CHAPTER 1

GLOBAL PROSPECTS AND POLICIES

Growing Global Divergences

More than three years after the global economy suffered the largest shock of the past 75 years, the wounds are still healing, amid widening growth divergences across regions. After a strong initial rebound from the depths of the COVID-19 pandemic, the pace of recovery has moderated. Several forces are holding back the recovery. Some reflect the long-term consequences of the pandemic, Russia's war in Ukraine, and increasing geoeconomic fragmentation. Others are more cyclical, including the effects of monetary policy tightening necessary to reduce inflation, withdrawal of fiscal support amid high debt, and extreme weather events.

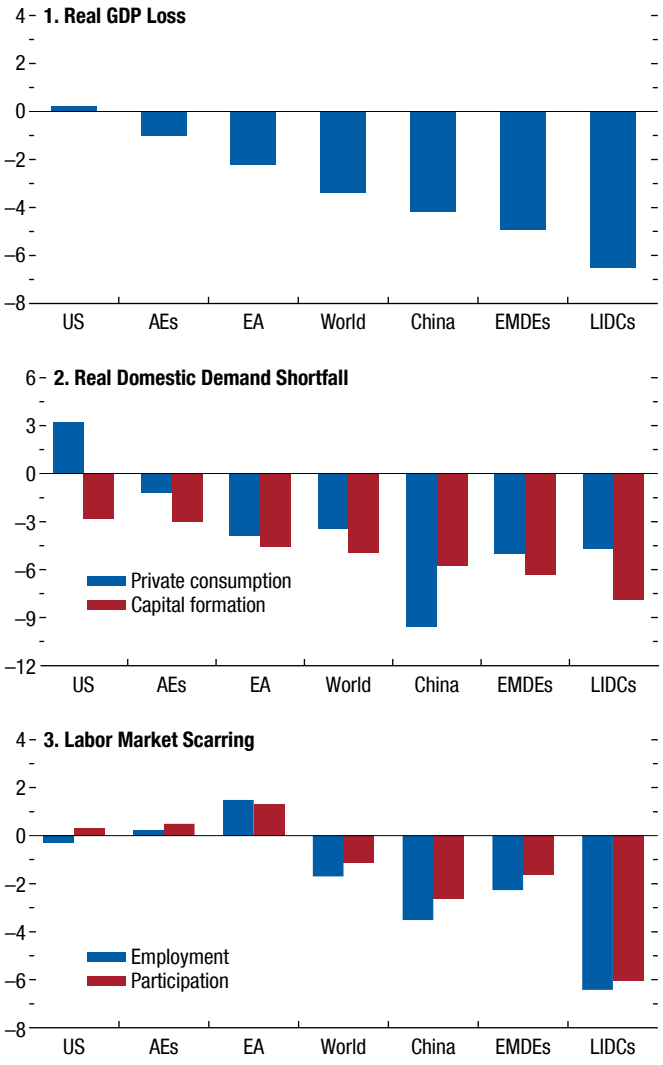
Despite signs of economic resilience earlier this year and progress in reducing headline inflation, economic activity is still generally falling short of prepandemic (January 2020) projections, especially in emerging market and developing economies (Figure 1.1, panel 1). The strongest recovery among major economies has been in the United States, where GDP in 2023 is estimated to exceed its prepandemic path. The euro area has recovered, though less strongly—with output still 2.2 percent below prepandemic projections, reflecting greater exposure to the war in Ukraine and the associated adverse terms-of-trade shock, as well as a spike in imported energy prices. In China, the pandemic-related slowdown in 2022 and the property sector crisis contribute to the larger output losses of about 4.2 percent, compared with prepandemic predictions. Other emerging market and developing economies have seen even weaker recoveries, especially low-income countries, where output losses average more than 6.5 percent. Higher interest rates and depreciated currencies have exacerbated the difficulties of low-income countries, placing more than half either at high risk of distress or already in distress. Overall, global output for 2023 is estimated at 3.4 percent (or about $3.6 trillion in 2023 prices) below prepandemic projections.

Private consumption has also recovered faster in advanced economies than in emerging market and developing economies, owing to an earlier reopening in the former group facilitated by greater availability of effective vaccines, stronger safety nets, more ample policy stimulus, and greater feasibility of remote work. These factors supported livelihoods during the pandemic, and household consumption is now broadly back to prepandemic trends. Among advanced economies, private consumption has been stronger in the United States than in the euro area, with households receiving larger fiscal transfers early in the pandemic and spending the associated savings more quickly; being better insulated from the rise in energy prices resulting from the war in Ukraine; and feeling relatively confident amid historically tight US labor markets, which have supported real disposable incomes (Figure 1.1, panel 2). Among emerging market and developing economies, the consumption shortfall is particularly large in China, reflecting tight restrictions on mobility during the COVID-19 crisis.

Divergences in labor market performance across regions broadly mirror those for output and consumption. Employment and labor participation rates are estimated to exceed prepandemic trends in advanced economies but to remain significantly below them in emerging market and developing economies, reflecting more severe output losses and much weaker social protection. Countries that had the most limited fiscal space are also those where employment shortfalls are the largest (ILO 2023). Among advanced economies, the euro area has seen larger employment gains than the United States. This may reflect more extensive use in the former of worker-retention programs modeled on the German Kurzarbeit short-time work scheme (IMF 2020), which protect workers' income and allow businesses to retain firm-specific human capital, reducing the costly process of separation, rehiring, and training. In the euro area, these programs bolstered employment during the most challenging phases of the crisis and accelerated the recovery when economies reopened (Figure 1.1, panel 3).

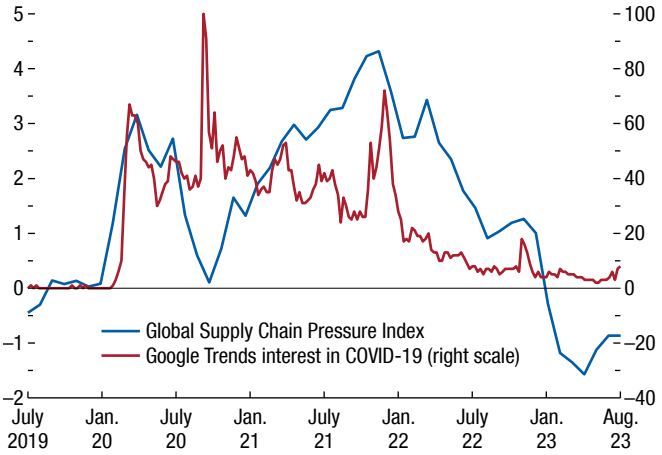
Investment, on the other hand, has uniformly fallen short of prepandemic trends across regions. Businesses have shown less enthusiasm for expansion and risk taking amid rising interest rates, withdrawal of fiscal support, dimmer prospects for product demand, stricter lending conditions, and growing uncertainties

Figure 1.1. Incomplete Recovery: Scarring from the Shocks of 2020–22
(Percent; deviation in 2023 from prepandemic projections)



Source: IMF staff calculations.
Note: "Prepandemic projections" refers to those in the January 2020 *World Economic Outlook Update*. AEs = advanced economies; EA = euro area; EMDEs = emerging market and developing economies; LIDCs = low income developing countries.

Figure 1.2. The COVID-19 Shock: Returning to Normal
(Standard deviations from average value; index, 100 = highest point worldwide during 2008–23, on right scale)



Sources: Federal Reserve Bank of New York, Global Supply Chain Pressure Index; Google Trends.
Note: On right scale, numbers represent search interest relative to the highest point (100) during 2008–23 worldwide.

regarding geoeconomic fragmentation. Higher leverage has further dampened investment (see Chapter 2 of the April 2022 *World Economic Outlook* [WEO]), which remains 3 percent to 10 percent lower across regions than had been projected before the pandemic (Figure 1.1, panel 2).

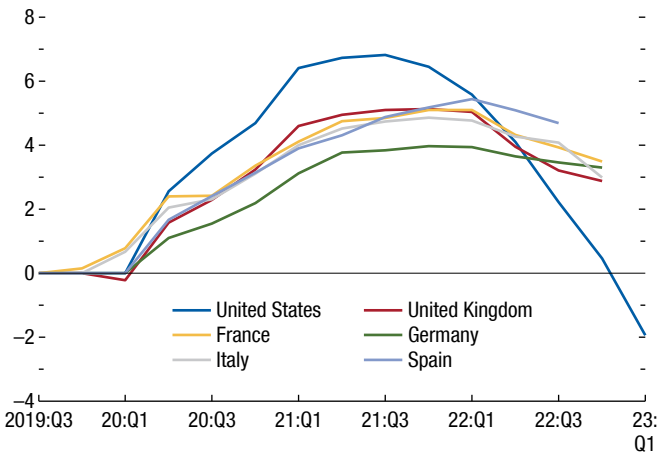
Moreover, the pandemic, war in Ukraine, and worsening climate shocks have contributed to a reversal in decades-long poverty reduction trends. According to World Bank staff estimates (Mahler and others 2022), 75 million to 95 million more people were living in extreme poverty in 2022 compared with prepandemic estimates. Spikes in food prices and related insecurities following Russia's invasion of Ukraine, as well as bouts of extreme weather, have accentuated these difficulties. The global average temperature in July 2023 was the highest on record for any month, amid reports of catastrophic flooding, heat waves, and wildfires in many regions. Overall, the global prevalence of undernourishment is significantly higher than before the pandemic (FAO and others 2023).

Resilient Start to 2023, Signs of Slowdown

Despite these persistent challenges, several headwinds to global growth subsided earlier this year. The World Health Organization announced in May that it no longer considered COVID-19 a global health emergency, and infections and hospitalizations appear to remain relatively limited, despite a recent uptick in some regions. Supply chains, which the pandemic disrupted, have largely normalized, with shipping costs and suppliers' delivery times back to prepandemic levels (Figure 1.2). And global financial conditions eased after Swiss and US authorities took strong action in March to contain turbulence in their banking sectors.

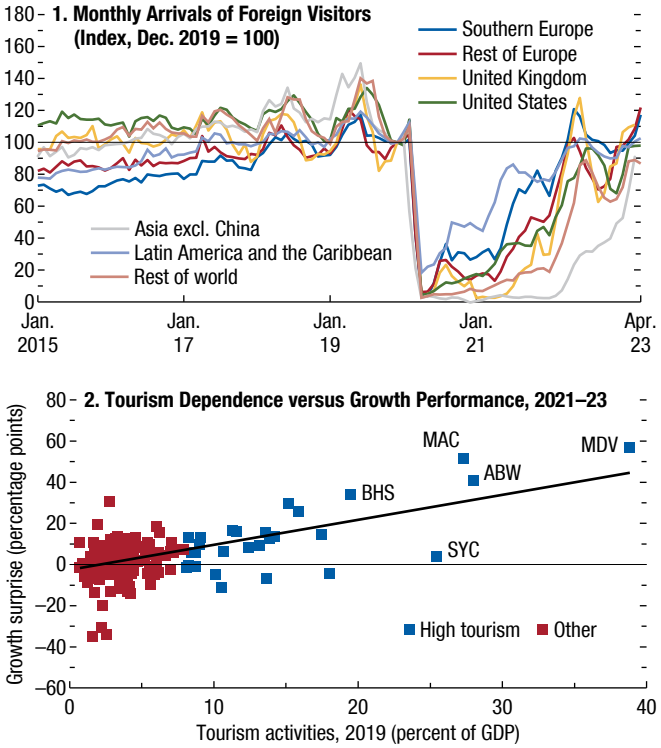
Amid these conditions, global GDP expanded by 3.4 percent in the second quarter of 2023 compared

Figure 1.3. Cumulative Excess Savings in Advanced Economies
(Percent of GDP)



Source: de Soyres, Moore, and Ortiz (2023).
Note: Stock begins accumulating from 0 at $t = -1$, in which $t = 0$ is the first period of low growth due to COVID-19. Excess savings are calculated as deviation from the predicted saving rate using a Hamilton trend.

Figure 1.4. Tourism Returning to Normal



Sources: Haver Analytics; World Travel & Tourism Council; and IMF staff calculations.
Note: In panel 1, series is the normalized sum of arrivals for each region based on data for 41 economies. In panel 2, the *x*-axis measures the direct share of travel and tourism in GDP in 2019. The growth surprise on the *y*-axis measures the difference between the cumulative GDP growth in 2021–23 and its projected value in the January 2020 *World Economic Outlook Update*. Data labels in the figure use International Organization for Standardization (ISO) country codes. excl. = excluding.

with a year earlier—outperforming forecasts, including those in the April 2023 WEO. The resilience reflected strong consumption amid tight labor markets in the United States and robust activity in economies with large travel and tourism sectors, such as Italy, Mexico, and Spain. These developments offset a slowdown in more interest-rate-sensitive manufacturing sectors.

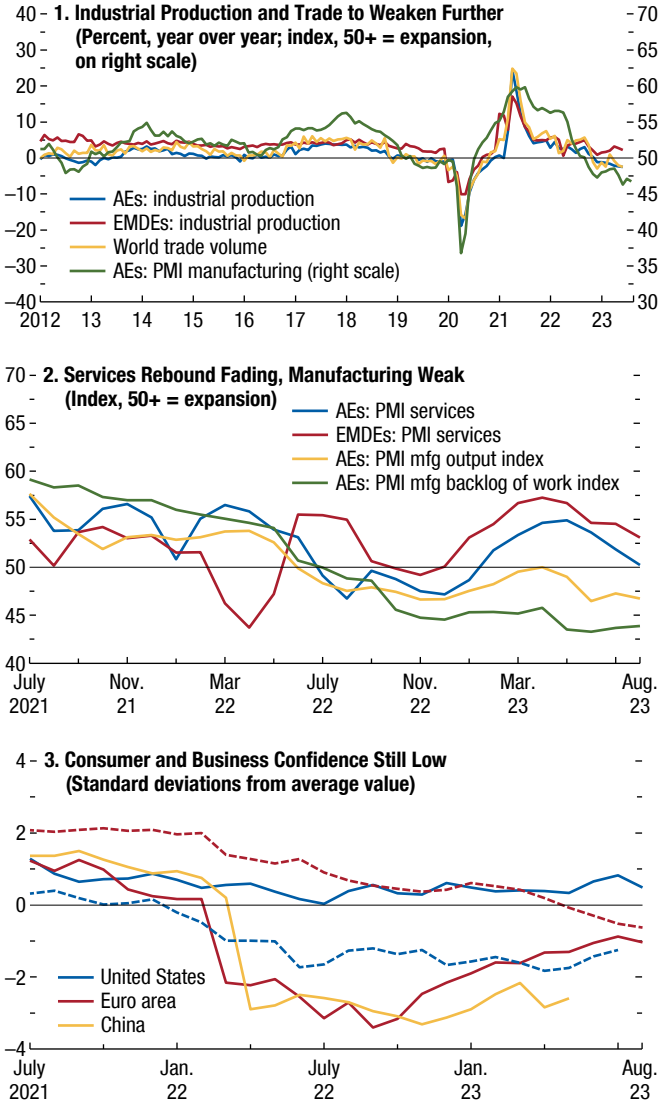
That said, there are signs the rebound is fading:

- *Diminishing pandemic-era savings:* The stock of savings built during the pandemic, which has so far supported consumers, is declining in advanced economies, especially the United States, as illustrated in Figure 1.3.[1] This implies fewer resources for households to draw on as they contend with a still-elevated cost of living and more restricted credit availability in the context of monetary tightening aimed at reducing inflation.
- *Slowing catch-up in services, including travel:* International tourist arrivals are approaching prepandemic levels in most regions (Figure 1.4, panel 1). The recovery of travel during 2021–23 has come with especially strong economic growth in economies with a large share of tourism activities in GDP (Figure 1.4, panel 2). These economies had suffered especially sharp contractions in GDP at the onset of the pandemic (Milesi-Ferretti 2021). But with the recovery in tourism maturing, the boost to growth is waning.[2] Leading indicators for services now indicate weaker growth or declining output (Figure 1.5, panel 2) in economies that previously enjoyed a strong rebound.
- *Persistent manufacturing slowdown:* Recent data releases point to a wide-ranging slowdown or contraction in the manufacturing sector, with related declines in industrial production, investment, and international trade in goods. This weakness reflects

[1]Estimates of the stock of excess household savings—the cumulation of saving beyond the prepandemic trend—come with a range of uncertainty and can differ across methodological approaches. For the United States, they generally show a consistent pattern, with the stock declining (see, for example, Abdelrahman and Oliveira 2023).

[2]A tourism share that is higher by 10 percentage points of GDP comes with cumulative growth that is higher by 12 percentage points in 2021–23 (Figure 1.4, panel 2), but for 2023 alone, the relationship is less than half as strong. Higher-tourism-share economies suffered sharper contractions in 2020 (Milesi-Ferretti 2021).

