4.8	–2.3	–2.1	–2.0	–2.4	0.5	–3.3	–3.0	–4.7	–2.9	–2.9	–3.3
Net Debt	63.2	78.8	77.2	76.6	75.8	93.1	91.7	90.5	92.5	92.9	94.7	98.0
Gross Debt	70.3	87.8	86.7	86.3	85.7	105.8	105.2	100.4	101.1	104.3	106.4	110.1
Canada												
Net Lending/Borrowing	–1.2	–0.5	–0.1	0.4	0.0	–10.9	–2.9	0.1	–0.6	–1.1	–0.9	–0.4
Output Gap[2]	0.0	–0.9	0.4	0.6	0.4	–3.4	–1.4	0.8	0.0	–0.6	–0.1	0.1
Structural Balance[2]	–1.2	0.0	–0.3	0.0	–0.2	–8.2	–1.9	–0.4	–0.6	–0.8	–0.8	–0.5
Net Debt[5]	24.9	18.0	12.7	11.7	8.7	16.1	14.3	15.6	12.8	13.3	13.4	12.9
Gross Debt	81.0	92.4	90.9	90.8	90.2	118.2	113.5	107.4	107.1	104.7	102.1	95.4

Note: The methodology and specific assumptions for each country are discussed in Box A1. The country group composites for fiscal data are calculated as the sum of the US dollar values for the relevant individual countries.

[1] Debt data refer to the end of the year and are not always comparable across countries. Gross and net debt levels reported by national statistical agencies for countries that have adopted the System of National Accounts 2008 (Australia, Canada, Hong Kong SAR, United States) are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.

[2] Percent of potential GDP.

[3] Figures reported by the national statistical agency are adjusted to exclude items related to the accrual-basis accounting of government employees' defined-benefit pension plans.

[4] Nonconsolidated basis.

[5] Includes equity shares.

Table A9. Summary of World Trade Volumes and Prices

(Annual percent change, unless noted otherwise)

	Averages										Projections	
	2006–15	2016–25	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Trade in Goods and Services												
World Trade[1]												
Volume	4.2	2.7	2.2	5.5	4.0	1.3	–8.3	11.0	5.6	0.3	3.0	3.3
Price Deflator												
In US Dollars	0.9	1.9	–4.0	4.4	5.5	–2.6	–1.5	12.6	6.6	–2.2	0.7	0.9
In SDRs	1.5	2.4	–3.4	4.7	3.3	–0.2	–2.3	10.1	13.6	–2.0	1.1	0.7
Volume of Trade												
Exports												
Advanced Economies	3.7	2.4	2.0	4.9	3.6	1.5	–8.8	9.9	5.6	0.9	2.5	2.9
Emerging Market and Developing Economies	5.3	3.2	2.8	6.2	4.2	1.0	–6.6	13.0	4.7	–0.1	3.7	3.9
Imports												
Advanced Economies	3.1	2.5	2.6	4.9	3.8	2.1	–8.2	10.3	7.1	–1.0	2.0	2.8
Emerging Market and Developing Economies	6.7	2.9	1.5	7.1	5.1	–0.5	–9.4	12.1	3.9	2.0	4.9	4.1
Terms of Trade												
Advanced Economies	0.0	0.2	1.1	–0.2	–0.3	0.1	1.0	0.9	–1.8	0.7	0.3	0.1
Emerging Market and Developing Economies	0.4	0.0	–1.5	1.4	0.9	–1.5	–0.7	0.8	1.1	–1.1	0.3	0.0
Trade in Goods												
World Trade[1]												
Volume	4.0	2.6	2.1	5.6	3.8	0.2	–4.9	11.3	3.2	–0.9	2.8	3.3
Price Deflator												
In US Dollars	0.8	1.9	–4.8	4.9	5.8	–3.1	–2.7	14.2	8.4	–3.7	0.5	0.7
In SDRs	1.3	2.4	–4.2	5.1	3.6	–0.7	–3.4	11.7	15.5	–3.5	0.9	0.5
World Trade Prices in US Dollars[2]												
Manufactures	1.2	1.2	–5.2	0.1	2.0	0.5	–3.2	6.6	10.1	–1.6	1.8	1.7
Oil	–0.5	3.8	–15.0	22.5	29.4	–10.4	–32.0	65.8	39.2	–16.4	–2.5	–6.3
Nonfuel Primary Commodities	3.4	4.0	–0.3	6.4	1.3	0.7	6.6	26.7	7.9	–5.7	0.1	–0.4
Food	2.6	3.1	1.5	3.8	–1.2	–3.1	1.7	27.0	14.8	–6.8	–2.2	–0.8
Beverages	5.2	3.3	–3.0	–3.8	–9.2	–5.7	2.4	22.4	14.1	4.0	27.1	–8.8
Agricultural Raw Materials	1.6	0.5	–0.2	5.4	2.0	–5.4	–3.4	15.5	5.7	–15.6	5.3	–1.5
Metal	2.5	5.5	–5.3	22.2	6.6	3.9	3.5	46.7	–5.6	–2.8	–1.8	–2.6
World Trade Prices in SDRs[2]												
Manufactures	1.7	1.7	–4.6	0.3	–0.1	3.0	–3.9	4.2	17.3	–1.4	2.2	1.5
Oil	0.0	4.3	–14.5	22.8	26.7	–8.2	–32.6	62.1	48.2	–16.2	–2.1	–6.5
Nonfuel Primary Commodities	4.0	4.5	0.4	6.7	–0.8	3.2	5.7	23.9	14.9	–5.4	0.4	–0.6
Food	3.1	3.6	2.2	4.1	–3.3	–0.7	0.9	24.1	22.3	–6.5	–1.8	–1.0
Beverages	5.8	3.8	–2.3	–3.5	–11.1	–3.4	1.6	19.7	21.6	4.2	27.6	–9.0
Agricultural Raw Materials	2.1	1.0	0.5	5.7	–0.1	–3.1	–4.2	12.9	12.6	–15.4	5.7	–1.7
Metal	3.0	6.0	–4.7	22.5	4.4	6.4	2.6	43.4	0.6	–2.5	–1.4	–2.8
World Trade Prices in Euros[2]												
Manufactures	2.4	1.5	–4.9	–1.9	–2.5	6.1	–5.0	2.7	23.6	–4.1	2.1	2.2
Oil	0.7	4.1	–14.8	20.0	23.6	–5.4	–33.3	59.9	56.3	–18.5	–2.2	–5.8
Nonfuel Primary Commodities	4.6	4.4	0.0	4.3	–3.2	6.2	4.5	22.2	21.2	–8.1	0.4	0.0
Food	3.8	3.4	1.8	1.7	–5.6	2.3	–0.2	22.4	29.0	–9.1	–1.9	–0.4
Beverages	6.5	3.6	–2.7	–5.7	–13.2	–0.5	0.5	18.1	28.2	1.3	27.5	–8.4
Agricultural Raw Materials	2.7	0.8	0.1	3.3	–2.5	–0.2	–5.2	11.3	18.8	–17.8	5.6	–1.1
Metal	3.6	5.9	–5.0	19.7	1.9	9.6	1.5	41.5	6.0	–5.2	–1.5	–2.1

Table A9. Summary of World Trade Volumes and Prices *(continued)*

(Annual percent change, unless noted otherwise)

	Averages										Projections	
	2006–15	2016–25	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Trade in Goods *(continued)*												
Volume of Trade												
Exports												
Advanced Economies	3.4	2.1	1.6	4.9	3.0	0.6	–6.3	10.2	3.7	–0.6	2.2	3.1
Emerging Market and Developing Economies	5.1	3.1	2.6	6.5	3.9	–0.5	–1.1	11.9	1.2	–0.1	3.6	3.7
Fuel Exporters	3.0	1.0	1.1	0.8	–0.8	–3.2	–6.5	2.1	7.3	2.7	1.9	5.8
Nonfuel Exporters	5.6	3.4	2.9	7.5	4.8	0.1	–0.2	13.2	0.3	–0.7	3.9	3.4
Imports												
Advanced Economies	2.8	2.2	2.2	4.8	3.8	0.6	–5.7	11.4	4.9	–3.2	1.5	2.6
Emerging Market and Developing Economies	6.4	3.2	2.1	7.4	5.1	–0.1	–5.5	12.1	2.2	1.3	4.6	4.0
Fuel Exporters	6.9	0.7	–7.0	–0.8	–3.5	2.3	–11.9	1.3	10.4	9.7	4.8	4.1
Nonfuel Exporters	6.3	3.6	3.6	8.7	6.3	–0.4	–4.7	13.4	1.4	0.4	4.6	4.0
Price Deflators in SDRs												
Exports												
Advanced Economies	0.7	2.3	–2.2	4.3	2.8	–1.4	–2.2	10.2	12.3	–2.0	1.1	0.8
Emerging Market and Developing Economies	2.8	2.6	–6.9	7.1	4.9	0.3	–5.7	15.2	19.3	–5.9	0.7	0.0
Fuel Exporters	1.4	3.6	–10.2	15.9	14.8	–4.2	–21.5	38.3	38.1	–13.0	–1.2	–3.0
Nonfuel Exporters	3.0	2.4	–6.3	5.5	3.1	1.2	–2.8	12.1	16.5	–4.5	1.0	0.5
Imports												
Advanced Economies	0.7	2.1	–3.5	4.5	3.4	–1.5	–3.4	9.3	15.1	–2.8	1.0	0.8
Emerging Market and Developing Economies	2.4	2.7	–5.5	5.7	3.8	0.7	–3.0	14.1	16.7	–4.2	0.9	0.1
Fuel Exporters	2.9	3.5	–3.1	3.4	1.9	3.3	–1.0	11.5	17.2	–0.8	2.4	1.8
Nonfuel Exporters	2.3	2.6	–5.9	6.1	4.1	0.3	–3.3	14.4	16.7	–4.6	0.7	–0.1
Terms of Trade												
Advanced Economies	–0.1	0.1	1.3	–0.2	–0.6	0.1	1.2	0.8	–2.4	0.8	0.1	0.0
Emerging Market and Developing Economies	0.4	–0.1	–1.5	1.3	1.1	–0.4	–2.7	0.9	2.2	–1.7	–0.2	–0.1
Regional Groups												
Emerging and Developing Asia	0.6	–0.9	0.2	–3.4	–2.4	1.2	0.6	–7.0	0.7	–1.4	1.0	1.3
Emerging and Developing Europe	0.4	0.9	–5.5	3.4	4.3	0.4	–4.2	8.3	3.8	0.0	0.2	–0.8
Latin America and the Caribbean	0.5	1.1	0.9	4.5	–0.7	–0.7	2.3	4.9	–3.4	5.9	–2.3	0.0
Middle East and Central Asia	–1.5	0.2	–5.4	10.2	10.7	–5.8	–18.2	20.9	13.7	–10.5	–2.7	–3.9
Sub-Saharan Africa	1.2	0.9	–1.1	8.8	4.3	–1.7	–1.2	9.8	–1.4	–6.5	0.2	–0.9
Analytical Groups												
By Source of Export Earnings												
Fuel	–1.5	0.1	–7.3	12.1	12.7	–7.3	–20.7	24.0	17.9	–12.3	–3.5	–4.7
Nonfuel	0.7	–0.2	–0.4	–0.5	–0.9	0.8	0.5	–2.1	–0.2	0.1	0.3	0.7
Memorandum												
World Exports in Billions of US Dollars												
Goods and Services	19,974	27,131	20,768	22,908	25,109	24,717	22,339	28,034	31,374	30,794	31,961	33,305
Goods	15,770	20,621	15,739	17,451	19,103	18,535	17,208	21,853	24,278	23,186	23,952	24,909
Average Oil Price[3]	–0.5	3.8	–15.0	22.5	29.4	–10.4	–32.0	65.8	39.2	–16.4	–2.5	–6.3
In US Dollars a Barrel	83.36	66.65	43.26	52.98	68.53	61.43	41.77	69.25	96.36	80.59	78.61	73.68
Export Unit Value of Manufactures[4]	1.2	1.2	–5.2	0.1	2.0	0.5	–3.2	6.6	10.1	–1.6	1.8	1.7

[1] Average of annual percent change for world exports and imports.