Figure 1.5. Slower Growth Momentum Ahead



Sources: Haver Analytics; and IMF staff calculations.
Note: Solid lines in panel 3 show consumer confidence, and dashed lines denote business confidence. AEs = advanced economies; EMDEs = emerging market and developing economies; mfg = manufacturing; PMIs = purchasing managers' indexes.

the combined effects of the postpandemic shift in consumption back toward services, weaker demand stemming from a higher cost of living, the unwinding of crisis policy support, tighter credit conditions, and general uncertainty amid intensified geoeconomic fragmentation (Figure 1.5, panel 1).

Part of the slowdown is policy induced—the result of the globally synchronous central bank tightening of monetary conditions to restore price stability. Signs that tightening efforts are paying off are increasingly apparent, with global inflation steadily declining from its multidecade peak in 2022 amid tighter credit availability and cooling housing markets. Part of the slowdown also reflects more idiosyncratic developments, such as the property sector crisis in China.

China: Slower Growth

China's growth momentum is fading following a COVID-19 reopening surge in early 2023. Growth slowed from 8.9 percent in the first quarter of 2023 (seasonally adjusted annualized quarterly rate) to 4.0 percent in the second quarter. With ample economic slack and declining energy and food prices, inflation fell to an estimated 0.2 percent (year over year) in the second quarter of 2023.

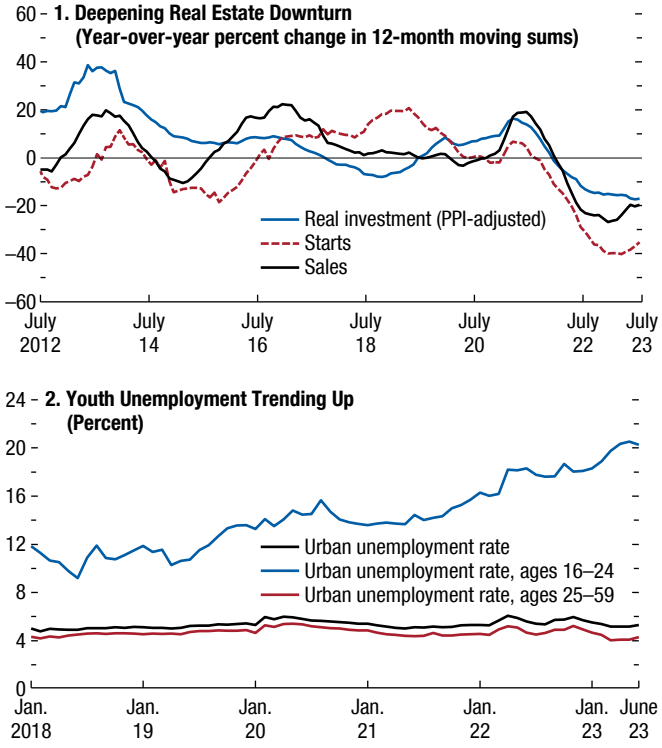
High-frequency indicators suggest further weakness with the property sector crisis in the country leading the factors hampering growth. Country Garden—China's largest property developer and a major beneficiary of government support—is facing severe liquidity stress, a sign that real estate distress is spreading to stronger developers, despite policy easing measures. Property developers face severe funding constraints, preventing them from completing presold homes. This is undermining home buyer confidence and prolonging the property sector downturn. Meanwhile, real estate investment and housing prices continue to decline, putting pressure on local governments' revenues from land sales and threatening already fragile public finances (Figure 1.6, panel 1).

These developments, together with labor market uncertainty—as reflected in elevated youth unemployment that reached more than 20 percent in June 2023 (Figure 1.6, panel 2)—have weighed on consumption. Consumer confidence remains subdued despite the economy's reopening in the first quarter. Industrial production, business investment, and exports are also weakening, reflecting a combination of waning foreign demand and geopolitical uncertainty. Commodity exporters and countries that are part of the Asian industrial supply chain are the most exposed to China's loss of momentum.

Inflation: Nearer, but Not Quite There

Global headline inflation has more than halved, from its peak of 11.6 percent in the second quarter of 2022 (at a quarterly annualized rate) to 5.3 percent

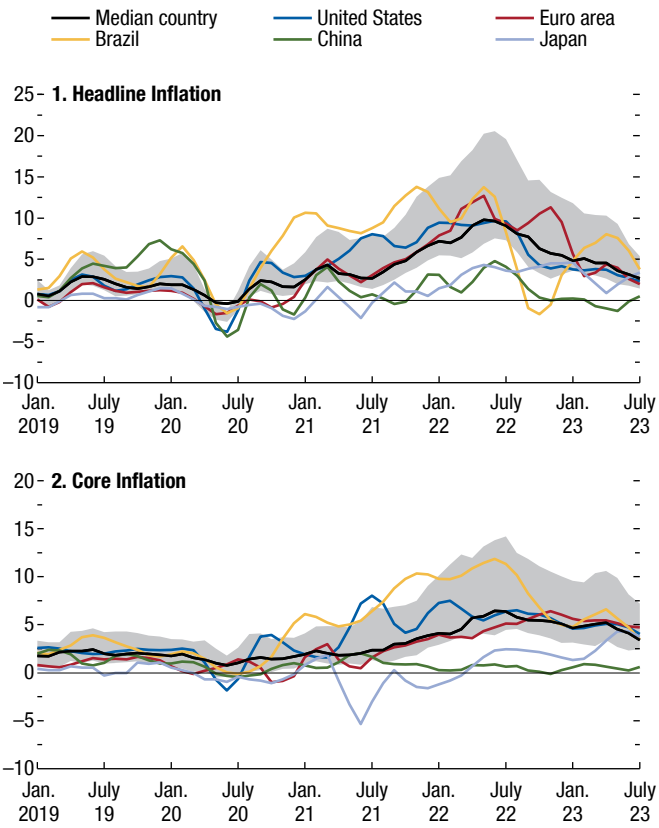
Figure 1.6. China's Economy Losing Momentum



Sources: CEIC Data Company Limited; Haver Analytics; and IMF staff calculations.
Note: In panel 1, real investment denotes PPI-adjusted fixed asset investment in real estate sector. The figure shows year-over-year percent change of housing starts and sales measured in square meters. PPI = producer price index.

Figure 1.7. Inflation Turning the Corner

(Three-month annualized percent change, seasonally adjusted)



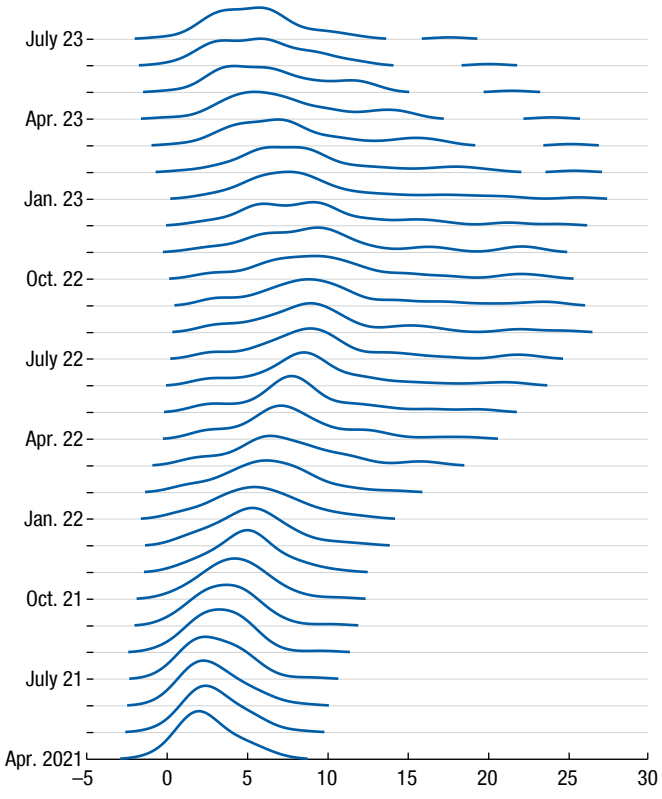
Sources: Haver Analytics; and IMF staff calculations.
Note: The figure shows the developments in headline and core inflation across 17 emerging market and developing economies and 18 advanced economies. The 35 sample economies account for approximately 81 percent of 2022 world output. Core inflation is the change in prices for goods and services, excluding those for food and energy (or the closest available measure). For the euro area (and other European countries for which data are available), energy, food, alcohol, and tobacco are excluded. The grey band depicts the 25th to 75th percentiles of inflation across countries.

in the second quarter of 2023. About four-fifths of the gap between the 2022 peak and the prepandemic (2017–19) annual average level of 3.5 percent has closed. Among major economies, headline inflation in the second quarter of 2023 ranged from –0.1 percent in China (at a quarterly annualized rate) to 2.8 percent in the euro area and 2.7 percent in the United States (Figure 1.7). A narrowing in the cross-country variation in headline inflation has accompanied the decline. As Figure 1.8 reports, the international distribution of inflation rates widened during the 2022 inflation surge, becoming skewed upward, but has since begun to normalize.

A fall in energy prices and—to a lesser extent—in food prices has driven the decline in headline inflation. As the Commodity Special Feature in this chapter reports, notwithstanding a rebound in July, crude oil prices have declined during 2023 and are well below their June 2022 peak, on the back of lower global demand partly driven by tighter global monetary policy affecting activity. Supply curbs by OPEC+ (Organization of the Petroleum Exporting Countries plus selected nonmember countries) were partly offset by strong oil output growth in non-OPEC countries, most notably the United States. Natural gas prices also remain well below their 2022 peak, reflecting ample storage and supplies from Norway and northern Africa. Food prices have declined modestly in 2023, with lower demand offset by supply reductions, notably those resulting from Russia's withdrawal from the Black Sea Grain Initiative in July, which reduced the supply of wheat to the global market. The normalization of supply chains has further contributed to the decline in headline inflation in most countries.

Underlying (core) inflation has also declined, but more gradually. Global inflation excluding food and

Figure 1.8. Headline Inflation Distribution
(Percent, year over year)



Sources: Organisation for Economic Co-operation and Development; and IMF staff calculations.
Note: The figure shows the density distribution of headline inflation developments across 29 advanced economies and 11 emerging market and developing economies.

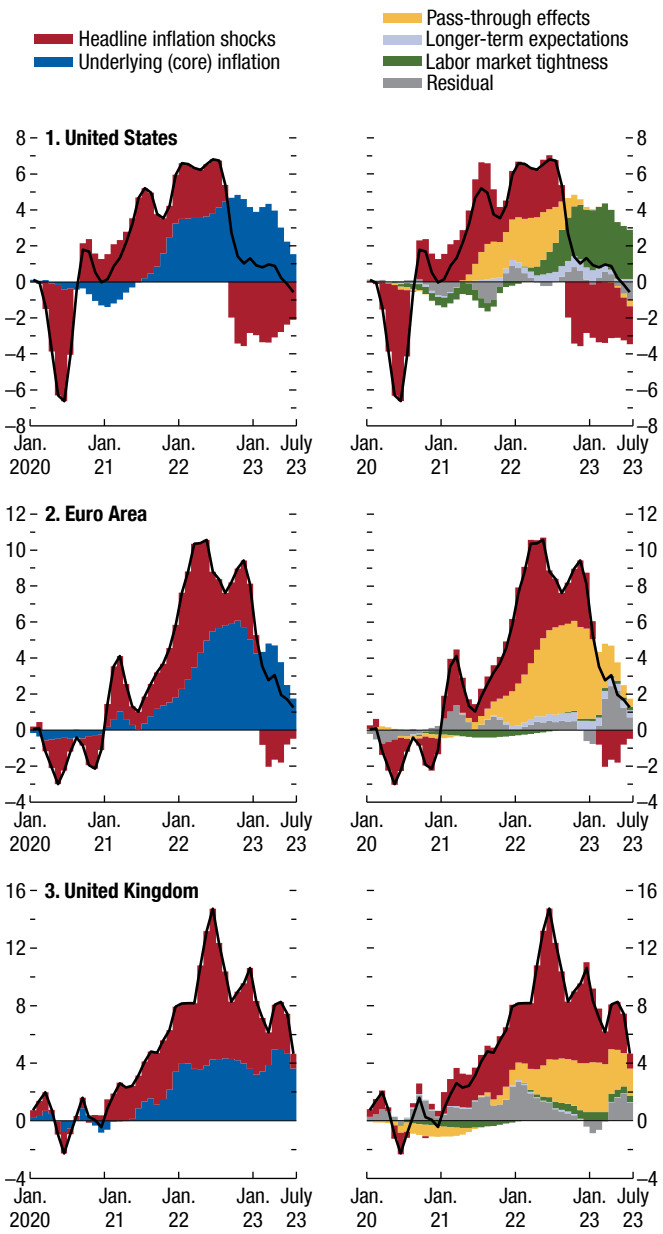
energy prices is down from a peak of 8.5 percent in the first quarter of 2022 (at a quarterly annualized rate) to 4.9 percent in the second quarter of 2023, nearly two-thirds of the way back to the prepandemic (2017–19) annual average of 2.8 percent. Among major economies, in the second quarter of 2023, it ranged from 0.3 percent in China (at a quarterly annualized rate) to 4.6 percent in the euro area and 4.7 percent in the United States. Data for July indicate a rise in inflation excluding food and energy in most advanced economies; more data releases are needed to assess progress in reducing underlying inflation.

The drivers of core inflation have reflected a combination of demand pressures, as shown in labor market conditions and pass-through effects from past shocks to headline inflation shocks, including those arising from supply shifts in various industries. The roles of these factors have differed markedly across economies. Demand pressures in some advanced economies arose from significant COVID-19–era fiscal payments to households, as well as from ample monetary policy stimulus early in the pandemic, which supported the recovery in consumer spending. These policy-induced pressures declined as policy support subsided. Pass-through effects include the effects of past relative price shocks—notably those to the price of energy—on prices and costs in other industries through supply chain inputs and wage demands. An important pass-through channel is, as Chapter 2 explains, the rise in near-term inflation expectations, which has implications for both wage and price setting. IMF staff analysis (Figure 1.9) suggests that in the euro area and the United Kingdom, pass-through from past relative price movements—in particular that from energy price shocks associated with external factors—has recently played a larger role than in the United States in driving core inflation (the staff's methodology was the same as that used in Dao and others 2023).

In the United States, labor market tightness has been an especially strong driver. Although labor markets remain tight, especially in the United States, the recent decline in the ratio of vacancies to the number of unemployed people suggests some easing (Figure 1.10). Wage growth has remained contained, with wage-price spirals—in which prices and wages accelerate together for a sustained period—not generally taking hold in advanced economies (Figure 1.11). At the same time, evidence shows that wages at the bottom of the distribution have risen faster than the average, compressing the wage distribution. Longer-term inflation expectations have remained well anchored and contributed little to recent movements in core inflation (Figure 1.9; Chapter 2).

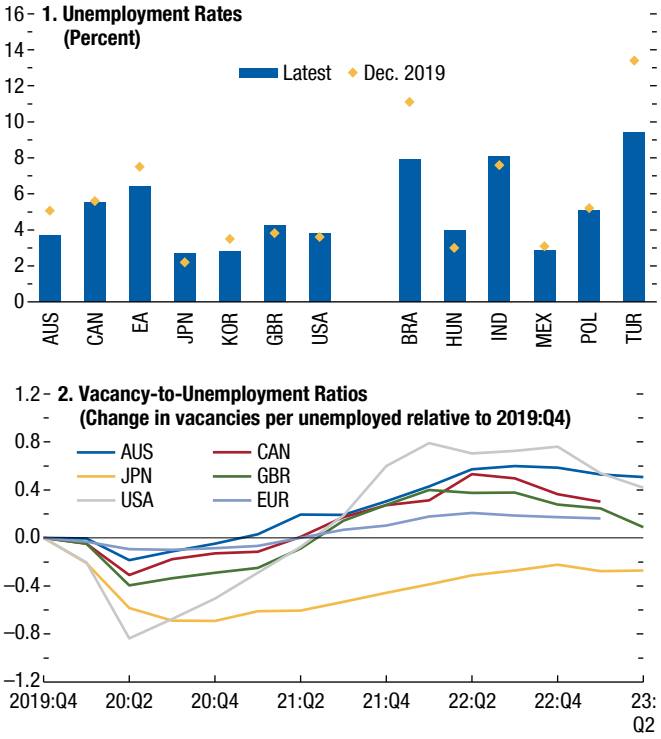
Company profits have increased robustly over the past two years, with wages having risen more slowly than prices (Figure 1.12). For the United States and the euro area, a decomposition of the GDP deflator into labor costs and profits shows that in the early phase of the pandemic (2020–21), profits accounted for most of the rise in prices. But since 2022, labor costs have contributed an increasing share to rising prices—particularly in the United States. The rise in profits (sales revenue minus all costs) does not necessarily signal increased monopoly power, with firms deliberately limiting supplies to raise prices in excess of the cost of producing an additional unit of output (marginal cost). Profits can rise when a surge

Figure 1.9. Different Drivers: Inflation in Selected Economies
(Percentage points; three-month annualized inflation; deviation from December 2019)



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).

Figure 1.10. Labor Markets Still Tight but Easing



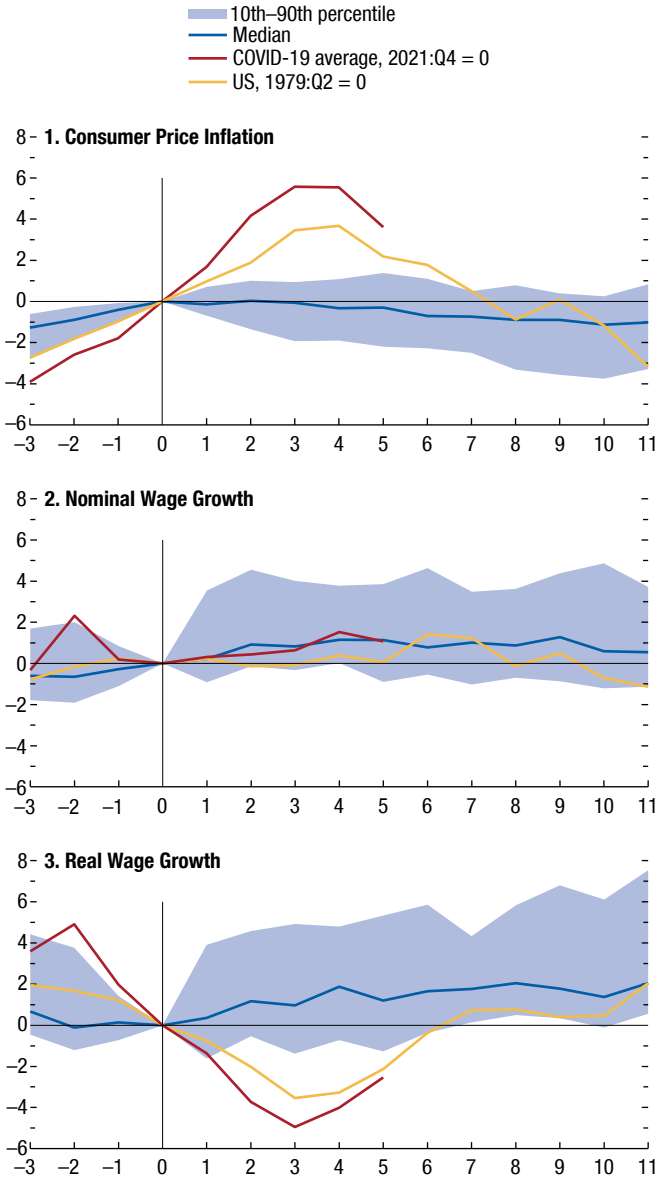
Sources: Eurostat; Haver Analytics; national statistics agencies; Organisation for Economic Co-operation and Development; and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes. EA = euro area; EUR = Europe.

in demand meets supply constraints or when supply constraints tighten, implying higher prices, and wages do not immediately adjust. As wages start to rise, profits can be expected to erode. Accordingly, IMF staff analysis based on firm-level data indicates little change in firms' markups (prices in excess of marginal cost) across various sectors in major advanced economies during 2019–22.[3] Similarly, Colonna, Torrini, and Viviano (2023) conclude that despite profit share increases, firm markups were unchanged or declined across several sectors in Germany and Italy during 2022. Overall, these results suggest that a rise in market power did not significantly contribute to the inflation surge of 2022. Moreover, there is some evidence that since 2022, rising labor costs have accounted for a significantly larger share of US price increases than profits.

Even as central banks have taken decisive action, inflation remains above target in almost all economies with an inflation target. Among major central banks

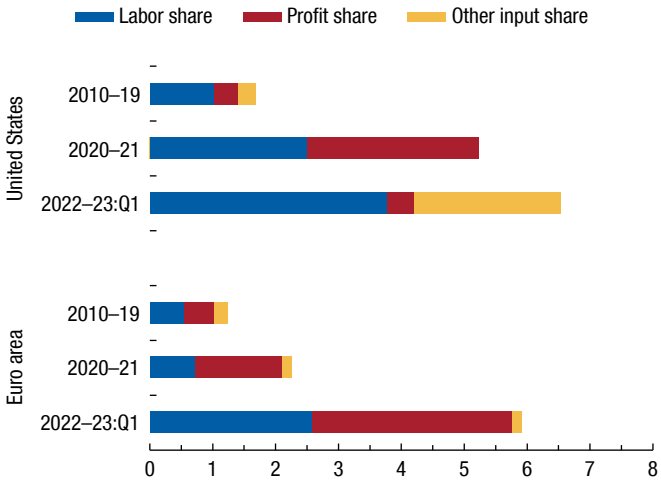
[3]The IMF staff's methodology is that illustrated in Box 1.2 of the October 2022 *World Economic Outlook*. The "economic markup" (a producer's price over true marginal costs, inclusive of the shadow cost of supply constraints) may be constant even while accounting profits (total revenue minus costs) may show an increase. If supply constraints remain, and nominal wages start to rise, prices could then remain unchanged, with the true markup remaining constant but accounting profits declining.

Figure 1.11. Little Evidence of Wage-Price Spirals
(Percentage point deviation from t = 0)



Sources: International Labour Organization; Organisation for Economic Cooperation and Development; US Bureau of Economic Analysis; and IMF staff calculations.
Note: In panel 1, inflation is the year-over-year percent change in the CPI. In panels 2 and 3, nominal and real wages are defined on a per-worker basis. Growth is calculated year over year. The real wage is the nominal wage divided by the CPI. The figure shows developments following episodes in which at least three of the preceding four quarters have (1) accelerating prices or rising price inflation, (2) positive nominal wage growth, (3) falling or constant real wages, and (4) a declining or flat unemployment rate. Twenty-three such episodes are identified within a sample of 33 advanced economies. Data for the COVID-19 episode are the average of data for economies in the sample starting in 2021:Q4. The *x*-axis shows quarters after episodes. See Chapter 2 of the October 2022 *World Economic Outlook* for details. CPI = consumer price index.

Figure 1.12. Profits and Labor Shares: Accounting for Inflation
(Percent, annualized)



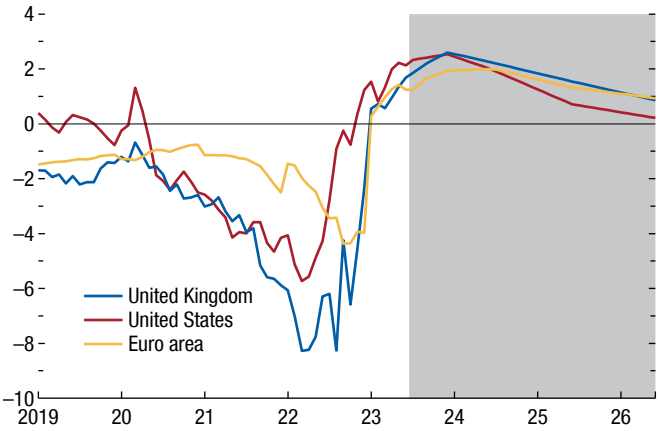
Sources: Eurostat; US Bureau of Economic Analysis; and IMF staff calculations.
Note: US decomposition uses data on factor shares from the nonfinancial corporate sector only. Euro area decomposition is based on whole-economy data.

with inflation above target, the Bank of Canada, the Bank of England, the European Central Bank, and the Federal Reserve all raised rates in July. The Bank of Japan has continued with monetary easing but in July decided to allow more flexibility in the conduct of yield curve control such that the 10-year yield can now rise up to 1 percent. The largest exception to this pattern is China, where headline inflation is subdued and below the authorities' target and the People's Bank of China reduced interest rates in June and August.

Tighter Monetary Policy, Tighter Credit

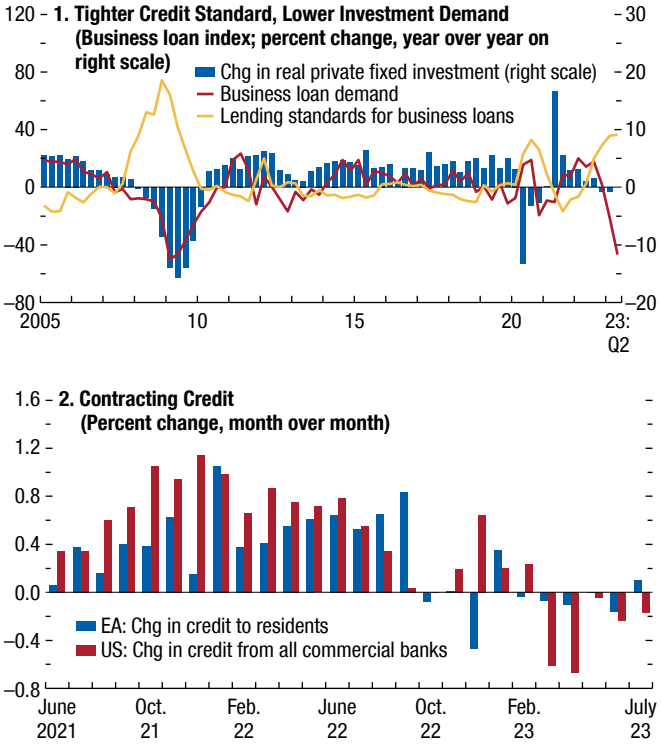
Acute stress in the banking sector has receded. The March 2023 banking scare remained contained and limited to problematic regional banks in the United States and Credit Suisse—a Swiss globally systemically important bank—on account of swift reaction by authorities in both countries. However, rapid rate hikes in major advanced economies over the past 18 months, a necessary response to rapidly rising inflationary pressures, have resulted in a tight monetary policy stance—real rates above neutral rates—that is expected to endure well into 2025 (Figure 1.13). And signs are that tighter monetary policy has started to work its way through the financial system. Lending surveys in the United States and Europe suggest that banks restricted access to credit

Figure 1.13. Monetary Policy to Remain Tight
(Percentage points)



Sources: Bloomberg Finance L.P.; Consensus Economics; Haver Analytics; Platzer and Peruffo (2022); and IMF staff calculations.
Note: The figure shows the evolution of the monetary policy stance, defined as the difference between real interest rates and the real natural rate of interest. The real interest rate is defined as the difference between the policy rate (actual until June 2023 and market implied from Bloomberg after that) and one-year-ahead inflation expectations. For the United Kingdom and the United States, inflation expectations are market-based and computed from inflation swaps. For the euro area, inflation expectations are from Consensus Economics surveys, and the real natural rate of interest is the weighted average of data for France and Germany.

Figure 1.14. Credit Channel Active in US and EA

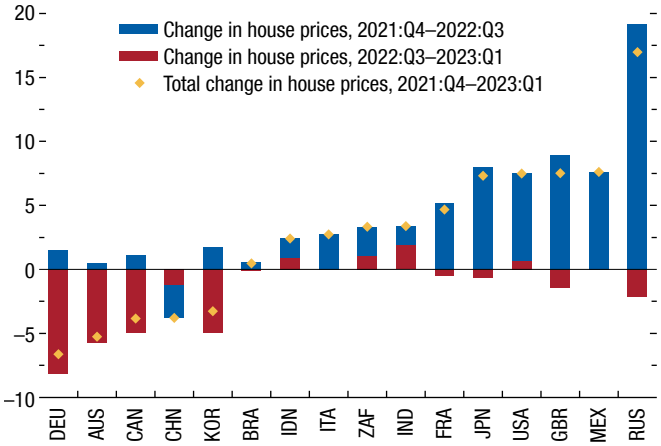


Sources: European Central Bank; Federal Reserve Board; Haver Analytics; and IMF staff calculations.
Note: In panel 1, lending standards and loan demand are based on answers to the Federal Reserve Board's Senior Loan Officer Opinion Survey on Bank Lending Practices and its European counterpart; positive values indicate that lending standards have been tightened or credit demand has increased on balance in the preceding three months. Data for both business loan demand and lending standards are simple averages of data from US and EA responses. Real private fixed investment is the purchasing-power-parity-weighted average of data for US and EA. Chg = change; EA = euro area.

considerably over the past year and were expected to continue to do so in coming months. And there are also clear signs that tighter credit conditions are increasingly affecting real activity. In advanced economies, credit and investment demand contracted in the first half of the year, reflecting tighter supply as well as lower demand for credit, as many businesses began to deleverage in response to higher interest rates and production overcapacity (Figure 1.14). Higher interest rates are likely to put banks under increasing pressure in major economies, both directly (through higher cost of funding) and indirectly (as credit quality deteriorates). Housing markets have already been reacting, with house prices slowing or reversing since the beginning of the tightening cycle in several countries (Figure 1.15), and bankruptcy rates have increased in some economies (increasing by 20 percent in the United States over the last year) as pandemic-time forbearance measures are phased out. Bankruptcies remain lower than before the pandemic in most countries but are rising rapidly.

Debt markets have started to reflect tighter monetary policy, whereas spreads to risk-free government debt have stayed more or less constant. This suggests that although credit conditions have tightened significantly, there is no immediate indication of a credit crunch.

Figure 1.15. House Prices Slowing or Reversing, 2022–23
(Cumulated percent change)



Sources: Bank for International Settlements; and IMF staff calculations.
Note: Data labels in the figure use International Organization for Standardization (ISO) country codes.

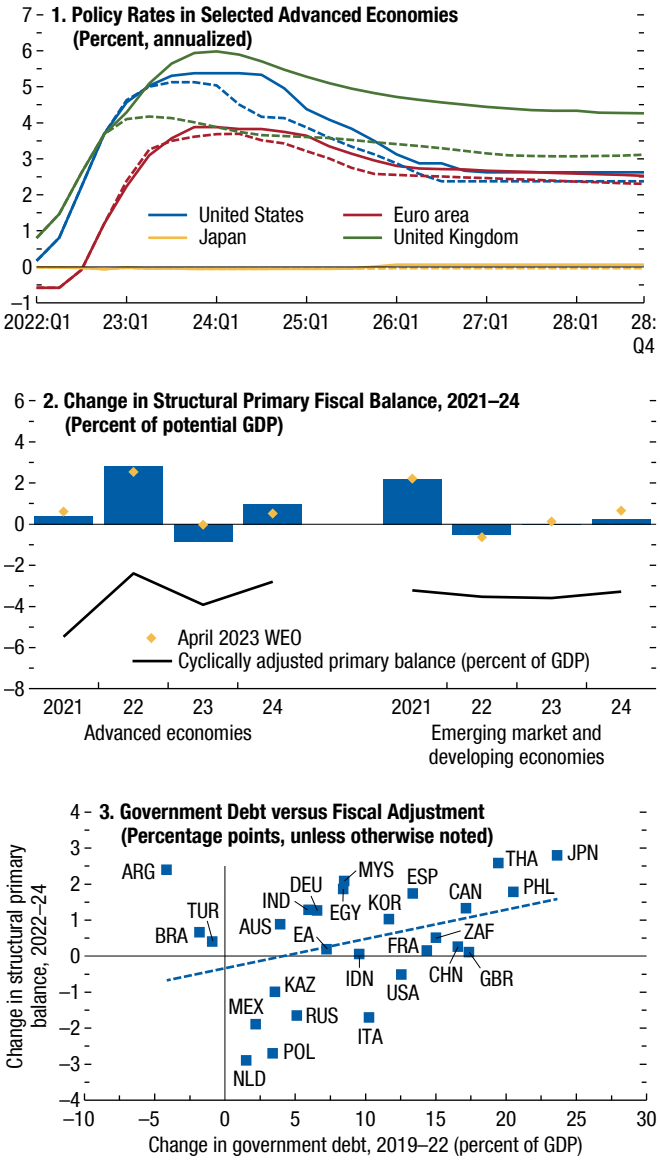
Outlook: Stable but Slow

The latest projections confirm that the global economy is slowing as inflation declines from last year's multidecade peak. A contraction in global per capita real GDP—which often happens in a global recession—is not part of the baseline scenario. Growth and employment in the first half of the year remained more resilient than forecast in the April 2023 WEO. Although there is little change in the forecast for the global average since the July 2023 WEO *Update*, several shifts in growth and inflation prospects are observed across countries. In addition, medium-term prospects for economic growth remain the lowest in decades, with middle- and lower-income countries facing a slower pace of convergence toward higher living standards.