[2] As represented, respectively, by the export unit value index for manufactures of the advanced economies and accounting for 82 percent of the advanced economies' trade (export of goods) weights; the average of UK Brent, Dubai Fateh, and West Texas Intermediate crude oil prices; and the average of world market prices for nonfuel primary commodities weighted by their 2014–16 shares in world commodity imports.

[3] Percent change of average of UK Brent, Dubai Fateh, and West Texas Intermediate crude oil prices.

[4] Percent change for manufactures exported by advanced economies.

Table A10. Summary of Current Account Balances

(Billions of US dollars)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	2025	2029
Advanced Economies	**363.8**	**473.0**	**390.2**	**394.7**	**174.8**	**546.3**	**–193.9**	**286.8**	**439.9**	**449.5**	**524.3**
United States	–396.2	–367.6	–439.8	–441.8	–597.1	–831.4	–971.6	–812.7	–732.6	–758.4	–750.6
Euro Area	360.2	400.3	389.1	321.5	234.8	416.8	–77.6	289.2	368.2	384.4	427.0
Germany	299.0	289.1	316.2	317.8	274.2	329.8	180.1	303.2	321.7	329.1	328.8
France	–12.0	–19.9	–23.2	14.0	–42.8	10.7	–56.8	–22.7	–18.1	–17.7	–4.2
Italy	49.7	52.1	54.5	65.6	73.6	52.2	–30.1	3.5	18.2	31.5	62.1
Spain	39.1	36.4	26.7	29.4	7.9	11.0	8.7	41.1	41.7	40.4	33.9
Japan	197.8	203.5	177.8	176.3	149.9	196.4	84.5	144.7	142.6	149.7	154.5
United Kingdom	–147.0	–93.7	–112.9	–76.7	–77.5	–14.9	–95.5	–73.5	–90.7	–103.7	–131.5
Canada	–47.2	–46.2	–41.0	–34.1	–33.4	0.3	–7.9	–13.1	7.2	8.8	–17.0
Other Advanced Economies[1]	328.0	331.6	333.3	343.7	380.9	593.8	600.0	551.2	593.6	610.6	669.8
Emerging Market and Developing Economies	**–109.6**	**–29.1**	**–59.0**	**–7.7**	**145.5**	**372.3**	**648.6**	**277.1**	**128.5**	**104.5**	**–120.8**
Regional Groups											
Emerging and Developing Asia	209.5	164.1	–53.4	93.6	319.7	287.5	294.9	241.1	180.1	192.6	97.8
Emerging and Developing Europe	–10.3	–24.9	62.7	49.3	1.9	66.7	127.9	–23.0	–17.0	–25.0	–21.1
Latin America and the Caribbean	–108.5	–98.2	–146.0	–111.4	–12.7	–99.9	–137.7	–76.6	–72.9	–84.4	–113.6
Middle East and Central Asia	–147.0	–37.6	113.1	15.9	–118.9	136.5	403.8	189.5	90.7	74.0	–27.0
Sub-Saharan Africa	–53.3	–32.5	–35.4	–55.1	–44.6	–18.5	–40.3	–53.8	–52.4	–52.8	–56.9
Analytical Groups											
By Source of Export Earnings											
Fuel	–98.0	42.4	204.5	69.5	–97.8	193.9	502.7	240.9	168.4	135.3	53.0
Nonfuel	–9.5	–69.4	–261.4	–75.4	245.2	180.2	148.0	38.7	–36.8	–28.4	–170.5
Of which, Primary Products	–47.8	–60.1	–72.5	–44.6	–0.5	–14.8	–60.7	–57.5	–37.6	–38.7	–38.6
By External Financing Source											
Net Debtor Economies	–234.5	–269.4	–364.7	–266.5	–101.5	–331.4	–471.6	–253.2	–338.3	–370.8	–521.4
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2018–22	–77.1	–63.8	–52.9	–52.8	–34.2	–39.0	–36.6	–48.3	–72.1	–64.2	–57.4
Memorandum											
World	**254.2**	**443.9**	**331.2**	**387.1**	**320.3**	**918.6**	**454.7**	**563.9**	**568.4**	**554.0**	**403.6**
European Union	467.5	482.6	492.0	472.1	418.2	638.2	206.8	564.6	578.0	590.8	641.9
Middle East and North Africa	–122.8	–18.5	129.8	34.9	–102.8	137.0	390.3	200.6	107.0	87.3	9.4
Emerging Market and Middle-Income Economies	–65.8	3.3	1.0	60.4	210.7	443.0	747.0	347.9	200.7	189.3	–21.5
Low-Income Developing Countries	–43.8	–32.4	–60.0	–68.1	–65.2	–70.7	–98.3	–70.8	–72.2	–84.8	–99.2

Table A10. Summary of Current Account Balances *(continued)*

(Percent of GDP)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	2025	2029
Advanced Economies	**0.8**	**1.0**	**0.8**	**0.8**	**0.3**	**1.0**	**–0.3**	**0.5**	**0.7**	**0.7**	**0.7**
United States	–2.1	–1.9	–2.1	–2.1	–2.8	–3.5	–3.8	–3.0	–2.5	–2.5	–2.1
Euro Area	3.0	3.1	2.8	2.4	1.8	2.8	–0.5	1.9	2.3	2.3	2.3
Germany	8.6	7.8	8.0	8.2	7.1	7.7	4.4	6.8	7.0	6.9	6.1
France	–0.5	–0.8	–0.8	0.5	–1.6	0.4	–2.0	–0.7	–0.6	–0.6	–0.1
Italy	2.6	2.7	2.6	3.3	3.9	2.4	–1.5	0.2	0.8	1.3	2.4
Spain	3.2	2.8	1.9	2.1	0.6	0.8	0.6	2.6	2.5	2.4	1.7
Japan	4.0	4.1	3.5	3.4	3.0	3.9	2.0	3.4	3.5	3.5	3.1
United Kingdom	–5.4	–3.5	–3.9	–2.7	–2.9	–0.5	–3.1	–2.2	–2.6	–2.8	–2.8
Canada	–3.1	–2.8	–2.4	–2.0	–2.0	0.0	–0.4	–0.6	0.3	0.4	–0.6
Other Advanced Economies[1]	5.0	4.7	4.5	4.7	5.2	7.0	7.0	6.4	6.6	6.5	6.0
Emerging Market and Developing Economies	**–0.4**	**–0.1**	**–0.2**	**0.0**	**0.4**	**0.9**	**1.5**	**0.6**	**0.3**	**0.2**	**–0.2**
Regional Groups											
Emerging and Developing Asia	1.3	0.9	–0.3	0.5	1.5	1.2	1.2	1.0	0.7	0.7	0.3
Emerging and Developing Europe	–0.3	–0.7	1.6	1.3	0.1	1.5	2.7	–0.5	–0.3	–0.5	–0.3
Latin America and the Caribbean	–2.2	–1.8	–2.7	–2.1	–0.3	–1.9	–2.4	–1.2	–1.0	–1.2	–1.3
Middle East and Central Asia	–4.0	–1.0	2.9	0.4	–3.5	3.4	8.4	4.0	1.8	1.4	–0.4
Sub-Saharan Africa	–3.5	–2.0	–2.0	–3.1	–2.7	–1.0	–2.0	–2.8	–2.8	–2.6	–2.2
Analytical Groups											
By Source of Export Earnings											
Fuel	–3.0	1.2	5.6	2.0	–3.2	5.4	11.4	5.6	3.8	3.0	1.0
Nonfuel	0.0	–0.2	–0.8	–0.2	0.8	0.5	0.4	0.1	–0.1	–0.1	–0.3
Of which, Primary Products	–2.6	–3.0	–3.6	–2.4	0.0	–0.7	–2.8	–2.5	–1.7	–1.7	–1.4
By External Financing Source											
Net Debtor Economies	–1.8	–1.9	–2.4	–1.7	–0.7	–2.0	–2.7	–1.3	–1.7	–1.7	–1.9
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2018–22	–5.7	–4.9	–3.8	–3.7	–2.4	–2.4	–2.1	–2.9	–4.1	–3.6	–2.3
Memorandum											
World	**0.3**	**0.5**	**0.4**	**0.4**	**0.4**	**0.9**	**0.5**	**0.5**	**0.5**	**0.5**	**0.3**
European Union	3.4	3.3	3.1	3.0	2.7	3.7	1.2	3.1	3.0	3.0	2.9
Middle East and North Africa	–4.1	–0.6	4.1	1.1	–3.8	4.2	10.0	5.3	2.7	2.1	0.2
Emerging Market and Middle-Income Economies	–0.2	0.0	0.0	0.2	0.7	1.2	1.9	0.8	0.5	0.4	0.0
Low-Income Developing Countries	–2.5	–1.9	–3.2	–3.4	–3.2	–3.3	–4.2	–3.1	–3.1	–3.4	–2.9

Table A10. Summary of Current Account Balances *(continued)*

(Percent of exports of goods and services)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	2025	2029
Advanced Economies	**2.7**	**3.2**	**2.5**	**2.5**	**1.2**	**3.1**	**–1.0**	**1.5**	**2.2**	**2.2**	**2.2**
United States	–17.7	–15.4	–17.3	–17.3	–27.6	–32.4	–32.2	–26.6	–23.1	–23.1	–19.2
Euro Area	11.1	11.2	10.1	8.4	6.7	10.0	–1.7	6.3	. . .	. . .	. . .
Germany	18.7	16.6	16.8	17.3	16.2	16.3	8.6	14.5	14.8	14.7	13.1
France	–1.5	–2.4	–2.5	1.6	–5.7	1.1	–5.6	–2.2	–1.7	–1.6	–0.3
Italy	9.0	8.6	8.3	10.3	13.2	7.6	–4.0	0.4	2.3	3.8	6.6
Spain	9.4	7.9	5.3	6.0	2.0	2.2	1.5	6.7	6.6	6.0	4.2
Japan	24.4	23.2	19.1	19.5	18.9	21.3	9.2	15.8	15.2	15.4	14.2
United Kingdom	–18.8	–11.3	–12.4	–8.5	–9.7	–1.6	–9.2	–6.9	–8.3	–9.2	–9.6
Canada	–9.8	–8.9	–7.4	–6.0	–6.8	0.0	–1.1	–1.8	1.0	1.1	–1.8
Other Advanced Economies[1]	9.0	8.3	7.7	8.2	9.7	11.9	11.0	10.5	10.8	10.5	9.7
Emerging Market and Developing Economies	**–1.4**	**–0.4**	**–0.8**	**–0.1**	**1.8**	**3.4**	**5.1**	**2.3**	**1.0**	**0.7**	**–0.8**
Regional Groups											
Emerging and Developing Asia	5.7	4.0	–1.2	2.1	7.3	5.1	4.8	4.1	2.9	3.0	1.3
Emerging and Developing Europe	–0.9	–1.9	4.2	3.3	0.1	3.8	6.5	–1.3	–0.9	–1.2	–0.9
Latin America and the Caribbean	–10.2	–8.3	–11.4	–8.9	–1.2	–7.2	–8.3	–4.6	–4.2	–4.7	–5.4
Middle East and Central Asia	–12.1	–3.1	6.5	0.8	–10.2	8.5	18.4	9.2	4.1	3.1	–1.4
Sub-Saharan Africa	–16.7	–8.8	–8.4	–13.4	–13.3	–4.2	–7.8	–11.1	–10.2	–9.8	–8.7
Analytical Groups											
By Source of Export Earnings											
Fuel	–8.2	2.9	12.5	4.5	–8.9	12.7	23.8	12.5	8.4	6.4	2.1
Nonfuel	–0.2	–1.0	–3.4	–1.0	3.4	2.0	1.4	0.4	–0.4	–0.3	–1.3
Of which, Primary Products	–11.9	–13.3	–14.9	–9.4	–0.1	–2.6	–9.7	–9.6	–5.9	–5.7	–4.7
By External Financing Source											
Net Debtor Economies	–6.8	–6.9	–8.5	–6.1	–2.6	–6.8	–8.3	–4.4	–5.6	–5.9	–6.7
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2018–22	–25.2	–18.1	–13.2	–13.1	–10.1	–9.1	–7.6	–10.5	–15.2	–12.8	–8.9
Memorandum											
World	**1.2**	**1.9**	**1.3**	**1.5**	**1.5**	**3.2**	**1.4**	**1.8**	**1.7**	**1.6**	**1.0**
European Union	7.2	6.7	6.2	6.1	5.8	7.3	2.2	5.8	5.8	5.7	5.3
Middle East and North Africa	–11.2	–1.9	8.5	2.3	–10.0	9.7	20.1	11.1	5.6	4.2	0.1
Emerging Market and Middle-Income Economies	–0.9	0.0	–0.1	0.6	2.7	4.2	6.2	3.0	1.6	1.5	–0.2
Low-Income Developing Countries	–15.0	–9.7	–15.7	–17.0	–19.1	–17.3	–20.1	–14.5	–13.8	–15.1	–13.4

[1] Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, the United Kingdom, United States) and euro area countries.

Table A11. Advanced Economies: Current Account Balance

(Percent of GDP)

									Projections		
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2029
Advanced Economies	**0.8**	**1.0**	**0.8**	**0.8**	**0.3**	**1.0**	**–0.3**	**0.5**	**0.7**	**0.7**	**0.7**
United States	–2.1	–1.9	–2.1	–2.1	–2.8	–3.5	–3.8	–3.0	–2.5	–2.5	–2.1
Euro Area[1]	3.0	3.1	2.8	2.4	1.8	2.8	–0.5	1.9	2.3	2.3	2.3
Germany	8.6	7.8	8.0	8.2	7.1	7.7	4.4	6.8	7.0	6.9	6.1
France	–0.5	–0.8	–0.8	0.5	–1.6	0.4	–2.0	–0.7	–0.6	–0.6	–0.1
Italy	2.6	2.7	2.6	3.3	3.9	2.4	–1.5	0.2	0.8	1.3	2.4
Spain	3.2	2.8	1.9	2.1	0.6	0.8	0.6	2.6	2.5	2.4	1.7
The Netherlands	7.1	8.9	9.3	6.9	5.1	12.1	9.3	10.2	9.1	8.8	8.7
Belgium	0.6	0.7	–0.9	0.1	1.4	1.3	–1.0	–0.1	–0.5	–0.4	0.2
Ireland	–4.2	0.5	4.9	–19.9	–6.5	13.7	10.8	9.9	10.4	9.6	7.3
Austria	2.7	1.4	0.9	2.4	3.4	1.6	–0.3	1.8	2.1	2.1	1.9
Portugal	1.2	1.3	0.6	0.4	–1.0	–0.8	–1.1	1.4	1.6	1.5	0.8
Greece	–2.4	–2.6	–3.6	–2.2	–7.3	–7.1	–10.7	–6.9	–6.5	–5.3	–3.0
Finland	–2.0	–0.8	–1.8	–0.3	0.5	0.4	–2.6	–1.0	–0.6	–0.4	0.0
Slovak Republic	–2.7	–1.9	–2.2	–3.3	0.6	–2.5	–8.2	–2.1	–4.4	–3.6	–2.0
Croatia	2.2	3.3	1.6	2.5	–1.0	1.0	–2.8	1.2	1.5	0.9	–0.1
Lithuania	–1.1	0.5	0.3	3.5	7.3	1.1	–5.5	2.6	1.3	1.3	1.5
Slovenia	4.8	6.2	5.9	5.9	7.2	3.3	–1.0	4.5	2.7	2.1	2.0
Luxembourg	4.7	4.5	6.5	8.9	8.6	7.9	7.6	7.4	7.4	7.6	7.6
Latvia	1.6	1.2	–0.2	–0.6	2.9	–3.9	–4.8	–4.0	–3.8	–3.9	–3.1
Estonia	1.2	2.3	0.9	2.5	–1.9	–2.6	–3.2	–1.7	–3.4	–2.7	–1.8
Cyprus	–4.2	–5.0	–4.0	–5.6	–10.0	–6.1	–7.9	–9.3	–8.6	–8.5	–8.2
Malta	–0.6	5.9	5.6	9.0	2.2	1.2	–3.0	1.9	2.5	2.7	2.7
Japan	4.0	4.1	3.5	3.4	3.0	3.9	2.0	3.4	3.5	3.5	3.1
United Kingdom	–5.4	–3.5	–3.9	–2.7	–2.9	–0.5	–3.1	–2.2	–2.6	–2.8	–2.8
Korea	6.5	4.6	4.5	3.6	4.6	4.7	1.5	2.1	2.9	3.4	4.5
Canada	–3.1	–2.8	–2.4	–2.0	–2.0	0.0	–0.4	–0.6	0.3	0.4	–0.6
Australia	–3.3	–2.6	–2.2	0.4	2.2	2.9	1.1	1.2	0.5	–0.2	–0.5
Taiwan Province of China	13.1	14.1	11.6	10.7	14.4	15.3	13.3	13.1	13.9	13.9	13.9
Switzerland	7.3	5.3	5.6	4.1	0.5	6.9	9.4	7.6	8.2	7.6	7.6
Singapore	17.8	18.2	16.0	16.0	16.6	19.8	18.0	19.8	18.0	17.8	14.3
Sweden	2.2	2.8	2.5	5.3	5.9	7.1	5.8	6.2	6.0	5.3	4.1
Czech Republic	1.8	1.5	0.4	0.3	2.0	–2.8	–6.1	1.2	0.6	1.0	1.6
Hong Kong SAR	4.0	4.6	3.7	5.9	7.0	11.8	10.2	9.4	8.8	8.3	8.0
Israel[2]	3.8	3.7	3.0	3.2	4.9	3.9	3.9	4.7	5.6	4.2	3.5
Norway	5.2	6.3	9.0	3.8	1.1	14.9	30.2	17.7	19.5	20.7	16.2
Denmark	7.8	8.0	7.3	8.5	8.1	9.1	13.4	10.9	9.9	9.7	8.9
New Zealand	–2.0	–2.8	–4.2	–2.8	–1.0	–5.8	–8.8	–6.9	–6.0	–5.4	–3.7
Puerto Rico	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Macao SAR	26.5	30.8	33.0	33.7	14.3	8.7	11.4	30.2	32.5	34.8	30.2
Iceland	8.1	4.2	4.3	6.5	0.9	–2.7	–1.7	1.0	1.0	0.8	1.5
Andorra	. . .	. . .	. . .	18.0	15.5	14.1	17.3	17.3	17.5	17.5	17.9
San Marino	. . .	–0.4	–1.9	2.0	2.8	6.5	8.0	4.1	2.9	2.1	1.3
Memorandum											
Major Advanced Economies	–0.2	0.0	–0.2	0.1	–0.6	–0.6	–2.0	–1.0	–0.7	–0.7	–0.6
Euro Area[3]	3.6	3.5	3.4	3.2	2.7	4.1	1.4	3.2	3.2	3.3	3.2

[1] Data corrected for reporting discrepancies in intra-area transactions.

[2] See the country-specific note for Israel in the "Country Notes" section of the Statistical Appendix.

[3] Data calculated as the sum of the balances of individual euro area countries.

Table A12. Emerging Market and Developing Economies: Current Account Balance

(Percent of GDP)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	2025	2029
Emerging and Developing Asia	**1.3**	**0.9**	**–0.3**	**0.5**	**1.5**	**1.2**	**1.2**	**1.0**	**0.7**	**0.7**	**0.3**
Bangladesh	1.6	–0.5	–3.0	–1.3	–1.5	–1.1	–4.1	–0.7	–0.8	–2.7	–3.0
Bhutan	–29.4	–22.1	–17.4	–19.2	–14.8	–11.2	–28.1	–34.5	–12.3	–6.4	–8.6
Brunei Darussalam	12.9	16.4	6.9	6.6	4.3	11.2	19.6	19.0	18.6	18.5	16.7
Cambodia	–6.4	–6.0	–8.7	–8.0	–2.5	–31.0	–19.2	1.3	–3.5	–4.1	–4.2
China	1.7	1.5	0.2	0.7	1.7	2.0	2.3	1.5	1.3	1.4	1.1
Fiji	–3.5	–6.6	–8.5	–12.8	–13.7	–15.9	–17.3	–4.7	–6.3	–6.8	–7.6
India	–0.6	–1.8	–2.1	–0.9	0.9	–1.2	–2.0	–1.2	–1.4	–1.6	–2.3
Indonesia	–1.8	–1.6	–2.9	–2.7	–0.4	0.3	1.0	–0.1	–0.9	–1.3	–1.3
Kiribati	9.3	31.6	32.6	40.0	31.8	7.0	–2.4	10.2	9.7	9.2	7.9
Lao P.D.R.	–8.7	–7.4	–9.1	–7.0	–1.2	2.4	–0.1	–0.3	1.7	1.7	–4.7
Malaysia	2.4	2.8	2.2	3.5	4.2	3.9	3.1	1.2	2.4	2.7	3.0
Maldives	–23.6	–21.0	–28.4	–26.6	–34.8	–8.4	–16.1	–22.8	–19.4	–13.9	–9.9
Marshall Islands	10.0	–0.9	–2.0	–31.3	15.0	22.5	17.5	11.5	6.2	1.7	–11.4
Micronesia	7.3	10.5	21.6	16.1	–5.9	2.2	8.5	3.3	0.8	0.8	–0.5
Mongolia	–6.3	–10.1	–16.7	–15.2	–5.1	–13.8	–13.4	1.2	–7.5	–9.2	–7.3
Myanmar	–4.2	–6.8	–4.7	–2.8	–3.5	–0.3	–4.6	–6.1	–6.3	–6.3	–4.2
Nauru	4.2	12.4	7.6	4.6	2.5	3.8	–0.5	3.4	4.9	–1.2	–1.5
Nepal	5.5	–0.3	–7.1	–6.9	–1.0	–7.7	–12.7	–1.4	1.5	–2.0	–2.0
Palau	–16.2	–22.9	–19.0	–30.8	–47.2	–43.3	–54.7	–40.8	–26.4	–21.3	–12.2
Papua New Guinea	13.7	15.9	12.9	14.8	14.1	13.3	16.7	16.6	12.2	14.4	9.3
Philippines	–0.4	–0.7	–2.6	–0.8	3.2	–1.5	–4.5	–2.6	–2.2	–1.6	–0.9
Samoa	–4.2	–1.8	0.8	2.8	0.6	–14.5	–11.3	–4.8	–2.1	–2.2	–2.1
Solomon Islands	–3.5	–4.3	–3.0	–9.5	–1.6	–5.3	–14.2	–9.8	–4.7	–6.1	–3.8
Sri Lanka[1]	–2.0	–2.4	–3.0	–2.1	–1.4	–3.7	–1.0	. . .	. . .	. . .	. . .
Thailand	10.5	9.6	5.6	7.0	4.2	–2.0	–3.2	1.3	1.7	2.0	2.9
Timor-Leste	–33.0	–17.5	–12.1	18.4	–13.0	4.2	8.5	–16.0	–42.0	–43.7	–47.1
Tonga	–6.5	–6.4	–6.3	–0.8	–5.3	–5.2	–6.3	–6.8	–7.3	–7.3	–7.7
Tuvalu	29.9	2.1	60.9	–22.2	16.3	24.1	4.6	2.7	–1.2	–4.5	–4.5
Vanuatu	–2.4	–8.0	3.3	7.8	–6.1	–8.0	–12.5	–4.7	–4.3	–3.1	–2.1
Vietnam	0.2	–0.6	1.9	3.8	4.3	–2.2	0.0	5.1	2.3	2.0	0.9
Emerging and Developing Europe	**–0.3**	**–0.7**	**1.6**	**1.3**	**0.1**	**1.5**	**2.7**	**–0.5**	**–0.3**	**–0.5**	**–0.3**
Albania	–7.6	–7.5	–6.8	–7.6	–8.7	–7.7	–6.0	–3.7	–3.8	–4.1	–3.5
Belarus	–3.4	–1.7	0.0	–1.9	–0.3	3.2	3.5	–0.1	–0.5	–1.3	–0.7
Bosnia and Herzegovina	–4.7	–4.8	–3.2	–2.6	–2.8	–1.8	–4.3	–4.3	–4.5	–4.3	–3.9
Bulgaria	3.1	3.3	0.9	1.9	0.0	–1.7	–1.4	0.3	–0.3	–1.2	–0.4
Hungary	4.5	2.0	0.2	–0.8	–1.1	–4.2	–8.2	0.3	–0.2	–0.3	0.1
Kosovo	–8.0	–5.5	–7.6	–5.7	–7.0	–8.7	–10.6	–7.6	–6.9	–5.8	–4.6
Moldova	–3.6	–5.8	–10.8	–9.4	–7.7	–12.4	–15.8	–12.8	–11.5	–10.3	–8.3
Montenegro	–16.2	–16.1	–17.0	–14.3	–26.1	–9.2	–12.9	–11.4	–12.4	–13.5	–13.6
North Macedonia	–2.6	–0.8	0.2	–3.0	–2.9	–2.8	–6.1	0.7	–0.8	–2.7	–2.6
Poland	–1.0	–1.1	–1.9	–0.2	2.5	–1.2	–2.4	1.6	0.7	–0.2	–1.0
Romania	–1.6	–3.1	–4.6	–4.9	–4.9	–7.2	–9.1	–7.1	–7.1	–6.8	–6.0
Russia	1.9	2.0	7.0	3.9	2.4	6.6	10.5	2.5	2.7	2.7	3.0
Serbia	–2.9	–5.2	–4.8	–6.9	–4.1	–4.3	–6.9	–2.6	–3.9	–4.7	–5.4
Türkiye	–3.1	–4.7	–2.6	1.4	–4.4	–0.9	–5.4	–4.1	–2.8	–2.2	–1.8
Ukraine	–1.5	–2.2	–3.3	–2.7	3.3	–1.9	5.0	–5.5	–5.7	–8.2	–4.5
Latin America and the Caribbean	**–2.2**	**–1.8**	**–2.7**	**–2.1**	**–0.3**	**–1.9**	**–2.4**	**–1.2**	**–1.0**	**–1.2**	**–1.3**
Antigua and Barbuda	–2.5	–8.0	–14.5	–6.7	–15.8	–18.4	–16.2	–13.5	–11.1	–10.6	–9.3
Argentina	–2.7	–4.8	–5.2	–0.8	0.7	1.4	–0.7	–3.5	0.9	0.9	1.5
Aruba	4.6	1.0	–0.5	0.3	–15.7	–1.7	6.4	4.6	6.5	6.6	3.6
The Bahamas	–12.5	–13.5	–9.5	–2.2	–23.4	–21.1	–8.2	–7.5	–6.7	–6.1	–5.4
Barbados	–4.3	–3.8	–4.0	–2.6	–5.9	–11.0	–10.7	–8.1	–7.0	–6.2	–5.1
Belize	–7.3	–7.0	–6.6	–7.7	–6.2	–6.5	–8.3	–2.9	–2.1	–2.1	–2.1
Bolivia	–5.6	–5.0	–4.3	–3.3	0.0	2.6	–0.4	–5.0	–5.7	–5.8	–5.2
Brazil	–1.7	–1.2	–2.9	–3.6	–1.9	–2.8	–2.5	–1.3	–1.4	–1.5	–2.0
Chile	–2.6	–2.8	–4.5	–5.2	–1.9	–7.3	–8.7	–3.5	–3.9	–3.7	–3.0
Colombia	–4.5	–3.2	–4.2	–4.6	–3.4	–5.6	–6.2	–2.7	–3.0	–3.3	–3.6