The baseline forecasts for the global economy are predicated on a number of assumptions (Figure 1.16), notably for fuel and nonfuel commodity prices, as well as the stances of monetary and fiscal policy:

- *Commodity price assumptions:* Prices of fuel commodities are projected to fall on average by 36 percent and oil prices by about 17 percent, with the decreases reflecting mainly the slowdown in global economic activity, and natural gas and coal prices to decline from their 2022 peaks by 61 percent and 51 percent, respectively. The forecast for nonfuel commodity prices is a decline of 6.3 percent, on average, in 2023, with prices for base metals expected to decrease by 4.7 percent, the decreases reflecting concerns regarding real estate investment in China. Food commodity prices, after rising by 14.8 percent in 2022, are predicted to decline by 6.8 percent in 2023, with prices remaining well above their 2021 levels. Compared with forecasts in the July 2023 WEO *Update*, an upward revision to wheat prices following the suspension of the Black Sea Grain Initiative (which occurred after the July 2023 WEO *Update* forecasting round) is broadly offset by downward revisions to other food commodity prices.
- *Monetary policy assumptions:* Global interest rate assumptions are on average revised upward compared with those in the April 2023 WEO, reflecting actual and signaled policy tightening by major central banks. The Federal Reserve's policy rate is expected to peak at its current level of about 5.4 percent, the Bank of England to raise its to peak at about 6.0 percent, and the European Central Bank to raise its to peak at 3.9 percent in 2023, before all three reduce rates in 2024. The higher policy path over the longer term has contributed to the rise in long-term policy rate assumptions. For Japan, policy rates for the medium term (2026–28) are revised

Figure 1.16. Monetary and Fiscal Policy Assumptions



Source: IMF staff calculations.
Note: In panel 1, solid lines denote assumptions for the October 2023 WEO and dashed lines for the April 2023 WEO. In panel 2, the cyclically adjusted primary balance is the general government balance (excluding interest income or expenses) adjusted for the economic cycle. 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. Data labels in the figure use International Organization for Standardization (ISO) country codes. EA = euro area; WEO = *World Economic Outlook*.

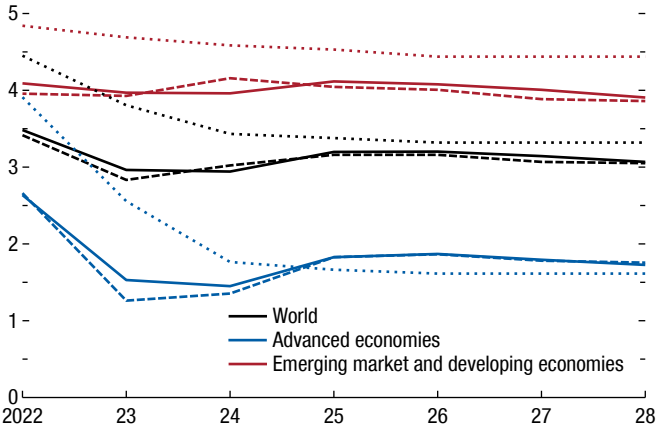
upward, reflecting changes to the country's yield-curve-control framework, and long-term rates are revised upward accordingly. As near-term inflation expectations decline, real interest rates are likely to stay elevated even after nominal rates start to fall. In addition, changes in monetary policy are becoming less synchronous, with some central banks that tightened policy earlier (such as the Central Bank of Brazil) initiating their easing cycle.

- *Fiscal policy assumptions:* Governments in advanced economies are on average expected to ease fiscal policy in 2023, following a rise in fiscal balances in 2022, whereas in emerging market and developing economies, the projected fiscal stance is on average neutral. Fiscal consolidation is expected in 2024 in both groups of economies. Fiscal tightening is on average expected to be greater in economies that recently experienced a sharper rise in government debt (Figure 1.16, panel 3). A rise in government debt amounting to 10 percentage points of GDP during 2019–22 is associated on average with fiscal consolidation (rise in the structural primary balance) of 0.8 percentage point of GDP during 2022–24. Exceptions to this pattern include, for example, Argentina, where despite a decline, debt levels remain high, and the fiscal stance is expected to continue tightening to secure fiscal and debt sustainability.

Growth Outlook: Offsetting Divergences

Global growth is projected to fall from 3.5 percent in 2022 to 3.0 percent in 2023 and 2.9 percent in 2024 on an annual average basis (Table 1.1). There is a downward revision of 0.1 percentage point for 2024 compared with the July 2023 WEO *Update* projection. At the same time, there are more sizable changes in the underlying growth trajectories of major economies, with stronger projections for the United States and downward revisions for China and the euro area. The forecasts for growth during 2023–24 are also slower than those before the onset of the shocks of 2020–22 (Figure 1.17): the January 2022 WEO *Update* projected global growth at 3.8 percent in 2023 and 3.4 percent in 2024. The 2023–24 forecasts are also below the historical (2000–19) annual average of 3.8 percent. Growth is below the historical average across broad income groups, both in overall GDP as well as in per capita GDP. On a year-over-year basis,

Figure 1.17. Growth Outlook: Stable and Slow
(Percent; dashes = April 2023; dots = January 2022)



Source: IMF staff calculations.
Note: Solid lines denote GDP growth from the October 2023 WEO, and dashed lines and dotted lines denote GDP growth forecasts from the April 2023 WEO and the January 2022 WEO *Update*, respectively. WEO = *World Economic Outlook*.

global growth bottomed out in the fourth quarter of 2022. However, in some major economies, it is not expected to have bottomed out until the second half of 2023.

Advanced economies continue to drive the decline in annual average growth from 2022 to 2023, with stronger services activity offset by weaker manufacturing, as well as idiosyncratic factors. On average, these economies are expected to have broadly stable growth in 2024 with a pickup in 2025. By contrast, emerging market and developing economies, on average, are projected to see stable growth over 2022–24, with a slight pickup in 2025, although with sizable shifts across regions.

Growth Forecast for Advanced Economies

For *advanced economies*, the growth slowdown projected is significant—from 2.6 percent in 2022 to 1.5 percent in 2023 and 1.4 percent in 2024—with no overall revision from the July 2023 WEO *Update*, amid stronger-than-expected US momentum and weaker-than-expected growth in the euro area. About 90 percent of advanced economies are projected to see lower growth in 2023. With the projected slowdown in advanced economies, annual unemployment is projected to rise by an average of 0.1 percentage point over 2022–24, although with more pronounced

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

(Percent change, unless noted otherwise)

		Projections		Difference from July 2023 WEO *Update*[1]		Difference from April 2023 WEO[1]	
	2022	2023	2024	2023	2024	2023	2024
World Output	**3.5**	**3.0**	**2.9**	**0.0**	**–0.1**	**0.2**	**–0.1**
Advanced Economies	**2.6**	**1.5**	**1.4**	**0.0**	**0.0**	**0.2**	**0.0**
United States	2.1	2.1	1.5	0.3	0.5	0.5	0.4
Euro Area	3.3	0.7	1.2	–0.2	–0.3	–0.1	–0.2
Germany	1.8	–0.5	0.9	–0.2	–0.4	–0.4	–0.2
France	2.5	1.0	1.3	0.2	0.0	0.3	0.0
Italy[2]	3.7	0.7	0.7	–0.4	–0.2	0.0	–0.1
Spain	5.8	2.5	1.7	0.0	–0.3	1.0	–0.3
Japan	1.0	2.0	1.0	0.6	0.0	0.7	0.0
United Kingdom[2]	4.1	0.5	0.6	0.1	–0.4	0.8	–0.4
Canada	3.4	1.3	1.6	–0.4	0.2	–0.2	0.1
Other Advanced Economies[3]	2.6	1.8	2.2	–0.2	–0.1	0.0	0.0
Emerging Market and Developing Economies	**4.1**	**4.0**	**4.0**	**0.0**	**–0.1**	**0.1**	**–0.2**
Emerging and Developing Asia	4.5	5.2	4.8	–0.1	–0.2	–0.1	–0.3
China	3.0	5.0	4.2	–0.2	–0.3	–0.2	–0.3
India[4]	7.2	6.3	6.3	0.2	0.0	0.4	0.0
Emerging and Developing Europe	0.8	2.4	2.2	0.6	0.0	1.2	–0.3
Russia	–2.1	2.2	1.1	0.7	–0.2	1.5	–0.2
Latin America and the Caribbean	4.1	2.3	2.3	0.4	0.1	0.7	0.1
Brazil	2.9	3.1	1.5	1.0	0.3	2.2	0.0
Mexico	3.9	3.2	2.1	0.6	0.6	1.4	0.5
Middle East and Central Asia	5.6	2.0	3.4	–0.5	0.2	–0.9	–0.1
Saudi Arabia	8.7	0.8	4.0	–1.1	1.2	–2.3	0.9
Sub-Saharan Africa	4.0	3.3	4.0	–0.2	–0.1	–0.3	–0.2
Nigeria	3.3	2.9	3.1	–0.3	0.1	–0.3	0.1
South Africa	1.9	0.9	1.8	0.6	0.1	0.8	0.0
Memorandum							
World Growth Based on Market Exchange Rates	3.0	2.5	2.4	0.0	0.0	0.1	0.0
European Union	3.6	0.7	1.5	–0.3	–0.2	0.0	–0.1
ASEAN-5[5]	5.5	4.2	4.5	–0.4	0.0	–0.3	–0.1
Middle East and North Africa	5.6	2.0	3.4	–0.6	0.3	–1.1	0.0
Emerging Market and Middle-Income Economies	4.0	4.0	3.9	0.1	0.0	0.1	–0.1
Low-Income Developing Countries	5.2	4.0	5.1	–0.5	–0.1	–0.7	–0.3
World Trade Volume (goods and services)	**5.1**	**0.9**	**3.5**	**–1.1**	**–0.2**	**–1.5**	**0.0**
Imports							
Advanced Economies	6.7	0.1	3.0	–1.8	–0.1	–1.7	0.3
Emerging Market and Developing Economies	3.2	1.7	4.4	–0.2	–0.5	–1.6	–0.7
Exports							
Advanced Economies	5.3	1.8	3.1	–1.0	–0.1	–1.2	0.0
Emerging Market and Developing Economies	4.1	–0.1	4.2	–1.3	0.1	–1.7	–0.1
Commodity Prices (US dollars)							
Oil[6]	39.2	–16.5	–0.7	4.2	5.5	7.6	5.1
Nonfuel (average based on world commodity import weights)	7.9	–6.3	–2.7	–1.5	–1.3	–3.5	–1.7
World Consumer Prices[7]	**8.7**	**6.9**	**5.8**	**0.1**	**0.6**	**–0.1**	**0.9**
Advanced Economies[8]	7.3	4.6	3.0	–0.1	0.2	–0.1	0.4
Emerging Market and Developing Economies[7]	9.8	8.5	7.8	0.2	1.0	–0.1	1.3

Source: IMF staff estimates.

Note: Real effective exchange rates are assumed to remain constant at the levels prevailing during July 25, 2023–August 22, 2023. 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, July 2023 WEO *Update*, and April 2023 WEO forecasts.

[2]See the country-specific notes for Italy and the United Kingdom in the "Country Notes" section of the Statistical Appendix.

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

[4]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.

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

Table 1.1. Overview of the *World Economic Outlook* Projections *(continued)*

(Percent change, unless noted otherwise)

	Q4 over Q4[9]						
		Projections		Difference from July 2023 WEO *Update*[1]		Difference from April 2023 WEO[1]	
	2022	2023	2024	2023	2024	2023	2024
World Output	**2.2**	**2.9**	**3.2**	**0.0**	**0.3**	**0.0**	**0.1**
Advanced Economies	**1.2**	**1.5**	**1.5**	**0.1**	**0.1**	**0.4**	**–0.1**
United States	0.9	1.9	1.4	0.5	0.3	0.9	0.1
Euro Area	1.7	0.7	1.4	–0.5	–0.1	0.0	–0.4
Germany	0.8	–0.2	1.7	–0.7	0.2	–0.4	–0.1
France	0.7	1.0	1.5	0.1	–0.1	0.2	0.1
Italy[2]	1.5	0.3	1.2	–0.6	0.1	–0.1	0.1
Spain	3.8	1.6	2.0	–0.2	–0.2	0.3	–0.1
Japan	0.5	2.1	1.0	0.6	0.0	0.8	0.0
United Kingdom[2]	0.6	0.6	0.8	0.1	–0.5	1.0	–1.2
Canada	2.1	1.2	2.1	–0.4	0.3	–0.2	0.3
Other Advanced Economies[3]	0.9	2.0	2.2	0.2	0.1	0.1	0.4
Emerging Market and Developing Economies	**3.2**	**4.0**	**4.7**	**–0.1**	**0.6**	**–0.5**	**0.3**
Emerging and Developing Asia	4.2	5.0	5.5	–0.3	0.6	–0.8	0.2
China	3.2	4.9	4.7	–0.9	0.6	–0.9	0.0
India[4]	6.1	5.5	7.7	1.2	1.3	–0.7	1.3
Emerging and Developing Europe	–1.2	2.8	2.5	0.1	0.5	0.4	0.0
Russia	–3.1	2.2	1.2	0.3	0.4	1.3	–0.2
Latin America and the Caribbean	2.8	1.5	3.2	0.7	0.3	0.3	1.1
Brazil	2.5	2.1	2.8	0.8	0.6	1.2	0.8
Mexico	4.3	2.6	1.9	0.7	0.2	1.4	0.0
Middle East and Central Asia	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Saudi Arabia	5.5	0.9	4.0	–1.1	1.1	–2.2	0.8
Sub-Saharan Africa	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Nigeria	3.2	2.6	3.6	0.0	0.0	–0.4	–0.1
South Africa	1.3	1.6	2.0	0.7	0.0	0.5	0.3
Memorandum							
World Growth Based on Market Exchange Rates	1.8	2.5	2.6	0.0	0.2	0.1	0.0
European Union	1.8	1.0	1.6	–0.5	–0.1	0.0	–0.3
ASEAN-5[5]	4.7	4.2	4.6	–0.4	–0.2	–0.1	–0.7
Middle East and North Africa	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Emerging Market and Middle-Income Economies	3.1	4.0	4.6	–0.1	0.5	–0.5	0.3
Low-Income Developing Countries	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Commodity Prices (US dollars)							
Oil[6]	8.8	–2.5	–5.7	10.5	–0.8	14.8	–2.3
Nonfuel (average based on world commodity import weights)	–0.4	–3.1	0.7	–3.1	–0.1	–6.6	1.2
World Consumer Prices[7]	**9.2**	**5.9**	**4.8**	**0.4**	**0.9**	**0.3**	**1.1**
Advanced Economies[8]	7.7	3.3	2.6	0.0	0.1	0.1	0.4
Emerging Market and Developing Economies[7]	10.5	8.1	6.6	0.7	1.5	0.5	1.6

[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 $96.36 in 2022; the assumed price, based on futures markets, is $80.49 in 2023 and $79.92 in 2024.

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

[8]The inflation rates for 2023 and 2024, respectively, are as follows: 5.6 percent and 3.3 percent for the euro area, 3.2 percent and 2.9 percent for Japan, and 4.1 percent and 2.8 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.

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

		Projections		Difference from July 2023 WEO *Update*[1]		Difference from April 2023 WEO[1]	
	2022	2023	2024	2023	2024	2023	2024
World Output	**3.0**	**2.5**	**2.4**	**0.0**	**0.0**	**0.1**	**0.0**
Advanced Economies	**2.6**	**1.5**	**1.4**	**0.0**	**0.1**	**0.3**	**0.1**
Emerging Market and Developing Economies	**3.7**	**4.0**	**3.8**	**0.0**	**–0.1**	**0.0**	**–0.2**
Emerging and Developing Asia	3.9	5.1	4.6	–0.1	–0.2	–0.1	–0.2
Emerging and Developing Europe	0.4	2.2	2.1	0.6	–0.1	1.2	–0.2
Latin America and the Caribbean	3.9	2.2	2.2	0.4	0.2	0.7	0.1
Middle East and Central Asia	5.8	1.9	3.4	–0.5	0.2	–1.1	–0.1
Sub-Saharan Africa	3.9	3.2	3.9	–0.1	0.0	–0.2	–0.1
Memorandum							
European Union	3.4	0.6	1.3	–0.3	–0.3	–0.1	–0.2
Middle East and North Africa	6.0	1.8	3.4	–0.6	0.3	–1.3	0.1
Emerging Market and Middle-Income Economies	3.6	4.0	3.7	0.0	–0.2	0.1	–0.2
Low-Income Developing Countries	5.1	4.0	5.1	–0.5	–0.1	–0.7	–0.3

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, July 2023 WEO *Update*, and April 2023 WEO forecasts.

increases in Canada (1.0 percentage point), the United Kingdom (0.9 percentage point), and the United States (0.2 percentage point). Nevertheless, the forecast for unemployment in 2024 is on average 0.4 percentage point lower than that in the April 2023 WEO, reflecting still-tight labor markets in a number of cases.