Table A12. Emerging Market and Developing Economies: Current Account Balance *(continued)*

(Percent of GDP)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	2025	2029
Latin America and the Caribbean *(continued)*	**–2.2**	**–1.8**	**–2.7**	**–2.1**	**–0.3**	**–1.9**	**–2.4**	**–1.2**	**–1.0**	**–1.2**	**–1.3**
Costa Rica	–2.1	–3.6	–3.0	–1.3	–1.0	–3.2	–3.7	–1.4	–2.1	–1.9	–1.4
Dominica	–9.0	–11.0	–46.7	–38.1	–37.4	–32.9	–26.7	–26.2	–20.1	–18.1	–11.8
Dominican Republic	–1.1	–0.2	–1.5	–1.3	–1.7	–2.8	–5.6	–3.9	–3.7	–3.5	–3.2
Ecuador	1.1	–0.2	–1.2	–0.2	2.3	2.9	1.8	1.2	0.9	1.2	1.3
El Salvador	–2.3	–1.9	–3.3	–0.4	1.6	–4.4	–6.7	–1.4	–2.6	–2.7	–3.0
Grenada	–8.8	–11.5	–12.8	–10.4	–16.1	–14.5	–11.0	–14.9	–17.0	–13.3	–10.7
Guatemala	1.0	1.2	0.9	2.4	5.0	2.2	1.3	2.9	2.4	1.9	0.5
Guyana	1.5	–4.9	–29.0	–68.8	–16.3	–25.9	23.7	20.2	22.9	15.3	36.6
Haiti	–1.7	–2.2	–2.9	–1.1	0.4	0.4	–2.3	–3.2	–0.8	–1.2	–0.9
Honduras	–3.1	–1.2	–6.6	–2.6	2.8	–5.4	–6.6	–4.0	–4.3	–4.1	–3.9
Jamaica	–0.3	–2.7	–1.5	–1.9	–1.1	1.0	–0.8	1.5	0.3	–0.9	–1.9
Mexico	–2.3	–1.8	–2.1	–0.3	2.4	–0.3	–1.2	–0.3	–0.8	–0.8	–0.9
Nicaragua	–8.5	–7.2	–1.8	5.9	3.6	–3.1	–1.6	4.5	3.1	1.9	0.9
Panama	–7.5	–5.8	–7.9	–5.8	–0.3	–3.0	–3.9	2.0	–2.1	–3.4	–2.2
Paraguay	4.6	3.3	–0.2	–0.6	1.9	–0.9	–7.1	0.2	0.6	1.5	1.3
Peru	–2.2	–0.8	–1.2	–0.6	1.1	–2.2	–4.0	0.6	–1.1	–1.4	–1.5
St. Kitts and Nevis	–12.1	–10.2	–5.8	–4.8	–10.8	–5.1	–10.9	–5.4	–6.5	–8.6	–1.8
St. Lucia	–6.5	–2.0	1.4	5.5	–18.6	–12.0	–2.9	–6.7	–5.5	–4.5	–0.1
St. Vincent and the Grenadines	–12.9	–11.7	–10.3	–2.4	–15.8	–22.6	–19.3	–17.6	–16.8	–14.9	–8.9
Suriname	–4.8	1.9	–3.0	–11.2	8.9	5.7	2.1	2.4	2.1	1.8	1.3
Trinidad and Tobago	–3.3	5.9	6.6	4.3	–6.5	11.0	17.9	9.1	5.7	6.5	6.9
Uruguay	0.8	0.0	–0.5	1.2	–0.8	–2.5	–4.0	–3.9	–3.6	–3.2	–2.2
Venezuela[1]	–3.4	7.5	8.4	5.9	–3.5	–1.2	3.6	3.4	4.7	4.0	...
Middle East and Central Asia	**–4.0**	**–1.0**	**2.9**	**0.4**	**–3.5**	**3.4**	**8.4**	**4.0**	**1.8**	**1.4**	**–0.4**
Afghanistan[1]	9.0	7.6	12.1	11.7	14.0	...	...	...	...	...	...
Algeria	–14.6	–11.8	–8.7	–8.7	–11.3	–2.4	8.4	2.2	0.1	–1.5	–3.8
Armenia	–1.0	–1.3	–7.2	–7.1	–4.0	–3.5	0.8	–1.9	–2.8	–3.6	–5.0
Azerbaijan	–3.6	4.1	12.8	9.1	–0.5	15.1	29.8	9.9	8.5	8.1	4.3
Bahrain	–4.6	–4.1	–6.4	–2.1	–9.4	6.6	15.4	6.3	6.9	5.3	0.5
Djibouti	–1.0	–4.8	14.7	18.3	11.5	–6.6	17.6	23.5	5.1	4.0	5.2
Egypt	–5.6	–5.8	–2.3	–3.4	–2.9	–4.4	–3.5	–1.2	–6.3	–2.4	–2.[6]
Georgia	–12.2	–7.9	–6.7	–5.8	–12.4	–10.3	–4.5	–4.3	–5.8	–5.6	–5.5
Iran	2.9	3.1	7.9	–0.7	–0.4	3.9	4.1	4.4	3.6	3.4	3.2
Iraq	–7.9	–5.3	3.9	–0.7	–15.0	6.9	16.8	2.6	–3.6	–5.1	–8.8
Jordan	–9.7	–10.6	–6.8	–1.7	–5.7	–8.0	–7.9	–7.0	–6.3	–4.5	–4.3
Kazakhstan	–5.1	–2.1	–1.0	–3.9	–6.4	–1.4	3.1	–3.8	–4.5	–2.7	–4.3
Kuwait	–4.6	8.0	14.4	12.9	4.5	26.4	34.5	32.8	30.1	27.1	17.1
Kyrgyz Republic	–11.6	–6.2	–12.1	–11.5	4.5	–8.0	–43.6	–30.4	–9.5	–8.0	–5.0
Lebanon[1]	–23.5	–26.5	–28.9	–28.3	–16.1	–17.5	–36.1	...	...	...	...
Libya	–9.4	6.6	14.7	6.7	–10.2	16.1	28.6	15.7	20.4	20.8	11.7
Mauritania	–11.0	–10.0	–13.1	–10.5	–6.8	–8.5	–15.5	–11.2	–11.7	–9.2	–7.4
Morocco	–3.8	–3.2	–4.9	–3.4	–1.2	–2.3	–3.5	–1.5	–2.6	–2.9	–3.2
Oman	–16.6	–13.6	–4.9	–4.9	–16.5	–5.5	4.9	1.8	2.7	2.1	1.9
Pakistan	–1.6	–3.6	–5.4	–4.2	–1.5	–0.8	–4.7	–0.7	–1.1	–1.2	–1.5
Qatar	–5.5	4.0	9.1	2.4	–2.1	14.6	26.7	18.7	15.6	13.2	10.2
Saudi Arabia	–3.7	1.7	8.6	4.6	–3.5	4.8	13.7	3.9	0.5	–0.6	–2.9
Somalia	–5.5	1.7	0.0	–8.9	–4.4	–6.8	–8.0	–9.6	–8.7	–8.8	–10.5
Sudan[1]	–6.5	–9.4	–14.0	–14.2	–16.9	–7.5	–11.2	–5.4	–6.9	–11.0	–10.4
Syria[1]	...	...	...	...	...	...	...	...	...	...	...
Tajikistan	–4.2	2.1	–4.9	–2.2	4.1	8.2	15.6	–0.7	–2.1	–2.2	–2.7
Tunisia	–8.8	–9.7	–10.4	–7.8	–5.9	–6.0	–8.6	–2.5	–3.5	–3.7	–4.2
Turkmenistan	–22.6	–13.6	6.1	2.9	2.9	6.6	7.0	4.8	4.1	2.8	–1.4
United Arab Emirates	3.6	7.0	9.7	8.9	6.0	11.5	11.6	9.3	7.8	6.9	6.4
Uzbekistan	0.2	2.4	–6.8	–5.6	–5.0	–7.0	–0.8	–4.9	–4.9	–4.5	–4.9
West Bank and Gaza[1]	–13.9	–13.2	–13.1	–10.4	–12.3	–9.8	–10.6	–13.1	...	...	...
Yemen	–5.4	–1.5	–3.2	–4.2	–15.6	–14.2	–17.8	–19.1	–23.7	–21.5	0.6