- In the *United States*, growth is projected at 2.1 percent in 2023 and 1.5 percent in 2024. The forecast is revised upward by 0.3 percentage point for 2023 and by 0.5 percentage point for 2024, compared with July 2023 WEO *Update* projections, owing to stronger business investment in the second quarter and resilient consumption growth, a reflection of a still-tight labor market. In addition, as already mentioned, the general government fiscal stance is expected to be expansionary in 2023. However, with wage growth slowing, savings accumulated during the pandemic running out, and the Federal Reserve maintaining tight monetary policy, growth is expected to slow in the second half of 2023 and in 2024. The unemployment rate is forecast to rise from 3.6 percent in the second quarter of 2023 to a peak of 4.0 percent by the last quarter of 2024—a lower peak than previously projected (5.2 percent in the April 2023 WEO and 5.6 percent at the time of the October 2022 WEO), consistent with a softer landing than earlier expected for the US economy.
- Growth in the *euro area* is projected to fall from 3.3 percent in 2022 to 0.7 percent in 2023, before rising to 1.2 percent in 2024. The forecast is revised downward by 0.2 percentage point and 0.3 percentage point for 2023 and 2024, respectively, compared with July 2023 WEO *Update* projections. There is also a divergence in growth across major euro area economies in 2023. For *Germany*, where a slight economic contraction is now projected in the second half of 2023, amid weakness in interest-rate-sensitive sectors and slower trading-partner demand, there is a downward revision of 0.2 percentage point to growth of –0.5 percent. For *France*, where there was catch-up in industrial production and external demand outperformed in the first half of 2023, there is an upward 0.2 percentage point revision to growth of 1.0 percent.
- Among other major advanced economies, there is also some divergence in growth. Growth in the *United Kingdom* is projected to decline from 4.1 percent in 2022 to 0.5 percent in 2023, with a 0.1 percentage point upward revision. The decline in growth reflects tighter monetary policies to curb still-high inflation and lingering impacts of the terms-of-trade shock from high energy prices. In *Japan*, growth is projected to rise from 1.0 percent in 2022 to 2.0 percent in 2023, with a 0.6 percentage point upward revision, buoyed by pent-up demand, a surge in inbound tourism, and accommodative policies, as well as by a rebound in auto exports that had earlier been held back by supply chain issues.

Growth Forecast for Emerging Market and Developing Economies

For *emerging market and developing economies*, growth is projected to decline relatively modestly, from 4.1 percent in 2022 to 4.0 percent in both 2023 and 2024, with a downward revision of 0.1 percentage point for 2024 compared with the July 2023 WEO *Update* projection. However, this average path hides regional divergences, with growth in two of the five main geographic regions rising in 2023 and then falling in 2024.

- Growth in *emerging and developing Asia* is projected to rise from 4.5 percent in 2022 to 5.2 percent in 2023, then to decline to 4.8 percent in 2024, with downward revisions of 0.1 percentage point and 0.2 percentage point for 2023 and 2024, respectively, compared with July projections. The revision reflects a lower forecast for *China*, which is revised downward by 0.2 percentage point for 2023 and by 0.3 percentage point for 2024 to growth of 5.0 percent in 2023 and 4.2 percent in 2024. With the property market crisis in that country, lower investment is the main contributor to the revision. Growth in *India* is projected to remain strong, at 6.3 percent in both 2023 and 2024, with an upward revision of 0.2 percentage point for 2023, reflecting stronger-than-expected consumption during April-June.
- Growth in *emerging and developing Europe* is projected to rise to 2.4 percent in 2023, with an upward revision of 0.6 percentage point since July, before declining to 2.2 percent in 2024. The forecast for *Russia* is for a rise from –2.1 percent in 2022 to 2.2 percent in 2023, with an upward revision of 0.7 percentage point for 2023. The rise in growth reflects a substantial fiscal stimulus, strong investment, and resilient consumption in the context of a tight labor market. The upward revision for the region for 2023 also reflects an increase of 5.0 percentage points to the forecast for *Ukraine* to growth of 2.0 percent; the increase is due to stronger-than-expected domestic demand growth, with firms and households adapting to the war in that country amid sharply declining inflation and stable foreign exchange markets. It additionally reflects a 1.0 percentage point upside revision to growth of 4.0 percent in *Türkiye*, on the back of stronger-than-expected domestic demand.
- *Latin America and the Caribbean* is expected to see growth decline from 4.1 percent in 2022 to 2.3 percent in both 2023 and 2024, although with 0.4 percentage point and 0.1 percentage point upward revisions for 2023 and 2024, respectively, since July. The decline for 2023 reflects a normalization of growth along with the effect of tighter policies, a weaker external environment, and lower commodity prices. The upward revision to 2023 since July reflects stronger-than-expected growth in *Brazil*, revised upward by 1.0 percentage point to 3.1 percent, driven by buoyant agriculture and resilient services in the first half of 2023. Consumption has also remained strong, supported by fiscal stimulus. The upward revision for the region also reflects stronger-than-expected growth in *Mexico*, revised upward by 0.6 percentage point to 3.2 percent, with the delayed postpandemic recovery taking hold in construction and services and spillovers from resilient US demand.
- Growth in the *Middle East and Central Asia* is projected to decline from 5.6 percent in 2022 to 2.0 percent in 2023, before picking up to 3.4 percent in 2024, with a 0.5 percentage point downward revision for 2023 and a 0.2 percentage point upward revision for 2024. The change for 2023 is attributable mainly to a steeper-than-expected growth slowdown in *Saudi Arabia*, from 8.7 percent in 2022 to 0.8 percent in 2023, with a negative revision to the latter of 1.1 percentage point. The downgrade for growth in Saudi Arabia in 2023 reflects announced production cuts, including unilateral cuts and those in line with an agreement through OPEC+. Private investment, including that from "gigaproject" implementation, continues to support non-oil GDP growth, which remains strong and unchanged from previous projections. The downgrade for 2023 also reflects cuts to the growth forecast for Sudan to about –18.3 percent (a downward revision of nearly 20 percentage points) reflecting the outbreak of conflict, deteriorating domestic security, and the worsening humanitarian situation. The upgrade for 2024 reflects the unwinding of some of the announced production cuts.
- In *sub-Saharan Africa*, growth is projected to decline to 3.3 percent in 2023 before picking up to 4.0 percent in 2024, with 0.2 percentage point and 0.1 percentage point downward revisions for 2023 and 2024, respectively, and with growth remaining below the historical average of 4.8 percent. The projected decline reflects, in a number of cases, worsening weather shocks, the global slowdown, and domestic supply issues, including, notably, in the electricity sector. Growth in *Nigeria* is projected

to decline from 3.3 percent in 2022 to 2.9 percent in 2023 and 3.1 percent in 2024, with negative effects of high inflation on consumption taking hold. The forecast for 2023 is revised downward by 0.3 percentage point, reflecting weaker oil and gas production than expected, partially as a result of maintenance work. In *South Africa*, growth is expected to decline from 1.9 percent in 2022 to 0.9 percent in 2023, with the decline reflecting power shortages, although with a 0.6 percentage point upward revision thanks to the intensity of power shortages in the second quarter of 2023 being lower than expected.

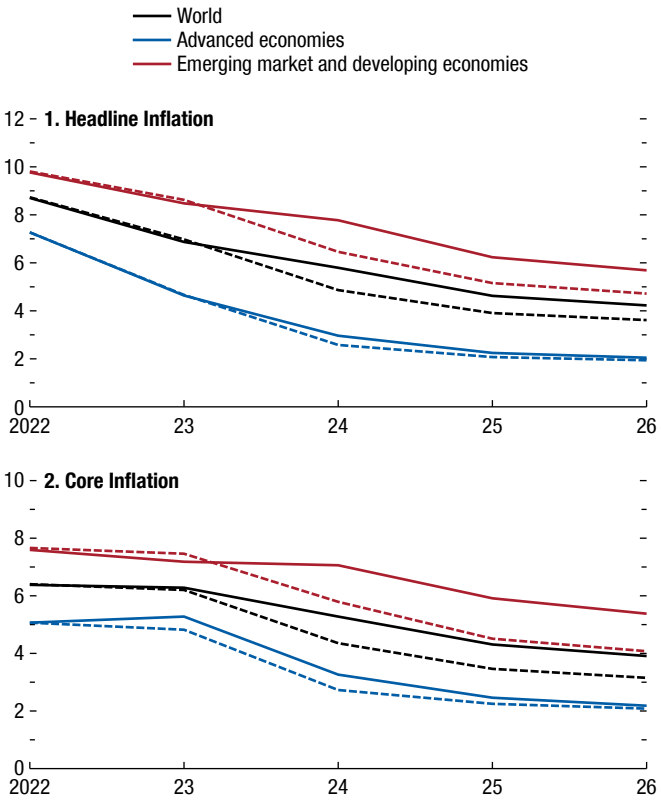
Inflation Outlook: Gradual Decline to Target

Global headline inflation is expected to steadily decline from its peak of 8.7 percent in 2022 (annual average) to 6.9 percent in 2023 and 5.8 percent in 2024 (Table 1.1). The forecast for 2024 is revised upward by 0.6 percentage point, reflecting higher-than-expected core inflation. On a year-over-year basis, projected global headline inflation peaked at 9.5 percent in the third quarter of 2022 and is projected to reach 5.9 percent by the fourth quarter of 2023 before falling to 4.8 percent in the fourth quarter of 2024, still above the prepandemic (2017–19) annual average of about 3.5 percent. Although monetary tightening is starting to bear fruit, a central driver of the fall in headline inflation projected for 2023 is declining international commodity prices.

Nearly three-quarters of economies are expected to see lower headline inflation in 2023, but the pace of disinflation is especially pronounced for *advanced economies* (Figure 1.18). These economies are expected to see (annual average) inflation fall by 2.7 percentage points in 2023, about double the (1.3 percentage point) decline projected for *emerging market and developing economies*. Part of this difference reflects advanced economies' benefiting from stronger monetary policy frameworks and communications, which facilitate disinflation (Chapter 2), but the difference also reflects lower exposure to shocks to commodity prices and exchange rates. In *low-income developing countries*, inflation is on average projected to be in double digits and is not expected to fall until 2024.

There are also large differences in the expected pace of change in headline inflation across major economies, as Figure 1.19 reports, reflecting different starting points. The *euro area* is expected to see an especially

Figure 1.18. Inflation Outlook: Falling
(Percent; dashes = April 2023)

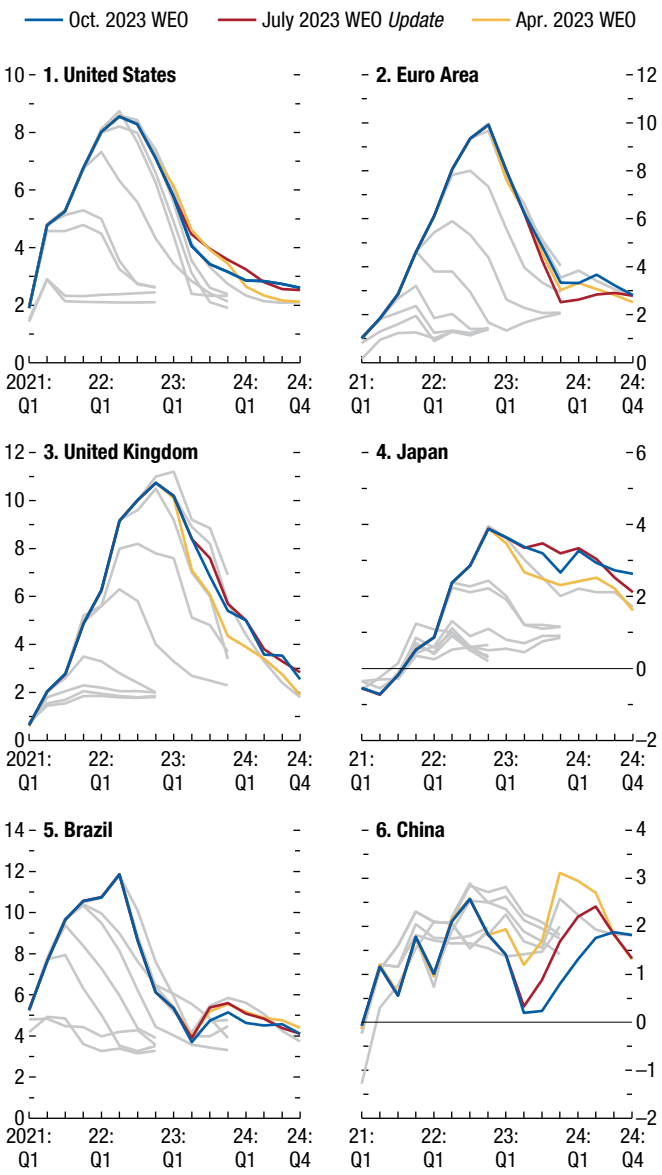


Source: IMF staff calculations.
Note: Solid lines denote inflation rates from the October 2023 WEO, and dashed lines denote inflation rates from the April 2023 WEO. Core inflation excludes volatile food and energy prices. WEO = *World Economic Outlook*.

sharp fall in (year-over-year) inflation in 2023—of 6.6 percentage points—from 9.9 percent in the fourth quarter of 2022 to 3.3 percent in the fourth quarter of 2023, with the fall reflecting in part the decrease in energy prices. In the *United States*, where inflation peaked earlier, the forecast is for a fall of 3.9 percentage points, from 7.1 percent in the fourth quarter of 2022 to 3.2 percent in the fourth quarter of 2023. In *China*, where inflation declined to near zero in the second quarter of 2023, a gradual rise—to still-low levels—is projected for the second half of 2023 as the drag from lower commodity prices wanes.

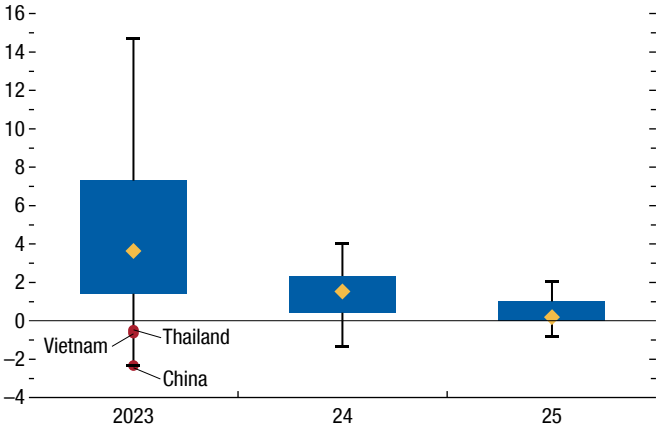
Core inflation is generally projected to decline more gradually than headline. Globally, it is set to decline modestly, from 6.4 percent in 2022 (annual average) to 6.3 percent in 2023 and 5.3 percent in 2024. It is proving more persistent than projected, with upward revisions of 0.3 percentage point and 0.6 percentage point for 2023 and 2024, respectively, compared

Figure 1.19. Headline Inflation Forecasts for Selected Economies
(Percent, year over year)



Source: IMF staff calculations.
Note: Gray lines sketch past WEO forecasts from January 2021 until January 2023 WEO *Update*. WEO = *World Economic Outlook*.

Figure 1.20. Inflation Mostly above Target until 2025
(Percentage points; distribution of deviation from inflation target)



Sources: Central bank websites; Haver Analytics; and IMF staff calculations.
Note: The figure shows the distribution (box-whisker plot) by each year. The diamonds in the middle of the boxes are the medians and the upper (lower) limits of the boxes are the third (first) quartile. The whiskers show the maximum and minimum within the boundary of 1.5 times the interquartile range from upper and lower quartiles, respectively.

with the July 2023 WEO *Update* projections. The drivers of the upside revisions differ by economy but reflect, in several cases, still tight labor markets and stickier-than-expected services inflation, as well as, in some cases, including *Türkiye*, which accounts for the bulk of the global upside revision for 2024, the effects of past currency depreciations and the related pass-through into underlying inflation. On an annual average basis, over half of economies are expected to see no decline in core inflation in 2023. On a fourth-quarter-over-fourth-quarter basis, however, about 86 percent of economies (for which quarterly data are available) are projected to see a decline. Overall, returning inflation to target is expected to take until at least 2025 in most cases. Comparison of official inflation targets with the latest forecasts for 72 inflation-targeting economies (34 advanced economies and 38 major emerging market and developing economies) suggests that annual average inflation will exceed targets (or the midpoints of target ranges) in 93 percent of these economies in 2023 (Figure 1.20). Countries where inflation in 2023 is expected to average below target include China, Thailand, and Vietnam. In China, this projection reflects subdued core inflation in the context of substantial economic slack, with rising youth unemployment and pass-through from lower energy costs. In Thailand, this prospective outcome reflects strong pass-through from lower energy prices to core inflation as well as lower house price inflation. In Vietnam, it reflects a slowdown in economic activity and pass-through from lower energy prices. In 2024, inflation is still expected to exceed targets (or the midpoints of target ranges) in 89 percent of economies, with an expected median deviation of about 1 percentage point. By 2025, inflation is expected to be within only 0.2 percentage point of target (or the midpoints of target ranges) in most economies.