Table A12. Emerging Market and Developing Economies: Current Account Balance *(continued)*

(Percent of GDP)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	2025	2029
Sub-Saharan Africa	**–3.5**	**–2.0**	**–2.0**	**–3.1**	**–2.7**	**–1.0**	**–2.0**	**–2.8**	**–2.8**	**–2.6**	**–2.2**
Angola	–3.1	–0.5	7.3	6.1	1.5	11.2	9.6	3.1	4.9	4.6	3.9
Benin	–3.0	–4.2	–4.6	–4.0	–1.7	–4.2	–6.0	–5.6	–5.0	–4.6	–4.2
Botswana	8.0	5.6	0.4	–6.9	–10.3	–1.3	3.0	–0.4	–1.2	2.5	0.9
Burkina Faso	–6.1	–5.0	–4.2	–3.3	4.2	0.4	–7.2	–7.9	–5.7	–4.1	–2.2
Burundi	–11.1	–11.7	–11.4	–11.6	–9.7	–11.6	–16.2	–13.3	–17.3	–15.3	–11.5
Cabo Verde	–3.4	–7.0	–4.8	0.2	–15.3	–12.2	–3.4	–5.3	–6.1	–6.3	–3.2
Cameroon	–3.1	–2.6	–3.5	–4.3	–3.7	–4.0	–3.4	–2.8	–2.8	–2.8	–2.8
Central African Republic	–5.4	–7.8	–8.0	–4.9	–8.2	–11.1	–12.7	–9.0	–7.7	–6.7	–6.8
Chad	–4.6	–6.0	–4.2	–3.3	–2.8	–1.9	5.4	–2.5	–2.3	–3.0	–2.7
Comoros	–4.4	–2.2	–3.0	–3.5	–1.8	–0.3	–0.5	–6.0	–5.8	–5.3	–4.0
Democratic Republic of the Congo	–3.9	–3.1	–3.5	–3.2	–2.1	–1.0	–5.0	–5.4	–4.1	–3.2	–3.0
Republic of Congo	–45.3	–3.9	18.3	11.6	12.6	12.8	18.5	3.2	2.5	–0.1	–3.2
Côte d'Ivoire	–0.9	–2.0	–3.9	–2.2	–3.1	–3.9	–7.7	–6.0	–3.8	–2.6	–1.6
Equatorial Guinea	–26.0	–7.8	–2.7	–7.5	–0.8	4.2	2.4	–1.3	–2.7	–2.7	–7.8
Eritrea[1]	13.4	24.8	15.5	13.0	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Eswatini	7.9	6.2	1.3	3.9	7.1	2.6	–2.7	2.2	2.1	1.1	0.0
Ethiopia	–10.9	–8.5	–6.5	–5.3	–4.6	–3.2	–4.3	–2.9	–2.6	–1.7	–1.7
Gabon	–5.4	–0.7	7.1	4.6	–0.5	3.3	10.4	4.2	4.0	3.0	0.5
The Gambia	–9.2	–7.4	–9.5	–6.2	–3.0	–4.2	–4.2	–4.1	–4.4	–3.1	–1.2
Ghana	–5.1	–3.3	–3.0	–2.2	–2.5	–2.7	–2.1	–1.7	–1.9	–2.2	–2.4
Guinea	–30.7	–6.7	–18.5	–15.5	–16.2	–2.5	–8.6	–8.7	–10.6	–10.0	–8.6
Guinea-Bissau	1.4	0.3	–3.5	–8.5	–2.6	–0.8	–9.6	–9.4	–5.6	–4.6	–4.1
Kenya	–5.4	–7.0	–5.4	–5.2	–4.7	–5.2	–5.2	–3.9	–4.3	–4.2	–4.1
Lesotho	–7.8	–4.0	–3.5	–2.5	–1.8	–5.4	–9.6	–2.9	–1.1	–7.0	–3.9
Liberia	–23.0	–22.3	–21.3	–19.6	–16.4	–17.8	–19.0	–26.5	–24.8	–24.5	–19.3
Madagascar	0.5	–0.4	0.7	–2.3	–5.4	–4.9	–5.4	–4.5	–4.8	–4.7	–4.7
Malawi	–13.1	–15.5	–12.0	–12.6	–13.8	–14.1	–3.2	–6.9	–7.1	–9.4	–6.8
Mali	–7.2	–7.3	–4.9	–7.5	–2.2	–7.4	–8.0	–9.0	–5.1	–4.4	–3.8
Mauritius	–3.9	–4.5	–3.8	–5.0	–8.8	–13.0	–11.5	–5.9	–5.3	–4.8	–4.5
Mozambique	–31.9	–19.5	–31.8	–19.0	–27.4	–22.6	–34.7	–11.0	–38.7	–42.9	–9.2
Namibia	–16.5	–4.4	–3.6	–1.8	3.0	–11.2	–13.1	–10.9	–7.2	–6.6	–6.3
Niger	–11.4	–11.4	–12.7	–12.2	–13.2	–14.1	–16.2	–12.8	–5.1	–4.3	–3.7
Nigeria	1.3	3.6	1.7	–3.1	–3.7	–0.7	0.2	0.3	0.6	–0.1	–0.9
Rwanda	–15.3	–9.5	–10.1	–11.9	–12.1	–11.2	–9.8	–11.7	–12.1	–9.8	–7.7
São Tomé and Príncipe	–7.2	–15.3	–13.2	–12.7	–11.2	–12.1	–13.1	–12.9	–9.2	–8.9	–6.7
Senegal	–4.2	–7.3	–8.8	–7.9	–10.9	–12.1	–19.9	–15.1	–8.9	–4.8	–4.2
Seychelles	–18.7	–17.9	–2.4	–2.8	–12.3	–10.1	–6.9	–7.3	–8.4	–8.5	–8.6
Sierra Leone	–7.6	–18.3	–17.1	–19.4	–7.9	–9.5	–11.0	–4.0	–2.8	–3.7	–4.2
South Africa	–2.7	–2.4	–2.9	–2.6	1.9	3.7	–0.5	–1.6	–1.8	–1.9	–2.2
South Sudan	19.6	9.6	11.0	2.1	–18.9	–9.4	9.7	1.7	3.9	5.7	1.4
Tanzania	–4.2	–2.9	–3.5	–3.0	–2.5	–3.8	–5.6	–5.3	–4.2	–3.6	–2.2
Togo	–7.2	–1.5	–2.6	–0.8	–0.3	–2.2	–4.2	–3.4	–3.9	–3.6	–2.3
Uganda	–2.6	–4.8	–6.1	–6.9	–9.5	–9.3	–8.8	–7.7	–7.3	–7.6	–5.0
Zambia	–3.3	–1.7	–1.3	0.4	10.6	9.7	3.7	–1.8	3.7	5.2	8.8
Zimbabwe	–3.4	–1.2	–3.7	3.5	2.5	1.0	1.0	0.4	0.2	1.0	1.1

[1] See the country-specific notes for Afghanistan, Eritrea, Lebanon, Sri Lanka, Sudan, Syria, Venezuela, and West Bank and Gaza in the "Country Notes" section of the Statistical Appendix.

Table A13. Summary of Financial Account Balances

(Billions of US dollars)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	Projections 2025
Advanced Economies										
Financial Account Balance	426.9	393.6	416.5	141.2	–5.8	552.6	58.1	310.7	482.7	480.6
Direct Investment, Net	–293.6	295.3	–130.6	18.4	35.6	723.9	631.6	440.0	238.1	250.5
Portfolio Investment, Net	519.0	17.1	475.6	64.0	204.4	336.0	–780.8	–602.2	–87.8	–70.2
Financial Derivatives, Net	17.7	24.7	48.8	15.2	75.1	37.3	19.6	87.7	73.5	79.9
Other Investment, Net	5.5	–191.2	–106.9	–24.5	–680.6	–1,180.7	399.2	406.3	106.1	53.0
Change in Reserves	190.0	247.7	129.5	68.0	358.9	636.2	–211.4	–21.7	152.1	166.7
United States										
Financial Account Balance	–362.4	–373.2	–302.9	–558.4	–668.9	–788.8	–804.8	–811.2	–736.6	–762.5
Direct Investment, Net	–174.6	28.6	–345.4	–201.1	148.3	–99.0	38.2	–29.4	–89.7	–92.3
Portfolio Investment, Net	–193.8	–250.1	78.8	–244.9	–540.2	97.3	–437.7	–856.4	–182.1	–164.4
Financial Derivatives, Net	7.8	24.0	–20.4	–41.7	–5.1	–39.0	–80.7	–12.2	–28.2	–29.2
Other Investment, Net	–4.0	–174.1	–20.8	–75.4	–280.9	–862.0	–330.4	85.4	–436.7	–476.6
Change in Reserves	2.1	–1.7	5.0	4.7	9.0	114.0	5.8	1.5	0.0	0.0
Euro Area										
Financial Account Balance	316.8	373.7	353.0	266.9	232.9	485.2	87.8	358.1	. . .	. . .
Direct Investment, Net	124.3	35.5	104.7	118.6	–197.3	472.2	317.6	55.3	. . .	. . .
Portfolio Investment, Net	530.4	402.4	273.7	–95.6	613.3	363.9	–301.4	–49.8	. . .	. . .
Financial Derivatives, Net	21.7	10.4	46.8	7.0	22.3	75.4	76.0	26.4	. . .	. . .
Other Investment, Net	–376.9	–73.5	–102.1	230.2	–220.4	–580.6	–23.2	339.7	. . .	. . .
Change in Reserves	17.3	–1.2	29.8	6.7	15.0	154.3	18.9	–13.5	. . .	. . .
Germany										
Financial Account Balance	286.5	303.0	287.0	224.3	218.5	294.2	240.0	314.1	321.7	329.1
Direct Investment, Net	48.1	37.7	25.1	98.4	–5.6	118.8	132.0	101.7	126.8	131.7
Portfolio Investment, Net	217.9	220.7	177.4	82.9	18.7	240.9	25.6	8.5	98.9	49.9
Financial Derivatives, Net	31.7	12.6	26.8	23.0	107.9	71.2	45.0	47.3	53.7	52.3
Other Investment, Net	–13.0	33.5	57.2	20.6	97.5	–174.5	32.7	155.6	42.3	95.2
Change in Reserves	1.9	–1.4	0.5	–0.6	–0.1	37.7	4.7	1.0	0.0	0.0
France										
Financial Account Balance	–18.6	–36.1	–28.4	–0.1	–56.5	5.5	–60.8	–77.8	–10.2	–9.8
Direct Investment, Net	41.8	11.1	60.2	30.7	10.2	13.8	11.6	47.0	42.7	40.8
Portfolio Investment, Net	0.2	30.3	19.3	–70.4	–29.7	14.9	–125.8	–129.1	–23.5	–2.8
Financial Derivatives, Net	–17.6	–1.4	–30.5	4.1	–27.2	21.0	–43.1	–18.3	–13.1	–10.4
Other Investment, Net	–45.4	–72.7	–89.7	32.3	–14.4	–71.2	94.4	44.3	–7.6	–35.8
Change in Reserves	2.5	–3.4	12.3	3.2	4.6	27.0	2.0	–21.7	–8.6	–1.7
Italy										
Financial Account Balance	38.1	62.4	40.6	59.7	82.7	58.7	–7.2	44.9	26.3	39.8
Direct Investment, Net	–12.3	0.5	–6.1	1.6	21.5	29.4	–15.6	10.0	6.5	6.9
Portfolio Investment, Net	157.8	103.1	157.1	–55.7	132.6	148.1	171.0	–33.5	–73.2	–33.2
Financial Derivatives, Net	–3.6	–8.4	–3.3	3.0	–2.8	0.0	12.0	–0.1	0.2	0.3
Other Investment, Net	–102.5	–35.9	–110.2	107.1	–73.1	–143.3	–176.6	65.5	92.8	65.7
Change in Reserves	–1.3	3.0	3.1	3.6	4.6	24.5	2.1	3.0	0.0	0.0
Spain										
Financial Account Balance	39.2	39.9	38.3	28.9	8.7	27.9	27.5	65.2	57.9	56.4
Direct Investment, Net	12.4	14.1	–19.9	8.9	18.1	–20.1	–0.7	–4.2	–4.4	–4.7
Portfolio Investment, Net	64.9	37.1	28.1	–55.7	88.1	43.1	44.1	–18.3	37.0	46.8
Financial Derivatives, Net	2.9	8.7	–1.2	–8.0	–8.0	2.2	2.2	–3.4	0.0	0.0
Other Investment, Net	–50.1	–24.0	28.7	82.9	–89.1	–9.4	–22.6	84.6	25.3	14.3
Change in Reserves	9.1	4.1	2.6	0.8	–0.4	12.2	4.7	6.5	0.0	0.0

Table A13. Summary of Financial Account Balances *(continued)*

(Billions of US dollars)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	Projections 2025
Japan										
Financial Account Balance	266.5	168.3	183.9	228.3	132.2	153.5	48.4	163.1	140.0	147.4
Direct Investment, Net	137.5	155.0	134.6	218.9	87.5	174.9	122.4	159.0	122.4	116.7
Portfolio Investment, Net	276.3	–50.6	92.2	87.4	38.5	–198.3	–143.0	196.6	–28.3	–42.2
Financial Derivatives, Net	–16.1	30.4	0.9	3.2	7.8	19.9	38.4	44.5	44.5	44.5
Other Investment, Net	–125.6	10.0	–67.9	–106.7	–12.4	94.1	78.0	–266.7	–10.1	16.8
Change in Reserves	–5.7	23.6	24.0	25.5	10.9	62.8	–47.4	29.8	11.5	11.5
United Kingdom										
Financial Account Balance	–159.8	–102.4	–124.0	–98.5	–94.4	–23.7	–74.3	–77.0	–94.2	–107.5
Direct Investment, Net	–297.4	46.1	–4.9	–42.2	–140.4	156.1	80.7	6.7	7.0	7.4
Portfolio Investment, Net	–160.1	–92.8	–354.9	34.9	38.3	–262.6	–44.3	–181.5	–189.6	–199.9
Financial Derivatives, Net	15.6	19.3	10.3	2.5	33.1	–37.5	–59.8	5.8	6.1	6.4
Other Investment, Net	273.2	–83.7	200.7	–92.5	–22.2	95.9	–49.6	92.0	82.3	78.7
Change in Reserves	8.8	8.8	24.8	–1.1	–3.3	24.4	–1.3	0.0	0.0	0.0
Canada										
Financial Account Balance	–45.4	–44.2	–35.8	–37.9	–34.3	8.3	–2.4	–14.7	7.2	8.8
Direct Investment, Net	33.5	53.4	20.4	26.9	18.1	44.5	36.8	39.3	14.3	24.6
Portfolio Investment, Net	–103.6	–74.9	3.4	–1.6	–67.7	–44.7	–114.6	15.3	–39.6	–61.2
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	19.1	–23.5	–58.2	–63.3	14.0	–11.8	64.7	–69.2	32.5	45.4
Change in Reserves	5.6	0.8	–1.5	0.1	1.3	20.2	10.6	0.0	0.0	0.0
Other Advanced Economies[1]										
Financial Account Balance	323.5	308.3	360.1	330.2	385.6	607.3	505.8	548.1	604.1	622.9
Direct Investment, Net	–76.1	–156.7	43.0	–26.0	67.9	–49.9	–17.8	–10.9	–100.6	–95.1
Portfolio Investment, Net	245.2	150.9	367.4	306.6	263.6	501.4	315.3	447.0	373.0	399.5
Financial Derivatives, Net	3.3	–5.6	31.8	20.0	–13.2	–24.7	38.0	11.7	–5.6	0.0
Other Investment, Net	1.0	106.7	–131.6	–0.8	–256.7	–76.6	367.8	147.5	194.6	169.0
Change in Reserves	162.0	213.1	49.5	30.3	323.3	257.2	–197.6	–47.9	142.0	148.8
Emerging Market and Developing Economies										
Financial Account Balance	–401.6	–284.1	–267.2	–156.7	34.4	203.9	474.7	215.2	127.0	101.8
Direct Investment, Net	–271.2	–306.7	–375.9	–355.4	–319.4	–482.4	–306.2	–148.2	–307.0	–341.1
Portfolio Investment, Net	–50.2	–210.2	–106.2	–73.4	–12.9	113.8	491.4	159.8	–8.4	–52.1
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	405.6	57.2	95.7	105.0	260.5	72.3	173.9	30.9	162.2	203.5
Change in Reserves	–481.0	187.2	125.8	167.4	82.5	527.3	126.9	176.4	287.2	299.5

Table A13. Summary of Financial Account Balances *(continued)*

(Billions of US dollars)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	Projections 2025
Regional Groups										
Emerging and Developing Asia										
Financial Account Balance	–35.6	–66.8	–269.0	–59.8	149.0	131.1	152.2	196.6	168.5	182.0
Direct Investment, Net	–25.8	–108.3	–170.3	–144.8	–162.0	–258.9	–114.0	89.0	–30.4	–46.4
Portfolio Investment, Net	31.1	–70.1	–100.4	–71.0	–107.3	–20.5	301.9	53.1	–86.2	–108.4
Financial Derivatives, Net	–4.6	2.3	4.7	–2.5	15.8	–2.3	10.9	10.9	11.1	11.2
Other Investment, Net	354.7	–82.6	–20.1	67.3	240.1	146.7	–78.1	30.3	102.1	133.2
Change in Reserves	–384.6	199.2	22.1	97.0	165.8	277.4	52.9	24.4	181.3	202.7
Emerging and Developing Europe										
Financial Account Balance	10.9	–25.3	106.1	60.3	8.7	85.4	163.2	–37.3	–9.4	–14.9
Direct Investment, Net	–42.5	–28.0	–25.9	–50.1	–38.4	–39.6	–34.9	–57.4	–84.2	–96.5
Portfolio Investment, Net	–10.8	–34.8	9.9	–2.9	21.2	40.4	26.7	–18.1	5.1	7.5
Financial Derivatives, Net	0.6	–2.2	–2.9	1.4	0.4	–5.5	–4.4	1.5	–1.5	–1.5
Other Investment, Net	28.0	26.4	79.3	19.7	30.0	–37.0	144.5	–20.5	34.9	43.7
Change in Reserves	35.8	13.2	45.8	92.3	–4.3	127.2	31.3	57.2	36.2	31.9
Latin America and the Caribbean										
Financial Account Balance	–113.0	–110.9	–163.3	–119.6	–10.4	–106.5	–150.0	–79.8	–72.8	–85.7
Direct Investment, Net	–124.5	–120.6	–148.0	–113.9	–93.0	–100.4	–120.6	–135.8	–107.1	–118.4
Portfolio Investment, Net	–53.2	–45.7	–16.5	–2.3	–8.2	–16.2	10.9	26.5	8.5	6.5
Financial Derivatives, Net	–2.9	3.9	4.0	4.9	5.7	2.0	2.1	–6.7	–7.5	–7.8
Other Investment, Net	46.5	34.1	–16.7	24.6	69.0	–41.5	–23.3	14.3	6.5	8.7
Change in Reserves	21.0	17.3	13.7	–32.6	16.2	49.7	–19.0	20.9	26.8	25.3
Middle East and Central Asia										
Financial Account Balance	–198.6	–37.5	96.5	16.0	–91.6	107.8	356.5	187.5	83.2	63.9
Direct Investment, Net	–45.1	–14.0	–18.9	–18.6	–17.6	–21.2	–8.8	–10.3	–44.9	–32.5
Portfolio Investment, Net	–0.4	–35.7	6.2	21.4	79.3	68.3	147.1	94.6	62.5	39.3
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	–13.9	79.4	77.0	6.8	–72.5	18.8	151.2	20.4	30.3	24.8
Change in Reserves	–148.0	–58.6	39.3	4.6	–87.3	51.4	67.5	84.3	36.4	33.0
Sub-Saharan Africa										
Financial Account Balance	–65.5	–43.5	–37.5	–53.6	–21.3	–14.0	–47.3	–51.8	–42.5	–43.6
Direct Investment, Net	–33.3	–35.8	–12.8	–28.0	–8.3	–62.3	–27.9	–33.7	–40.4	–47.4
Portfolio Investment, Net	–17.0	–24.0	–5.4	–18.6	2.2	41.9	4.8	3.8	1.7	3.0
Financial Derivatives, Net	1.0	0.2	–0.5	0.3	0.7	–0.2	2.0	1.8	1.8	1.7
Other Investment, Net	–9.7	–0.1	–23.7	–13.3	–6.2	–14.6	–20.4	–13.5	–11.5	–7.0
Change in Reserves	–5.2	16.1	4.9	6.2	–7.8	21.7	–5.9	–10.5	6.4	6.5

Table A13. Summary of Financial Account Balances *(continued)*

(Billions of US dollars)

	2016	2017	2018	2019	2020	2021	2022	2023	Projections 2024	Projections 2025
Analytical Groups										
By Source of Export Earnings										
Fuel										
Financial Account Balance	–160.5	17.7	170.7	56.0	–56.3	159.0	435.7	225.8	152.7	118.8
Direct Investment, Net	–33.9	13.7	9.6	–4.2	–1.5	–7.2	19.1	9.5	0.0	–11.0
Portfolio Investment, Net	2.9	–30.3	6.2	20.0	79.0	84.9	113.4	89.2	61.9	46.1
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	25.5	108.0	109.8	30.6	–52.1	40.3	216.6	43.6	73.5	63.5
Change in Reserves	–164.0	–65.8	51.5	8.1	–88.5	49.1	87.4	85.5	18.7	21.1
Nonfuel										
Financial Account Balance	–241.2	–301.8	–437.9	–212.7	90.7	44.9	39.0	–10.6	–25.7	–17.0
Direct Investment, Net	–237.3	–320.4	–385.5	–351.2	–317.9	–475.2	–325.3	–157.7	–307.0	–330.1
Portfolio Investment, Net	–53.2	–180.0	–112.4	–93.3	–91.9	28.9	378.0	70.7	–70.3	–98.2
Financial Derivatives, Net	–6.0	4.3	5.2	4.0	22.6	–6.0	10.6	7.6	3.9	3.5
Other Investment, Net	380.1	–50.8	–14.1	74.4	312.6	32.0	–42.7	–12.7	88.7	139.9
Change in Reserves	–317.0	252.9	74.3	159.4	171.0	478.2	39.5	90.9	268.4	278.4
By External Financing Source										
Net Debtor Economies										
Financial Account Balance	–249.2	–308.1	–351.6	–271.9	–82.0	–327.2	–473.4	–284.1	–321.5	–354.1
Direct Investment, Net	–278.2	–264.2	–302.6	–288.0	–224.7	–294.3	–298.7	–278.5	–319.1	–343.9
Portfolio Investment, Net	–64.7	–128.9	–35.0	–30.1	–42.4	–16.7	59.4	–26.0	–36.4	–51.7
Financial Derivatives, Net	. . .	4.1	0.8	–1.4	. . .	5.2	6.6	0.7	–1.9	–2.0
Other Investment, Net	26.2	–26.7	–19.7	–64.4	17.0	–221.9	–137.7	–115.9	–112.6	–105.7
Change in Reserves	88.1	115.6	10.4	118.0	164.5	213.5	–81.8	144.8	157.9	159.9
Net Debtor Economies by Debt-Servicing Experience										
Economies with Arrears and/or Rescheduling during 2018–22										
Financial Account Balance	–80.9	–59.1	–47.3	–46.3	–25.0	–39.6	–35.9	–37.8	–61.3	–55.1
Direct Investment, Net	–35.1	–27.2	–25.4	–32.4	–22.5	–33.6	–22.2	–29.7	–56.5	–38.7
Portfolio Investment, Net	–12.1	–36.7	–21.2	–17.9	4.2	–21.8	31.2	8.4	1.5	1.3
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	–35.0	–10.6	–4.7	3.3	10.9	9.1	–22.6	–27.3	–32.0	–30.5
Change in Reserves	1.8	15.9	4.5	0.5	–16.8	8.0	–23.4	9.9	25.0	12.4
Memorandum										
World										
Financial Account Balance	25.2	109.5	149.3	–15.5	28.5	756.5	532.8	525.9	609.8	582.4

Note: The estimates in this table are based on individual countries' national accounts and balance of payments statistics. Country group composites are calculated as the sum of the US dollar values for the relevant individual countries. Some group aggregates for the financial derivatives are not shown because of incomplete data. Projections for the euro area are not available because of data constraints.