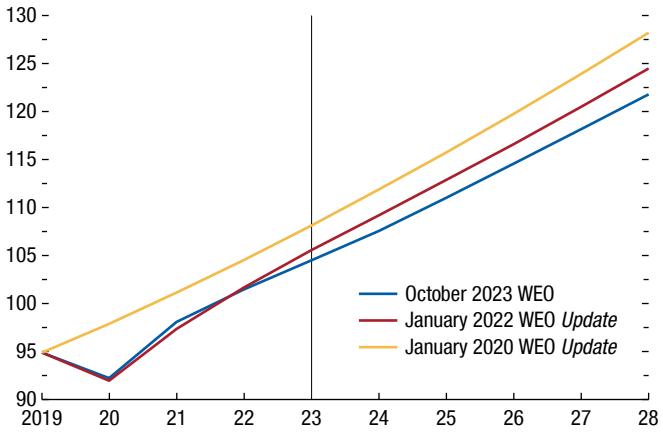
A Mediocre Medium Term

Forecasts for the growth rate of global GDP over the medium term are at their lowest in decades. As Box 1.1 explains, five-year-ahead forecasts for this rate from both the WEO and Consensus Economics—which summarizes the medium-term projections of leading forecasters for more than 100 economies—have declined over the past few decades. The latest WEO forecast for global growth in 2028 is 3.1 percent, as compared with a medium-term growth projection of 3.6 percent just before the onset of the pandemic (at the time of the January 2020 WEO *Update*) and 4.9 percent just before the onset of the global financial crisis (at the time of the April 2008 WEO). More than 80 percent of economies have seen a slowdown in their growth prospects from 15 years ago, at the time of the April 2008 WEO. Three-quarters of this reduction in global growth comes from weaker prospects for per capita GDP growth rather than merely slower population growth. A decomposition of the drivers of weaker per capita growth prospects points to slower prospective capital accumulation per worker and slower total factor productivity growth as the largest contributors. The slowdown in labor force participation in advanced economies also contributed about a third of the overall decline in projected per capita GDP growth, in the context of changing demographic trends because of population aging.

Prospects for income convergence across economies have also dimmed. At the time of the April 2008 WEO, poorer countries in terms of per capita income were expected to grow significantly faster than richer ones. But this growth differential has declined over the subsequent 15 years. As a result, the expected number of years needed for poorer countries to close half the gap in income per capita with richer countries has increased significantly since 15 years ago. Dimming global growth prospects imply fewer resources available to navigate a shock-prone world and attract needed investments.

Overall, based on current policies, a full recovery of global output to its prepandemic path is unlikely. Figure 1.21 reports the latest medium-term forecast for global GDP in trillions of dollars at 2023 prices. Even before Russia's invasion of Ukraine and the inflation surge of 2022, there was little prospect of returning to the prepandemic path (as reflected in the January 2020 forecasts), with expectations of longer-term scarring, particularly for emerging market and developing economies. Recovery to the prepandemic trend is now even more elusive. The latest projections for 2028 imply a global output loss of some 5.0 percent, with respect to prepandemic projections, or $6.4 trillion at 2023 prices.

Figure 1.21. Forecasts of Global GDP
(Trillions of US dollars in 2023 prices)



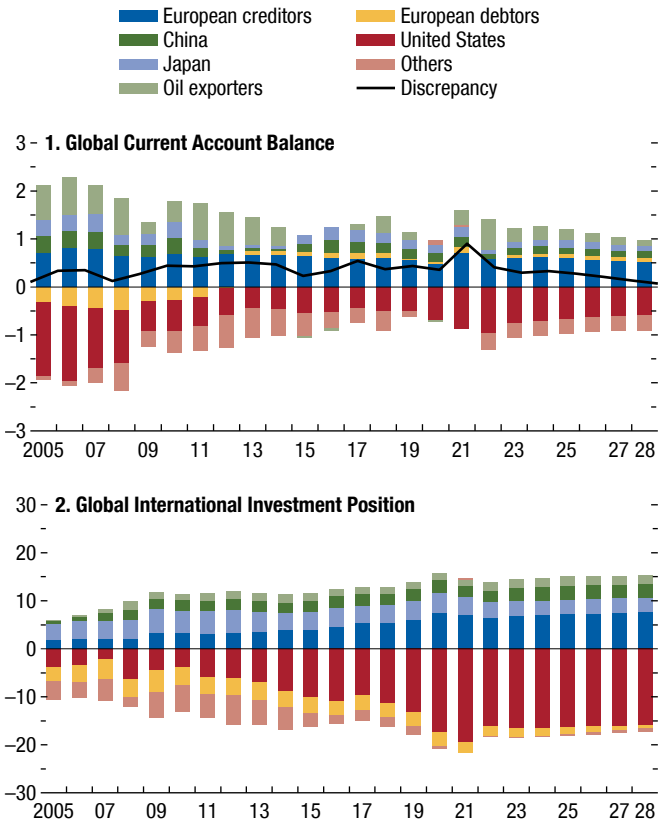
Source: IMF staff calculations.
Note: For the January 2020 and January 2022 WEO *Updates*, calculations assume that growth rate projections for 2025 and 2027 represent, respectively, the longer-term growth rate projections (for years beyond 2025 and 2027, respectively). WEO = *World Economic Outlook*.

Trade Growth Historically Low

World trade growth is expected to decline from 5.1 percent in 2022 to 0.9 percent in 2023, before rising to 3.5 percent in 2024, well below the 2000–19 average of 4.9 percent. The projected decline in 2023 reflects not only the path of global demand, but also shifts in its composition toward domestic services; lagged effects of dollar appreciation, which slows trade owing to the widespread invoicing of products in dollars; and rising trade barriers. In 2022, countries imposed almost 3,000 new restrictions on trade, up from fewer than 1,000 in 2019.

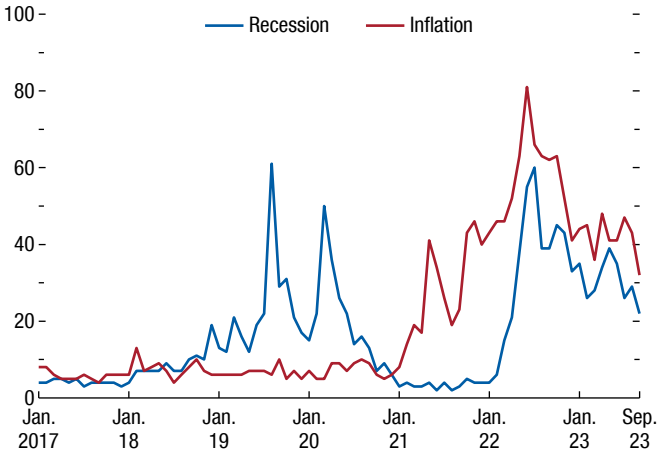
Meanwhile, global current account balances—the sums of absolute surpluses and deficits—are expected to narrow in 2023, following their significant increase in 2022 (Figure 1.22). As reported in the IMF's 2023 *External Sector Report*, the rise in current account balances in 2022 reflected largely commodity price increases triggered by the war in Ukraine, which caused a widening in oil and other commodity trade balances. Over the medium term, global balances are expected to narrow gradually as commodity prices decline. Creditor and debtor stock positions reached historically elevated levels in 2022, with the increases

Figure 1.22. 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, the Russian Federation, Saudi Arabia, the United Arab Emirates, and Venezuela.

Figure 1.23. Recession and Inflation Concerns over Time
(Index, 100 = highest point worldwide during 2008–23)



Source: Google Trends.
Note: Figure reports Google search interest in the topics *recession* and *inflation* relative to the highest point (100) during 2008–23 worldwide.

reflecting mainly widening current account balances. They are expected to moderate slightly over the medium term as current account balances gradually narrow. In some economies, gross external liabilities remain large from a historical perspective and pose risks of external stress.

Risks to the Outlook: Tilted to the Downside but More Balanced

Adverse risks have receded since the April 2023 WEO, implying a more balanced distribution of risks around the outlook for global growth. Economic activity has proved more resilient than expected, and inflation is on a downward path, surprising on the downside in a number of cases. In addition, earlier this year, the resolution of US debt ceiling tensions and swift action by Swiss and US authorities to contain banking sector turbulence reduced the immediate risks of broader financial stress. Nevertheless, concerns regarding global inflation and recession remain high (Figure 1.23), reflecting the still-challenging environment, and the balance of risks to global growth remains tilted to the downside.

The most prominent risks and uncertainties surrounding the outlook are now discussed; a model-based analysis that quantifies risks to the global outlook and plausible scenarios follows in Box 1.2.

Upside Risks

More favorable outcomes for global growth than in the baseline forecast, which would strengthen the likelihood of a soft landing, are increasingly plausible:

- *Underlying inflation falls faster than expected.* Factors that could contribute to such an outcome include stronger-than-expected pass-through from lower energy prices or a compression of profit margins to absorb cost increases. Declining job vacancies could also play a stronger-than-expected role in easing labor markets, implying a downward shift in the ratio of vacancies to unemployment and reducing the need for further monetary tightening to curb inflation. As Box 1.2 explains, such developments would support economic growth by restoring purchasing power for households and allowing

central banks to bring forward an easing in their policy stances.

- *Domestic demand recovers faster.* In numerous economies, the stock of excess savings accumulated during the pandemic has not yet been drained and consumption remains below prepandemic trends, raising the possibility of a faster-than-expected consumption recovery. The US labor market could again prove tighter than expected, supporting a more resilient consumption path. Stronger policy support in China than currently envisaged—through means-tested transfers to households in particular—could bolster the recovery and generate positive global spillovers. Furthermore, as Box 1.2 explains, private investment could recover more strongly to prepandemic levels than currently expected in response to current policy initiatives. Recent breakthroughs in artificial intelligence and progress in green technologies could also usher in a new period of strong productivity growth, boosting investment and growth.

Downside Risks

Despite the recent favorable growth surprises, numerous adverse risks to global growth remain plausible:

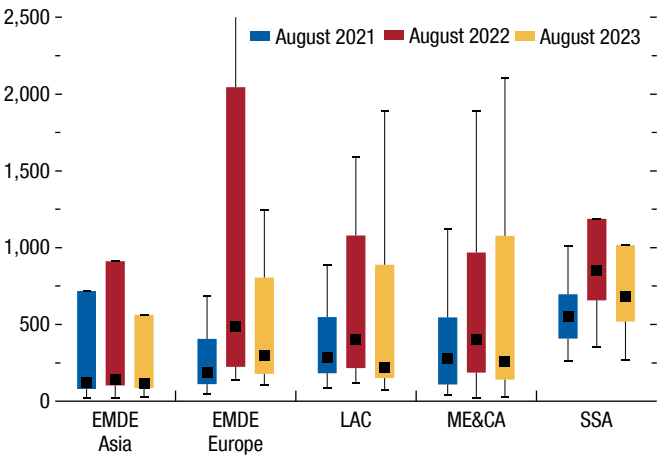
- *China's economic growth slows further.* Recent developments shift the distribution of China's growth forecast risks to the downside, with negative implications for trading partners. The extent of the slowdown will depend largely on the Chinese government's policy response. To be effective, that response will have to preserve financial stability by expediting the restructuring of struggling property developers, facilitating the completion of housing projects, and addressing the growing strain in local government finances, all of which would help restore business and consumer confidence. Policy space has shrunk but is not fully exhausted. Given the lack of inflationary pressure, the People's Bank of China has some room to ease. At the same time, fiscal expenditures can be reoriented toward spending, with higher fiscal multipliers, keeping the overall fiscal stance broadly neutral. For instance, targeted support to households can be provided while shifting away from increasingly ineffective and expensive investment in infrastructure. In the most fiscally fragile provinces, financial stress in the real estate sector could end up spilling over to the rest of the financial sector via the sovereign-banking-corporate nexus and contagion through nonbank financial intermediaries (see Chapter 1 of the October 2023 *Global Financial Stability Report*). Should concerns about financial stability in China fester, the impact could be felt in other emerging market economies through exchange rate volatility and destabilizing capital flows. Box 1.2 provides a quantification of the principal risks stemming from a deeper-than-expected contraction in the real estate sector in the absence of swift action to restructure property developers and unintended fiscal tightening in response to lower tax revenues for local governments.
- *Commodity prices become more volatile amid climate and geopolitical shocks.* Intense heat waves and droughts in the midst of record global temperatures this year have provided a taste of a more inhospitable future blighted by global climate change. More frequent crop failures across countries are likely, causing food price spikes and food insecurity. The ongoing El Niño phenomenon, which in the past typically has raised global food prices by more than 6 percent in a year (European Central Bank calculations as cited in Schnabel 2023), poses further risks. The war in Ukraine and geopolitical tensions elsewhere could intensify, triggering supply chain disruptions and renewed fluctuations in food, fuel, fertilizer, and other commodity prices. The suspension in July of the Black Sea Grain Initiative and recent attacks on Ukraine's grain facilities are concerns in this regard. In this context, a proliferation of export restrictions on agricultural products aimed at reducing domestic prices complicates the delivery of commodities to global markets, with the potential to exacerbate fluctuations in commodity prices. A rise in oil prices driven by a reduction in oil supply could reduce global economic activity and raise inflation, with the magnitude of the effects differing across regions.[4] Moreover, as Chapter 3 explains, intensifying geoeconomic fragmentation could constrain the flow of commodities across regions, causing additional price volatility. Commodities are particularly vulnerable to trade restrictions, as their production is highly concentrated as a result of natural endowments. Finally, shortages of energy resulting from lower investment in fossil fuel development that are not matched by

[4]As reported in Box 1.3 of the October 2022 WEO, a 30 percent rise in oil prices relative to baseline could reduce the level of global GDP by about 0.5 percent and raise global inflation by about 1.2 percentage points, relative to baseline. The analysis assumes monetary policy responds endogenously to movements in inflation.

corresponding increases in alternative clean energy supplies may cause more frequent energy crises. 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 consumption. Serious effects are especially likely in sub-Saharan Africa, where food averages about 40 percent of consumption.

- *Underlying inflation persists.* Tight labor markets and wage demands to compensate for past cost-of-living increases could contribute to persistent underlying inflationary pressures. In countries where companies' profit margins have grown in the past two years, there may be room to accommodate a rebound in real wages without triggering further price increases. With economic activity slowing, market pressures could contain the pass-through from labor costs to prices. However, as Chapter 2 explains, near-term inflation expectations remain elevated and above target inflation rates, which may contribute to more persistent wage and price pressures. This would complicate the task of monetary policy in restoring price stability. The ample stock of excess household savings in some economies could, where the surpluses are still sizable, slow the effects of monetary policy tightening on inflation. Greater-than-expected pressures on underlying inflation could then force central banks to—again—raise rates by more than expected.
- *Financial markets reprice.* Financial markets have adjusted upward their expectations in regard to monetary policy tightening in recent months, but new upside inflation surprises would force a monetary policy reassessment and could trigger a sudden rise in interest rate expectations and falling asset prices—as happened in March. Movements such as these could further tighten financial conditions and stress banks and nonbank financial institutions whose balance sheets remain vulnerable to interest rate risk, especially those highly exposed to commercial real estate. Contagion effects are possible. A flight to safety (Box 1.2), with an attendant appreciation of reserve currencies, would trigger negative ripple effects for global trade and growth and raise inflation in emerging market and developing economies, especially those highly dependent on imports of food and fuel.
- *Debt distress increases.* Global financial conditions, which measure the cost of funding in capital markets, have generally eased since the March 2023 banking stress episode, but lending standards have tightened and loan demand has declined in the United States,

Figure 1.24. Sovereign Spreads in Emerging Market and Developing Economies
(Basis points, distribution by economy group)

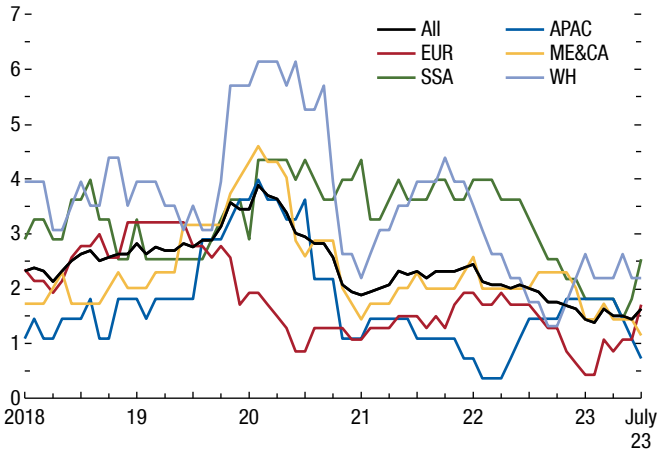


Sources: Bloomberg Finance L.P.; and IMF staff calculations.
Note: For each region, box denotes upper quartile, median, and lower quartile for members, and whiskers show maximum and minimum values within boundary of 1.5 times interquartile range from upper and lower quartiles. *Y*-axis is cut off at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

the euro area, and some emerging market economies (see Chapter 1 of the October 2023 *Global Financial Stability Report*). Moreover, borrowing costs for emerging market and developing economies remain high, constraining priority spending and raising the risk of debt distress. The share of emerging market and developing economies with sovereign credit spreads above 1,000 basis points was 24 percent as of August: still much higher than two years ago (only 9.3 percent). For sub-Saharan Africa, spreads still exceed 680 basis points in more than half of cases (Figure 1.24). The share of low-income countries (56 percent) and emerging markets (25 percent) in or at high risk of debt distress this year remains elevated, as it was last year.