[1] Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

Table A14. Summary of Net Lending and Borrowing

(Percent of GDP)

	Averages								Projections		
	2006–15	2010–17	2018	2019	2020	2021	2022	2023	2024	2025	Average 2026–29
Advanced Economies											
Net Lending and Borrowing	–0.2	0.4	0.7	0.7	0.3	1.0	–0.1	0.5	0.8	0.7	0.7
Current Account Balance	–0.2	0.4	0.8	0.8	0.3	1.0	–0.3	0.5	0.7	0.7	0.7
Savings	21.8	22.1	23.2	23.4	22.8	23.8	23.3	22.3	22.1	22.3	22.6
Investment	21.9	21.6	22.6	22.8	22.5	22.8	23.5	22.7	22.3	22.5	22.7
Capital Account Balance	0.0	0.0	–0.1	–0.1	0.0	0.0	0.2	0.0	0.1	0.0	0.0
United States											
Net Lending and Borrowing	–3.3	–2.4	–2.1	–2.1	–2.8	–3.5	–3.8	–3.0	–2.6	–2.6	–2.3
Current Account Balance	–3.3	–2.3	–2.1	–2.1	–2.8	–3.5	–3.8	–3.0	–2.5	–2.5	–2.3
Savings	17.3	18.1	19.1	19.4	18.5	17.8	18.3	16.6	16.9	17.1	18.0
Investment	20.5	20.3	21.6	21.7	21.4	21.4	21.9	21.3	21.5	21.6	22.1
Capital Account Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Euro Area											
Net Lending and Borrowing	0.6	1.8	2.5	2.2	1.8	3.2	0.6	2.1	. . .	. . .	. . .
Current Account Balance	0.5	1.7	2.8	2.4	1.8	2.8	–0.5	1.9	2.3	2.3	2.3
Savings	22.8	23.1	25.3	25.9	25.0	27.2	26.1	26.4	25.6	25.7	25.6
Investment	21.4	20.5	21.9	22.8	22.4	23.2	24.4	22.9	22.0	22.1	22.1
Capital Account Balance	0.1	0.1	–0.3	–0.2	0.0	0.4	1.1	0.3	. . .	. . .	. . .
Germany											
Net Lending and Borrowing	6.6	7.3	8.0	8.1	6.8	7.7	3.9	6.2	7.0	6.9	6.4
Current Account Balance	6.6	7.2	8.0	8.2	7.1	7.7	4.4	6.8	7.0	6.9	6.4
Savings	26.9	27.6	29.9	30.0	29.0	30.9	29.4	30.4	29.6	29.6	29.5
Investment	20.4	20.3	21.9	21.9	22.0	23.2	25.0	23.6	22.6	22.7	23.1
Capital Account Balance	0.0	0.0	0.0	–0.1	–0.3	0.0	–0.5	–0.6	0.0	0.0	0.0
France											
Net Lending and Borrowing	–0.5	–0.7	–0.7	0.6	–1.5	0.7	–1.6	–0.5	–0.3	–0.3	–0.1
Current Account Balance	–0.5	–0.7	–0.8	0.5	–1.6	0.4	–2.0	–0.7	–0.6	–0.6	–0.3
Savings	22.3	22.0	23.0	24.9	22.5	25.2	25.9	26.4	22.3	22.0	22.0
Investment	22.8	22.7	23.9	24.4	24.1	24.9	28.0	27.1	22.9	22.6	22.3
Capital Account Balance	0.0	0.0	0.1	0.1	0.1	0.4	0.4	0.3	0.3	0.2	0.2
Italy											
Net Lending and Borrowing	–0.8	0.5	2.6	3.2	3.9	2.6	–0.9	0.7	1.1	1.7	2.0
Current Account Balance	–0.9	0.4	2.6	3.3	3.9	2.4	–1.5	0.2	0.8	1.3	1.9
Savings	18.6	18.6	21.1	21.5	21.6	24.2	21.6	21.1	22.6	23.2	22.6
Investment	19.5	18.2	18.5	18.2	17.7	21.7	23.1	20.9	21.8	21.9	20.6
Capital Account Balance	0.1	0.1	0.0	–0.1	0.1	0.1	0.5	0.5	0.3	0.3	0.1
Spain											
Net Lending and Borrowing	–2.7	1.1	2.4	2.4	1.1	1.6	1.5	3.7	3.5	3.3	2.2
Current Account Balance	–3.2	0.7	1.9	2.1	0.6	0.8	0.6	2.6	2.5	2.4	1.8
Savings	19.6	19.9	22.3	22.9	21.1	22.4	22.1	22.9	23.1	23.6	23.2
Investment	22.8	19.2	20.5	20.8	20.5	21.6	21.5	20.3	20.6	21.3	21.4
Capital Account Balance	0.4	0.4	0.5	0.3	0.5	0.9	0.9	1.1	1.0	0.9	0.3
Japan											
Net Lending and Borrowing	2.5	2.4	3.5	3.4	2.9	3.8	2.0	3.4	3.4	3.4	3.4
Current Account Balance	2.6	2.5	3.5	3.4	3.0	3.9	2.0	3.4	3.5	3.5	3.4
Savings	27.1	26.8	29.2	29.2	28.2	29.6	28.6	29.6	29.8	29.9	29.6
Investment	24.5	24.4	25.6	25.8	25.2	25.7	26.6	26.2	26.3	26.4	26.2
Capital Account Balance	–0.1	–0.1	0.0	–0.1	0.0	–0.1	0.0	–0.1	–0.1	–0.1	–0.1
United Kingdom											
Net Lending and Borrowing	–3.6	–4.0	–4.1	–2.7	–3.0	–0.6	–3.2	–2.3	–2.7	–2.9	–2.9
Current Account Balance	–3.6	–3.9	–3.9	–2.7	–2.9	–0.5	–3.1	–2.2	–2.6	–2.8	–2.8
Savings	13.3	13.1	14.1	15.6	14.7	17.1	16.2	16.2	14.2	14.4	14.7
Investment	16.9	17.0	18.1	18.2	17.5	17.5	19.3	18.4	16.8	17.2	17.5
Capital Account Balance	–0.1	–0.1	–0.1	–0.1	–0.1	–0.1	–0.1	–0.1	–0.1	–0.1	–0.1

Table A14. Summary of Net Lending and Borrowing *(continued)*

(Percent of GDP)

	Averages								Projections		
	2006–15	2010–17	2018	2019	2020	2021	2022	2023	2024	2025	Average 2026–29
Canada											
Net Lending and Borrowing	–1.9	–3.1	–2.4	–2.0	–2.0	0.0	–0.4	–0.6	0.3	0.4	–0.2
Current Account Balance	–1.9	–3.1	–2.4	–2.0	–2.0	0.0	–0.4	–0.6	0.3	0.4	–0.2
Savings	22.0	21.0	21.0	21.1	20.7	24.3	25.0	23.3	23.9	23.9	23.4
Investment	24.0	24.1	23.4	23.0	22.7	24.3	25.4	23.9	23.6	23.6	23.6
Capital Account Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Advanced Economies[1]											
Net Lending and Borrowing	4.1	4.6	4.7	4.6	5.2	6.8	7.1	6.5	6.7	6.6	6.2
Current Account Balance	4.2	4.7	4.5	4.7	5.2	7.0	7.0	6.4	6.6	6.5	6.1
Savings	30.6	30.7	30.5	30.3	31.5	33.4	33.5	31.9	31.8	32.0	32.0
Investment	26.2	25.8	25.9	25.5	25.9	26.2	26.2	25.5	25.1	25.5	25.8
Capital Account Balance	–0.1	–0.1	0.2	0.0	0.0	–0.2	0.0	0.1	0.1	0.1	0.1
Emerging Market and Developing Economies											
Net Lending and Borrowing	1.9	0.6	–0.1	0.0	0.5	1.0	1.5	0.7	0.3	0.2	0.0
Current Account Balance	1.8	0.5	–0.2	0.0	0.4	0.9	1.5	0.6	0.3	0.2	0.0
Savings	32.6	32.4	32.4	32.1	32.9	34.3	34.4	32.7	32.5	32.6	32.3
Investment	31.0	31.9	32.7	32.2	32.5	33.5	33.0	32.2	32.3	32.4	32.5
Capital Account Balance	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.1
Regional Groups											
Emerging and Developing Asia											
Net Lending and Borrowing	3.0	1.3	–0.3	0.5	1.5	1.2	1.2	1.0	0.7	0.7	0.4
Current Account Balance	2.9	1.3	–0.3	0.5	1.5	1.2	1.2	1.0	0.7	0.7	0.4
Savings	43.0	42.1	40.0	39.5	40.3	41.0	40.9	39.7	39.6	39.4	39.0
Investment	40.2	40.8	40.2	39.1	38.7	39.8	39.7	38.7	38.9	38.8	38.6
Capital Account Balance	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Emerging and Developing Europe											
Net Lending and Borrowing	–0.4	–0.2	2.1	1.7	0.6	1.9	2.9	–0.2	–0.2	–0.3	0.0
Current Account Balance	–0.6	–0.5	1.6	1.3	0.1	1.5	2.7	–0.5	–0.3	–0.5	–0.3
Savings	23.5	23.7	25.7	24.3	24.0	26.1	28.2	24.7	24.3	24.0	23.9
Investment	23.9	24.1	23.7	23.0	23.9	24.5	25.5	25.0	24.5	24.4	24.1
Capital Account Balance	0.2	0.3	0.4	0.4	0.5	0.4	0.2	0.3	0.2	0.2	0.3
Latin America and the Caribbean											
Net Lending and Borrowing	–1.6	–2.5	–2.7	–2.1	–0.1	–1.9	–2.3	–1.1	–1.0	–1.1	–1.2
Current Account Balance	–1.7	–2.6	–2.7	–2.1	–0.3	–1.9	–2.4	–1.2	–1.0	–1.2	–1.2
Savings	20.1	18.6	16.4	16.7	17.8	18.5	18.0	18.3	18.4	18.4	18.4
Investment	21.8	21.2	19.2	18.9	18.1	20.5	20.4	19.5	19.5	19.5	19.6
Capital Account Balance	0.1	0.1	0.0	0.1	0.2	0.0	0.0	0.0	0.1	0.0	0.0
Middle East and Central Asia											
Net Lending and Borrowing	7.5	4.3	2.6	0.2	–3.4	3.1	8.1	3.9	1.7	1.2	0.0
Current Account Balance	7.6	4.2	2.9	0.4	–3.5	3.4	8.4	4.0	1.8	1.4	0.1
Savings	35.3	31.7	28.7	27.1	22.7	28.5	32.8	29.9	28.2	28.0	26.6
Investment	27.8	27.2	26.0	26.8	26.2	25.4	24.8	26.2	26.5	26.7	26.7
Capital Account Balance	0.2	0.1	–0.1	–0.1	–0.1	–0.1	–0.1	0.0	–0.1	–0.1	–0.1
Sub-Saharan Africa											
Net Lending and Borrowing	–0.1	–1.9	–1.6	–2.7	–2.2	–0.6	–1.7	–2.4	–2.3	–2.2	–1.9
Current Account Balance	–1.1	–2.5	–2.0	–3.1	–2.7	–1.0	–2.0	–2.8	–2.8	–2.6	–2.3
Savings	20.1	18.9	19.3	19.4	19.8	21.4	19.5	19.0	19.1	19.6	20.7
Investment	21.3	21.2	21.0	22.5	22.4	22.3	21.5	21.7	21.7	22.1	22.9
Capital Account Balance	1.0	0.6	0.4	0.4	0.4	0.4	0.3	0.4	0.5	0.4	0.4

Table A14. Summary of Net Lending and Borrowing *(continued)*

(Percent of GDP)

	Averages								Projections		
	2006–15	2010–17	2018	2019	2020	2021	2022	2023	2024	2025	Average 2026–29
Analytical Groups											
By Source of Export Earnings											
Fuel											
Net Lending and Borrowing	9.5	5.6	5.2	1.7	–3.3	5.1	11.1	5.4	3.5	2.6	1.4
Current Account Balance	9.7	5.6	5.6	2.0	–3.2	5.4	11.4	5.6	3.8	3.0	1.6
Savings	37.1	33.0	30.9	29.5	25.2	32.5	36.4	32.8	31.5	30.9	29.6
Investment	27.5	27.0	25.5	27.5	28.4	27.4	25.3	27.6	28.0	28.2	28.6
Capital Account Balance	0.1	0.0	–0.2	–0.2	–0.2	–0.3	–0.2	–0.1	–0.1	–0.1	–0.1
Nonfuel											
Net Lending and Borrowing	0.6	–0.2	–0.8	–0.1	0.9	0.6	0.4	0.2	0.0	0.0	–0.1
Current Account Balance	0.4	–0.3	–0.8	–0.2	0.8	0.5	0.4	0.1	–0.1	–0.1	–0.2
Savings	31.9	32.2	32.6	32.4	33.6	34.5	34.2	32.7	32.6	32.7	32.6
Investment	31.5	32.6	33.4	32.7	32.8	34.0	33.8	32.7	32.8	32.8	32.8
Capital Account Balance	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
By External Financing Source											
Net Debtor Economies											
Net Lending and Borrowing	–2.0	–2.2	–2.2	–1.5	–0.4	–1.9	–2.5	–1.2	–1.5	–1.6	–1.6
Current Account Balance	–2.3	–2.5	–2.4	–1.7	–0.7	–2.0	–2.7	–1.3	–1.7	–1.7	–1.8
Savings	23.6	23.1	23.1	23.0	23.4	23.8	23.4	23.5	23.1	23.3	23.6
Investment	26.0	25.6	25.5	24.8	24.1	25.9	26.1	24.8	24.8	25.0	25.3
Capital Account Balance	0.3	0.3	0.2	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2018–22											
Net Lending and Borrowing	–2.9	–3.9	–3.4	–3.2	–1.9	–2.0	–1.8	–2.5	–3.7	–3.2	–2.4
Current Account Balance	–3.8	–4.7	–3.8	–3.7	–2.4	–2.4	–2.1	–2.9	–4.1	–3.6	–2.7
Savings	20.6	19.1	19.6	18.2	16.7	17.2	17.7	15.6	14.6	15.9	17.5
Investment	24.6	23.9	23.4	22.6	19.6	20.1	20.1	18.6	18.9	19.6	20.2
Capital Account Balance	0.9	0.7	0.4	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.3
Memorandum											
World											
Net Lending and Borrowing	0.4	0.5	0.4	0.4	0.4	1.0	0.6	0.6	0.6	0.5	0.4
Current Account Balance	0.4	0.4	0.4	0.4	0.4	0.9	0.5	0.5	0.5	0.5	0.4
Savings	25.5	26.0	26.9	26.9	26.8	28.1	28.0	26.6	26.5	26.6	26.8
Investment	25.1	25.5	26.6	26.6	26.5	27.2	27.5	26.6	26.5	26.7	26.9
Capital Account Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	0.0

Note: The estimates in this table are based on individual countries' national accounts and balance of payments statistics. Country group composites are calculated as the sum of the US dollar values for the relevant individual countries. This differs from the calculations in the April 2005 and earlier issues of the *World Economic Outlook*, in which the composites were weighted by GDP valued at purchasing power parities as a share of total world GDP. The estimates of gross national savings and investment (or gross capital formation) are from individual countries' national accounts statistics. The estimates of the current account balance, the capital account balance, and the financial account balance (or net lending/net borrowing) are from the balance of payments statistics. The link between domestic transactions and transactions with the rest of the world can be expressed as accounting identities. Savings (S) minus investment (I) is equal to the current account balance (CAB) (S – I = CAB). Also, net lending/net borrowing (NLB) is the sum of the current account balance and the capital account balance (KAB) (NLB = CAB + KAB). In practice, these identities do not hold exactly; imbalances result from imperfections in source data and compilation as well as from asymmetries in group composition due to data availability.

[1] Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

Table A15. Summary of World Medium-Term Baseline Scenario

	Averages				Projections			
							Averages	
	2006–15	2016–25	2022	2023	2024	2025	2022–25	2026–29
				Annual Percent Change				
World Real GDP	**3.7**	**3.0**	**3.5**	**3.2**	**3.2**	**3.2**	**3.3**	**3.1**
Advanced Economies	1.5	1.8	2.6	1.6	1.7	1.8	1.9	1.7
Emerging Market and Developing Economies	5.7	3.9	4.1	4.3	4.2	4.2	4.2	4.0
Memorandum								
Potential Output								
Major Advanced Economies	1.4	1.4	1.6	2.2	2.1	1.7	1.9	1.6
World Trade, Volume[1]	**4.2**	**2.7**	**5.6**	**0.3**	**3.0**	**3.3**	**3.0**	**3.3**
Imports								
Advanced Economies	3.1	2.5	7.1	–1.0	2.0	2.8	2.7	2.9
Emerging Market and Developing Economies	6.7	2.9	3.9	2.0	4.9	4.1	3.7	4.1
Exports								
Advanced Economies	3.7	2.4	5.6	0.9	2.5	2.9	2.9	2.9
Emerging Market and Developing Economies	5.3	3.2	4.7	–0.1	3.7	3.9	3.1	4.0
Terms of Trade								
Advanced Economies	0.0	0.2	–1.8	0.7	0.3	0.1	–0.2	0.1
Emerging Market and Developing Economies	0.4	0.0	1.1	–1.1	0.3	0.0	0.1	–0.2
World Prices in US Dollars								
Manufactures	1.2	1.2	10.1	–1.6	1.8	1.7	2.9	1.5
Oil	–0.5	3.8	39.2	–16.4	–2.5	–6.3	1.6	–2.2
Nonfuel Primary Commodities	3.4	4.0	7.9	–5.7	0.1	–0.4	0.4	0.5
Consumer Prices								
Advanced Economies	1.7	2.6	7.3	4.6	2.6	2.0	4.1	2.0
Emerging Market and Developing Economies	6.0	6.2	9.8	8.3	8.3	6.2	8.1	4.4
Interest Rates				*Percent*				
World Real Long-Term Interest Rate[2]	1.2	–0.7	–5.0	–1.3	1.0	1.5	–0.9	1.3
Current Account Balances				*Percent of GDP*				
Advanced Economies	–0.2	0.6	–0.3	0.5	0.7	0.7	0.4	0.7
Emerging Market and Developing Economies	1.8	0.3	1.5	0.6	0.3	0.2	0.7	0.0
Total External Debt								
Emerging Market and Developing Economies	27.3	30.1	29.0	29.8	28.6	27.9	28.8	27.1
Debt Service								
Emerging Market and Developing Economies	9.7	10.3	10.5	10.4	9.7	9.5	10.0	9.4

[1] Data refer to trade in goods and services.

[2] GDP-weighted average of 10-year (or nearest-maturity) government bond rates for Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

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IMF EXECUTIVE BOARD DISCUSSION OF THE OUTLOOK, APRIL 2024

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 April 3, 2024.*

Executive Directors broadly agreed with staff's assessment of the global economic outlook, risks, and policy priorities. They welcomed the continued global economic resilience and containment of financial sector risks throughout the last two years, despite significant central bank interest rate hikes aimed at restoring price stability. Directors broadly concurred that the global economy may be approaching a soft landing but recognized that future growth is expected to be low by historical standards, reflecting still-high borrowing costs, a withdrawal of fiscal support, weak productivity growth, and continued geopolitical tensions. Most Directors also agreed that increasing geoeconomic fragmentation will weigh on medium-term growth, while a few Directors highlighted that trade diversification will bring benefits. Directors regretted that, for many emerging market and developing economies, the subdued prospects for global growth imply a slower convergence toward higher living standards.

Directors broadly considered that risks to the outlook are now more balanced, while emphasizing that important downside risks remain. In particular, they noted that supply disruptions and new price spikes stemming from geopolitical tensions could raise interest rate expectations and prompt a resurgence in volatility and sharp downturns in asset prices. Directors also emphasized that more persistent-than-expected inflation could trigger capital flow movements, a sharp tightening of global financial conditions, exchange rate volatility, and may put external and financial sectors under pressure. They recognized the risk that the cooling effects of past monetary policy tightening could be yet to come. Directors noted growing stresses in the commercial real estate sector and residential housing markets in some countries. At the same time, they recognized upside risks to the outlook from several sources, including a faster-than-expected decline in inflation as well as growth and productivity gains from enhanced structural reforms.

Directors called on central banks to ensure that inflation returns to target smoothly, by avoiding easing policy prematurely. They emphasized that the pace of monetary policy normalization should remain data dependent, be tailored to country circumstances, and clearly communicated. Where inflation and inflation expectations are approaching target, Directors agreed that central banks should gradually move to a more neutral policy stance to avoid inflation target undershoots.

Noting elevated fiscal deficits and debt levels in many countries as well as rising debt service costs, Directors called for a gradual medium-term fiscal consolidation to ensure debt sustainability and rebuild room for budgetary maneuver, priority investments, and targeted social spending to protect the most vulnerable. The fiscal adjustment would also support the disinflation process. Directors emphasized that the pace of consolidation should depend on each country's conditions and be embedded in a credible medium-term fiscal framework. They noted that historical data indicate that spending pressures could rise as a result of the record number of elections this year. In addition, Directors recognized that many economies face important medium-term spending pressures stemming from aging population, climate change, and development needs. Most Directors agreed that countries should boost long-term growth by implementing well-designed, cost-effective fiscal policies that promote innovation and facilitate technology diffusion. At the same time, Directors emphasized that these policies should avoid protectionist measures.

Directors reiterated that continued accumulation of public and private debt in many economies constitute medium-term financial vulnerabilities. They stressed

that regulatory authorities should use supervisory tools, including stress tests, to ensure that banks and nonbank financial institutions are resilient to credit risk and strains in commercial and residential real estate. Given potential new risks associated with rapid growth in private credit, Directors saw merit in considering a more proactive regulatory and supervisory approach, including enhancing reporting requirements. Noting that cyber incidents are a rising financial stability concern, they recommended better cyber-related governance arrangements and legislations. Directors emphasized the need for a full and timely implementation of Basel III.

Directors agreed that targeted and carefully sequenced structural reforms are needed to raise medium-term growth prospects. They recommended reforms aimed at reducing the misallocation of capital and labor, increasing female labor participation, enhancing education, strengthening governance, reducing excessive business regulation and restrictions on trade, and harnessing the potential of artificial intelligence. Directors also called for reforms to facilitate the green transition and build climate resilience, while managing energy security risks. Many Directors expressed support for regular coverage of climate issues in the Fund's flagship reports.

Directors emphasized that reinvigorating multilateral cooperation is crucial to limit the costs and risks of climate change, speed the green transition, safeguard the open and rule-based international trading system, facilitate debt restructuring processes, and strengthen the resilience of the international monetary system.

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