- *Geoeconomic fragmentation intensifies, hampering multilateral cooperation.* The ongoing separation of the world economy into blocs amid Russia's war in Ukraine and other geopolitical tensions could intensify—with more restrictions on trade (in particular, trade in strategic goods, such as critical minerals); cross-border movements of capital, technology, and workers; and international payments. Should this happen, the costs for global prosperity will be high. Over the long term, trade fragmentation alone—that is, the splintering of countries into

Figure 1.25. Social Unrest Stable at Low Level
(Percent of economies experiencing major social unrest)



Source: IMF staff calculations.
Note: The figure shows the fraction of countries within a world region experiencing major events of social unrest (including protests, riots, and major demonstrations) in the preceding 12 months. All = All economies; APAC = Asia-Pacific; EUR = Europe; ME&CA = Middle East and Central Asia; SSA = sub-Saharan Africa; WH = Western Hemisphere.

blocs that trade exclusively with one another—could reduce annual global GDP by up to 7 percent (Aiyar and others 2023). Intensification of geoeconomic fragmentation would also hamper multilateral cooperation in providing crucial public goods, such as fighting climate change and future pandemics and ensuring energy and food security.

- *Social unrest resumes.* Reports of social unrest—including protests, riots, and major demonstrations—have declined internationally since reaching elevated levels in late 2019 (Figure 1.25, which updates the index of Barrett and others 2022). However, a resumption of social turmoil, potentially as a result of future food and fuel price spikes, could hurt economic activity, particularly in countries with more limited scope to cushion the impact through policies (Hadzi-Vaskov, Pienknagura, and Ricci 2021). Social unrest could also complicate the passage and implementation of necessary reforms, including those relating to the energy transition.

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

The risk of a hard landing has clearly receded since April, 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 2023 will fall below 2.0 percent—an outcome that has occurred only five times since 1970—is now about 5 percent, down from an estimated 25 percent at the time of the April 2023 WEO. For 2024, the probability of such an outcome is about 15 percent, also down from about 25 percent at the time of the April 2023 WEO. A contraction in global per capita real GDP—which often happens when there is a global recession—in 2024 has an estimated probability below 10 percent. At the same time, the probability of global growth's exceeding 3.8 percent (the historical average during 2000–19) is also less than 20 percent for 2024, highlighting the relatively slow outlook for global growth. Turning to prices, the probability that core inflation in 2024 will be higher than in 2023, instead of declining to 5.3 percent from 6.3 percent in 2023, is assessed at about 15 percent.

Policy Priorities: From Disinflation to Sustained Growth

With inflation declining, policymakers are approaching the final stage of the inflation cycle that started in 2021. But despite the progress, persistent policy challenges remain. Underlying inflation is still too high in most countries and could easily persist, and budgetary space for needed investments is constrained in many cases, particularly in lower- and middle-income countries saddled with unsustainable debts. Putting a priority on supply-enhancing reforms that front-load gains and foster buy-in would narrow the large output losses projected under current policies, especially for emerging market and developing economies. Mitigating the negative effects of climate change and geoeconomic fragmentation and protecting the most vulnerable will require swift and internationally coordinated policy actions.

Policies with Near-Term Impact

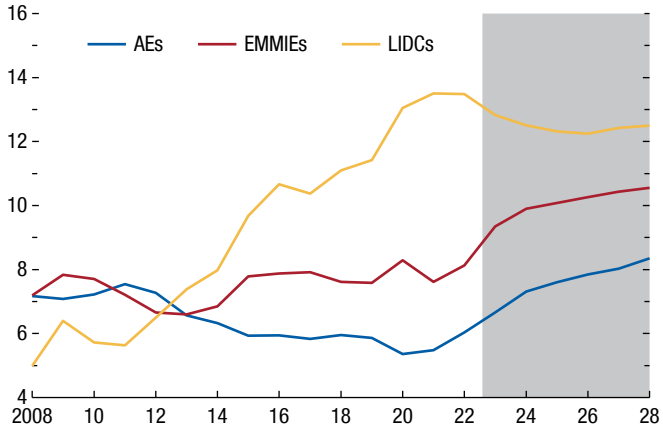
Durably restoring price stability: With global core inflation still high and declining slowly, central banks should generally maintain a tight stance and avoid prematurely easing monetary policy. At the same time, there are fewer cases in which sizable interest rate hikes are warranted, with increasing differentiation across countries' policy needs for ensuring price stability.

- *Returning inflation to target:* In economies in which inflation is still elevated and persistent, a restrictive stance—with real rates above neutral—is needed until

clear signs emerge that underlying inflation is durably cooling. This is critical to safeguarding the success of many central banks in keeping longer-term inflation expectations anchored. As Chapter 2 explains, strong monetary policy frameworks and effective communication are vital for minimizing the output costs of disinflation. Once underlying inflation is clearly cooling, with inflation and inflation expectations approaching the target, moving rates gradually to a more neutral policy stance may be warranted, while signaling continued commitment to price stability. For countries with inflation already below target, easing policies may be necessary to reduce the risks of inflation expectations de-anchoring.

- *Navigating uncertainty along the disinflation path:* The task for central banks is complicated by the difficulty of estimating with confidence levels of neutral rates of interest and of unemployment, as well as by lags in policy transmission (see Box 1.2 of the April 2023 WEO), uncertainties associated with forecasting inflation in this environment, and the differing potency of the transmission mechanism across economic sectors. Calibrating monetary policy will require weighing the costs of lowering nominal rates prematurely versus those of delaying too much.
- *Coordinating monetary and fiscal policies:* Although the primary responsibility for restoring price stability lies with central banks, legislated government spending cuts or tax increases aimed at ensuring public debt sustainability can, by reducing aggregate demand and reinforcing the overall credibility of disinflation strategies, further ease inflation. This is especially the case in countries with overheated economies and steep inflation-unemployment trade-offs. By the same token, in economies with inflation below target, fiscal expansion or a tilting of government spending toward items more supportive of demand, such as targeted household transfers, may be necessary, subject to available budgetary room for maneuver.
- *Monitoring financing conditions:* Financing conditions in capital markets have eased in the United States and the euro area (Adrian, Natalucci, and Wu 2023), which may complicate the task of fighting inflation. Careful monitoring of serious misalignment in financing conditions is warranted given the potential repercussions from a sudden repricing of risk. Central banks should be ready to deploy necessary financial stability tools to contain signs of market strain (Adrian, Gopinath, and Gourinchas 2023).

Figure 1.26. General Government Interest Payments
(Percent of general government revenues)



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

Strengthening financial supervision and addressing stress: The fast pace of monetary policy tightening continues to put the financial sector under pressure. Strengthened supervision (through implementation of Basel III and removal of forbearance measures) and the monitoring of risks to anticipate further episodes of banking sector stress are warranted. The intensity of supervision should be commensurate with banks' risks and systemic importance, and it is essential to rapidly close oversight gaps in the nonbank financial sector. Macroprudential policy measures could be employed preemptively to tackle emerging risks in banks and nonbank financial institutions. Where market strains emerge, deploying tools that provide liquidity support promptly and forcefully, while mitigating the risk of moral hazard, would limit contagion. In China, where continued financial stress in the property sector presents a downside risk to global growth, stronger action by the central government is needed to avert macrofinancial feedback loops. This action should include further efforts to facilitate the exit of insolvent developers while protecting home buyers' interests, which would also help restore home buyer confidence. 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.

Normalizing fiscal policy: With fiscal deficits and government debt above prepandemic levels and debt-service costs as a share of GDP rising (Figure 1.26), tightening the fiscal stance is warranted in numerous cases to restore room for budgetary maneuver. In low-income and developing countries, interest payments constitute nearly one-eighth of general government revenues. For countries with limited fiscal space, shifting the composition of spending toward items that provide targeted support to households can support activity. Careful communication of medium-term fiscal policy plans is needed to support credibility and avert disruptive market responses. Where countries are in or at high risk of debt distress, achieving debt sustainability may require not only well-timed fiscal consolidation, but also debt restructuring (see Chapter 3 of the April 2023 WEO). Domestic revenue mobilization, more efficient spending, and improved institutional fiscal frameworks are increasingly pertinent for emerging market and developing economies given high debt levels and sizable spending needs.

Supporting the vulnerable: The composition of fiscal adjustment should protect the most vulnerable, by means of targeted support to households, among other methods, especially in the context of large swings in energy and food prices. Phasing out untargeted fiscal measures, especially those that blunt price signals—such as energy subsidies—is warranted as energy prices return to prepandemic levels.

Avoiding debt distress: Large short-term external financing needs are stretching the ability of numerous emerging market economies and low-income countries to service their debt. Sovereign spreads remain elevated, impeding access to credit for many economies reliant on short-term borrowing. Faster and more efficient coordination on debt resolution, through the G20 Common Framework and the Global Sovereign Debt Roundtable, among other options, would help mitigate the risk of debt distress spreading. The recent agreement between Zambia and its official creditor committee is a welcome step in that direction.

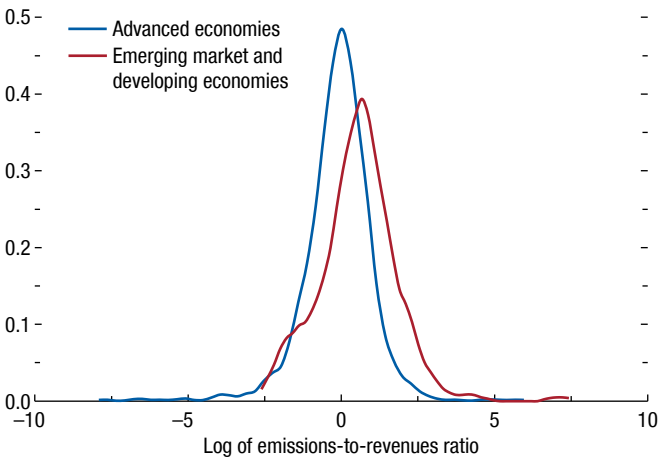
Improving food security: Extreme weather conditions—heat waves, floods, and wildfires—are exacerbating risks to the global supply of staple crops, including risks from the war in Ukraine, and threaten food security for millions of people. In this context, trade restrictions aimed at reducing domestic prices could worsen global food insecurity and create shortages for the world's poorest people. Bans on food exports should be lifted as soon as feasible to safeguard the global flow of food supplies. Strengthened multilateral cooperation on food security is needed, with strengthened rules-based frameworks for restrictions on food exports (see Chapter 3).

Enhancing labor supply: Reforms that reduce labor market tightness—by encouraging participation and reducing job search and job matching frictions—would facilitate fiscal consolidation and contribute gradually to easing inflation. Such reforms include short-term training programs for professions experiencing shortages and labor laws and regulations that increase work flexibility through telework and leave policies. Policies that encourage more women and older people to join the workforce, reduce labor market duality, and improve mobility would further enhance labor supply. Active immigration policies in advanced economies can address labor shortages as well as longer-term headwinds to growth, including those from population aging.

Policies with Medium-Term Payoffs

Intensifying macrostructural reforms: Targeted and carefully sequenced structural reforms can equip policymakers with additional levers to reinforce productivity growth despite constrained policy space. This is all the more important given the decline in medium-term growth prospects (Box 1.1). Making a priority of and bundling reforms that alleviate the most critical binding constraints to economic activity—such as governance, business regulation, and external sector reforms—can help front-load the resulting output gains, which helps ensure public buy-in. IMF staff analysis for emerging market and developing economies (Budina and others 2023) suggests that output gains from reforms can be substantial, even in the short term. In cases with large initial gaps in structural indicators relative to the best performance, a bundled and sequenced reform package is estimated to lift the level of output by 4 percent in two years and 8 percent in four years. Gains of this magnitude would significantly narrow the aforementioned output losses from the pandemic for these economies. More broadly, reforms ranging from enhancing human capital by expanding health care coverage and increasing access to early childhood and higher education, to reducing barriers to competition and supporting start-ups, to deepening digitalization would, depending on the economy in which they were enacted, enhance productivity. By accelerating growth, such reforms can also help assuage concerns about potential short-term growth costs of ambitious green reforms, including those that operate through energy

Figure 1.27. Firms Less Green in Emerging Market Economies
(Density)



Source: IMF staff calculations.
Note: The figure plots the kernel density of the log of the emissions-to-revenues ratio separately for firms headquartered in advanced economies and in emerging market and developing economies, after controlling for industry fixed effects (4-digit SIC). Data for 2019 are used, and finance, utilities, and energy sectors are excluded. The calculations are based on Capelle and others (forthcoming).
SIC = Standard Industrial Classification.

prices (see Chapter 2 of the October 2022 WEO), and create the necessary fiscal space for implementation. In general, mitigating the potential adverse distributional effects of reforms across economic groups (including those relating to gender and age) requires complementary policies, including targeted support and regulations to ensure that the reform benefits are shared. Industrial policies could be pursued where externalities or market failures are well established and other policies are not available but should avoid protectionist provisions and be consistent with international agreements and World Trade Organization (WTO) rules.

Speeding the green transition and mitigating the effects of climate change: Reductions in global emissions are needed to mitigate climate change. Environmental performance varies widely across firms within industries (Figure 1.27). Laggards—firms with high emissions per unit of output relative to industry peers—operate older physical capital and are less knowledge-intensive and productive (Capelle and others, forthcoming). Significant emissions cuts could be achieved by helping these firms approach current technological frontiers. Carbon pricing and subsidies for green investments would support the adoption of frontier technologies, helping make production both greener and more efficient. Carbon border-adjustment mechanisms can encourage trading partners to decarbonize and can ensure an equal footing for domestic producers and those in countries with less ambitious carbon-emissions-reduction targets, but they must be designed carefully to support consistency with WTO rules. Green industrial policies—currently pursued in China, the United States, and the European Union—complement carbon pricing to speed the transition. However, they also should be designed in a manner that avoids distortions to international trade (such as domestic-content provisions) and investment, also in line with WTO rules. In parallel, investments in climate adaptation activities and infrastructure are needed, especially for the 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 (October 2023 *Fiscal Monitor*).

Establishing a "green corridor" and increasing data sharing: A green corridor agreement is necessary to safeguard the international flow of critical minerals needed for the green transition. It should transcend geopolitical boundaries and be guided by the principles of common climate goals rather than beggar-thy-neighbor policies. Similar agreements could stabilize essential agricultural commodity markets by dampening supply volatility in the wake of adverse shocks. Prudent risk management also calls for investing in diversified supply sources to minimize the potential fallout in case of further fragmentation in commodity markets. A lack of data on critical minerals for the green transition raises uncertainty for producers and consumers and leads to price volatility. An international platform or organization could improve data sharing and standardization (see Chapter 3).

Strengthening multilateral cooperation and mitigating the effects of fragmentation: Multilateral cooperation is vital for achieving progress in dealing with the interlocking challenges holding back global recovery. Joint action is needed on many fronts, and further geoeconomic fragmentation would trigger costly delays. Restoring trust in multilateral frameworks is urgently needed to revive a rules-based platform of international cooperation, to foster shared global prosperity, and to regulate potentially disruptive emerging technologies such as artificial intelligence. At the center of such reforms, enhancing trade policy certainty should be a priority. Necessary first steps should include restoring binding dispute settlement in the WTO and clarifying the application of key WTO rules to climate measures.

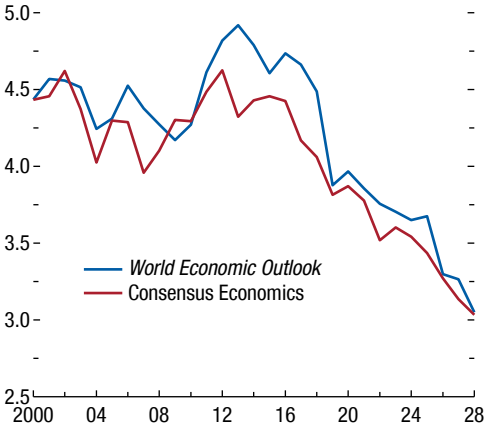
Box 1.1. Dimming Growth Prospects: A Longer Path to Convergence

Since the global financial crisis in 2008, forecasters have steadily diminished their expectations for growth over the medium term. Global five-year-ahead growth projections from the *World Economic Outlook* (WEO) have declined from a peak of 4.9 percent in the April 2008 WEO for growth in 2013 to 3.0 percent in the April 2023 WEO for growth in 2028: the lowest projection since 1990 (Figure 1.1.1). Forecasters at other institutions—as surveyed by Consensus Economics—have similarly reduced their expectations. If the focus is WEO forecasts, the decline in growth prospects started in the early 2000s for advanced economies, while emerging market and developing economies experienced a similar decline after the crisis. Of the 1.9 percentage point global decline in medium-term growth prospects from 2008 to 2023, advanced economies contributed 0.8 percentage point; emerging market and developing economies contributed 1.1 percentage points. Among emerging market and developing economies, low-income developing countries increased their contribution to projected global growth slightly during the same period (Figure 1.1.2). The world's largest 10 economies, and 81 percent of all economies, have seen a decline in their medium-term growth prospects (Figure 1.1.3). The five largest emerging markets—Brazil, China, India, Indonesia, and Russia—have contributed about 0.9 percentage point to the decline in medium-term global growth prospects between 2008 and 2023. East Asia and the Pacific's outlook has seen the largest downshift. The global medium-term outlook further declined after the shocks of 2020–22—including the COVID-19 pandemic and the Russian invasion of Ukraine—from 3.6 percent in the January 2020 WEO to 3.0 percent in the April 2023 WEO, with 52 percent of economies (all of them middle-income economies) seeing a decline.

A natural question is whether the decline in forecasters' expectations for the global economy over the past 15 years has been excessively pessimistic, with outcomes likely to be better than expected. An examination of the bias in WEO forecast errors over time—the average difference between actual outcomes and forecasts—suggests that the answer is no. Forecasts were mostly aligned with growth outcomes during 1995–2008. After the global financial crisis, forecasts exhibited—if anything—some upward bias, with realized growth over the medium term falling short

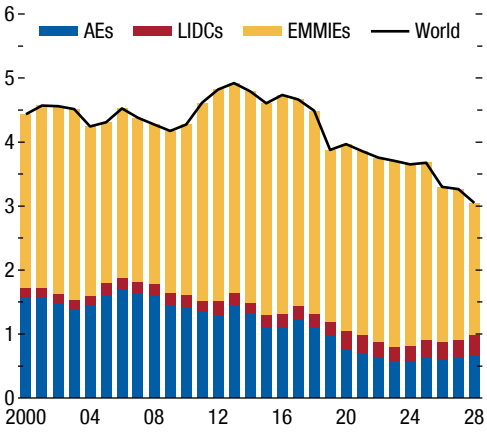
The authors of this box are Nan Li and Diaa Noureldin.

Figure 1.1.1. Five-Year-Ahead Growth Projections
(Percent)



Sources: Consensus Economics; and 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* (WEO) five years prior, such that, for example, the 2028 forecast is based on the April 2023 WEO, and so on. The red line depicts the mean of the Consensus Economics forecasts.

Figure 1.1.2. Five-Year-Ahead Growth Projections: Country Groups
(Percent)

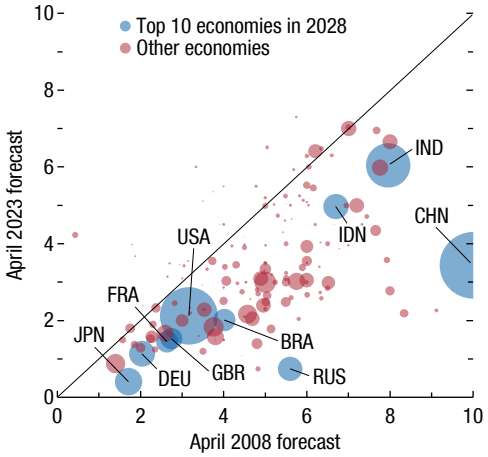


Source: IMF staff calculations.
Note: The predicted variable is real GDP growth. The years on the horizontal axis refer to the year for which a forecast is made, using the April *World Economic Outlook* (WEO) five years prior, such that, for example, the 2028 forecast is based on the April 2023 WEO, and so on. AEs = advanced economies; EMMIEs = emerging market and middle-income economies; LIDCs = low-income developing countries.

Box 1.1 *(continued)*

Figure 1.1.3. Projected Growth Deceleration in the Largest Economies

(Five-year-ahead GDP growth, percent)



Source: IMF staff calculations.
Note: The predicted variable is real GDP growth. Bubble size indicates GDP in purchasing-power-parity international dollars for 2028. Data labels in the figure use International Organization for Standardization (ISO) country codes.

of medium-term predictions.[1] This suggests that the downward trajectory in the projections could in part reflect correcting for forecast optimism since the crisis.

A deeper look through forecasters' lenses sheds light on the factors driving the decline. First, three-quarters of the reduction in global growth prospects (about 1.4 percentage points) over the past 15 years has come from weaker per capita growth projections rather than merely slower population growth. Second, it is instructive to note that per capita growth can be decomposed into changes in capital per worker (or "capital deepening"), labor force participation, the employment rate (employment as a share of the labor force), and total factor productivity (TFP) (see Abiad and others 2009).[2]

For advanced economies, the decline in per capita output growth in the recent forecasts relative to the forecasts for the early 2000s is attributed predominantly to lower TFP growth, followed by the decline in labor force participation and the slowdown in capital deepening (Figure 1.1.4). This reflects forecasters' views on future TFP growth, potentially due to unbalanced technological advances across sectors (Acemoglu, Autor, and Patterson 2023), frictions preventing efficient resource allocation (Baqaee and Farhi 2020), or diminishing returns to innovation (Bloom and others 2020). The projected decline in the contribution of labor force participation, which is broad-based across advanced economies, could reflect forecasters' views on the impact of population aging. The decline in the contribution of capital deepening could reflect views on declining investment prospects over time, partly on account of scarring effects on capital formation after the global financial crisis, and is most pronounced in regard to euro area economies.[3] For emerging market and developing economies, the decline in TFP growth is also the largest contributor to the slowdown, explaining about 60 percent, followed by the decline in capital deepening. The projected decline in TFP growth in emerging market and developing economies could reflect fading effects of technological and educational improvement, the slowdown in reform momentum in the 2000s relative to the 1990s (October 2019 WEO), and rising fragmentation risks that would hurt growth in world trade and global value chains. The projected slowdown in capital deepening is also a significant contributor in some of the largest emerging market and developing economies—such as Brazil and Indonesia.[4]

The decline in medium-term growth prospects, especially in emerging market and developing economies, has worrisome implications for the pace of convergence in living standards. Fifteen years ago,

[1]The assessment is based on the regression $e_{i,t} = \alpha + \varepsilon_{i,t}$, in which $e_{i,t}$ is the growth forecast error, defined as the five-year end-of-period moving average of realized growth rates minus the five-year-ahead forecast, conducted as a vintage-by-vintage regression over the period 1990–2017, with the last vintage chosen to compare against the output realization for 2022. The results are robust to using actual growth rates instead of the moving average.

[2]The term capturing labor force participation also reflects changes in the share of the working age population in total population.

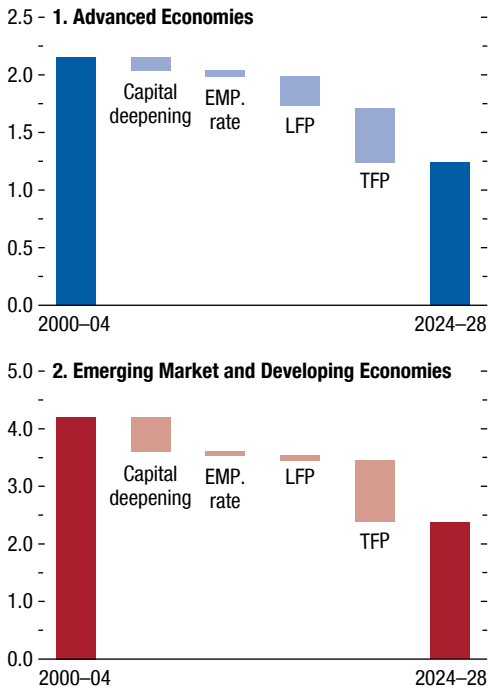
[3]The scarring effects of the global financial crisis on investment are documented in the April 2015 *World Economic Outlook*. A potential explanation is the relatively larger fiscal consolidation in euro area economies after the crisis. This may have prompted expectations of a slower rate of capital accumulation, given evidence suggesting strong complementarity between public and private investment in European economies (Brasili and others 2023).

[4]These trends are generally consistent with estimates of potential output growth (see, for instance, Kilic Celik, Kose, and Ohnsorge 2023).

Box 1.1 *(continued)*

Figure 1.1.4. Per Capita Growth Forecast Decomposition

(Percent)



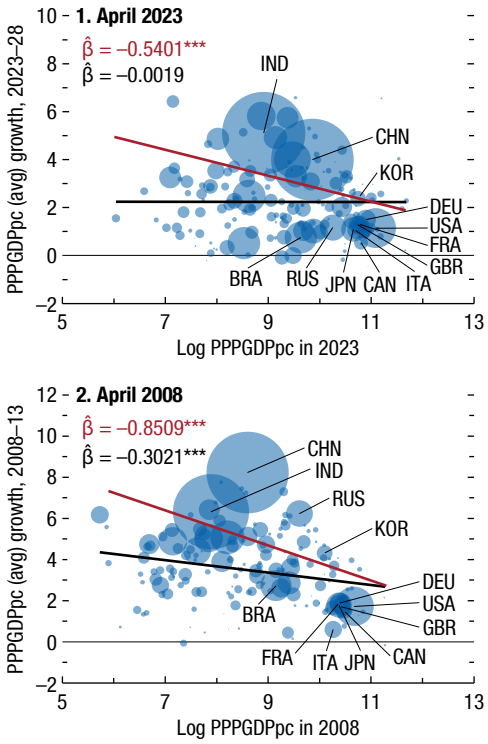
Sources: Penn World Table version 10.01; and IMF staff calculations.
Note: The dark red and blue bars represent the period average of projected five-year-ahead per capita growth rates. The light red and blue bars represent the contributions, in percentage-point changes, to the total reduction in per capita growth between 2000–04 and 2024–28. The sample includes countries for which a full set of projections is available for all included variables and represents about 60 percent of world GDP at purchasing power parity in 2023. The *World Economic Outlook* (WEO) database includes forecasts for gross fixed capital formation, which were used to construct the capital stock, with historical depreciation rates taken from the Penn World Table (assumed constant from 2019 onward). The initial capital stock is estimated based on the respective capital-to-output ratios from the Penn World Table and assuming a capital share in output equal to 0.35.
EMP. = employment; LFP = labor force participation; TFP = total factor productivity.

the five-year-ahead growth forecasts in the April 2008 WEO implied a positive and statistically significant rate of absolute convergence—with poorer countries growing unconditionally faster than rich countries by 0.9 percent annually. At this rate of convergence, economies' progress in raising their living standards and the associated decline in the rate of change might have been expected to translate into a decline in global growth over time. Accordingly, IMF staff estimates suggest that up to 0.4 percentage point of the aforementioned decline in per capita global growth prospects since 2008 may reflect income convergence.[5] In contrast, the five-year-ahead growth forecasts in the April 2023 WEO imply a convergence rate of only 0.5 percent a year, corresponding to the flatter relationship shown in Figure 1.1.5. These forecasts imply that the expected number of years needed for emerging market and developing economies to close half the gap in income per capita with advanced economies has significantly increased. For example, based on the population-weighted estimates in Figure 1.1.5, this half-life estimate has on average increased from 80 years for projections in the April 2008 WEO to about 130 years for projections in the April 2023 WEO. What is more, these estimates are population weighted, meaning that they give greater weight to more populous and faster-growing countries, such as China and India. Unweighted regressions—indicated in the figure by black lines—show even slower expected convergence rates that decline to near zero in the April 2023 WEO projections. Poorer countries have already suffered greater income losses during the recovery from the pandemic (Brussevich, Liu, and Papageorgiou 2022). The slower prospects for income convergence suggest a particularly difficult road ahead.

[5]The expected (absolute) convergence rate implied by projections in the April 2008 WEO is 0.3 percent when each country is treated as a unit of analysis and 0.9 percent when countries are weighted by population. Applying the 0.3–0.9 range of convergence rates to the level of initial GDP per capita across countries in 2008 implies a decline in global per capita GDP growth of 0.1–0.4 percentage point over 2008–23.

Box 1.1 *(continued)*

Figure 1.1.5. Medium-Term Growth and Income Convergence



Source: IMF staff calculations.
Note: Absolute β convergence specification is $100 \times (\log(GDPpc_{i,t+5}) - \log(GDPpc_{it}))/5 = \alpha_{it} + \beta_{it} \log(GDPpc_{it}) + \epsilon_{it}$. Bubble size represents the population in year *t*. The red line represents population-weighted regression. On the vertical axis, the PPPGDPpc average growth is in percent. Data labels in the figure use International Organization for Standardization (ISO) country codes. PPPGDPpc = GDP per capita in purchasing-power-parity international dollars.

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.* Uncertainty about 2023 has narrowed considerably since the April 2023 WEO as the outturn for the first half of the year is now known. Beyond 2023, risks to growth are considered more balanced than in the April 2023 WEO but still tilted to the downside. The risk of global growth falling below 2 percent—an outcome that has occurred on only five occasions since 1970—in 2024 is assessed at about 15 percent, compared with 25 percent in April. The balance of risks for inflation beyond 2023 has shifted up, reflecting upward revisions to the baseline projection. The risk that core inflation in 2024 will be higher than in 2023 is assessed at about 15 percent. The scenarios assess several risks to the outlook. Upside risks include (1) greater-than-expected disinflation effects from fading supply disruptions and (2) a greater boost to global demand from a stronger recovery in investment in advanced economies. Downside risks include (1) further loss of growth momentum in China, (2) longer-than-expected transmission lags and larger effects from the ongoing global monetary tightening cycle, and (3) tighter financial conditions in emerging markets.

Confidence Bands

The methodology for producing confidence bands is based on Andrle and Hunt (2020) and was used in the October 2022 and April 2023 WEO reports. The G20 model, presented in Andrle and others (2015), is used to interpret historical data on output, inflation, and international commodity prices and to recover the implied economic shocks to aggregate demand and supply. The recovered shocks are sampled through non-parametric methods and fed back through the model to generate predictive distributions around the WEO projections. Distributions for global macro variables are then obtained by aggregating country-level estimates. There are two changes to the distributions for growth and inflation outcomes relative to April. First, shocks from 1982 were sampled more heavily in the previous WEO to stress the risk of a more pronounced slowdown from contractionary monetary policy. Here instead, shocks are sampled uniformly, consistent with risks to the outlook having become more balanced. While risks from monetary policy remain relevant for the current outlook, they are evaluated through a scenario instead of a shift in the predictive distribution. Second, the distribution for 2023 shocks has shrunk as the outturn for the first half of the year is already known.

Figure 1.2.1 (panels 1, 2, and 3) shows the distributions for global growth and inflation projections that result from the approach and assumptions just discussed. Each shade of blue represents a 5 percentage point interval, and the entire band covers 90 percent of the distribution. Regarding global growth, the range of possible outcomes has narrowed and shifted up relative to April. There is a 70 percent probability that global growth will be between 2.6 percent and 3.4 percent in 2023—a narrower range than in April—and a 70 percent probability that growth will be between 1.9 percent and 4.0 percent in 2024.

Regarding global inflation, uncertainty around 2023 has narrowed for both the headline and core figures: there is now a 70 percent probability that 2023 headline inflation could be about 0.7 percentage point higher or lower than currently projected, lower than the 1.2 percent band shown in April. Beyond 2023, risks have tilted up with the revision to the baseline: the probability that headline inflation in 2024 will be higher than in 2023 is assessed at 25 percent, compared with less than 10 percent in April. Similarly, the probability that core inflation in 2024 will be higher than in 2023 is assessed at 15 percent, compared with about 5 percent back in April.

Risk Scenarios

The April 2023 WEO presented a single large downside scenario for the world economy, centered around a large shock to credit supply. While financial risks remain, the probability of a severe scenario from banking sector developments has receded. Instead, this box quantifies several upside and downside risks. While each of the risks quantified here implies relatively moderate effects on global growth and inflation, several could materialize at the same time, in which case the global impact would be correspondingly larger. The scenarios assume that monetary policy and automatic fiscal stabilizers respond endogenously to macro developments, without additional policy support.

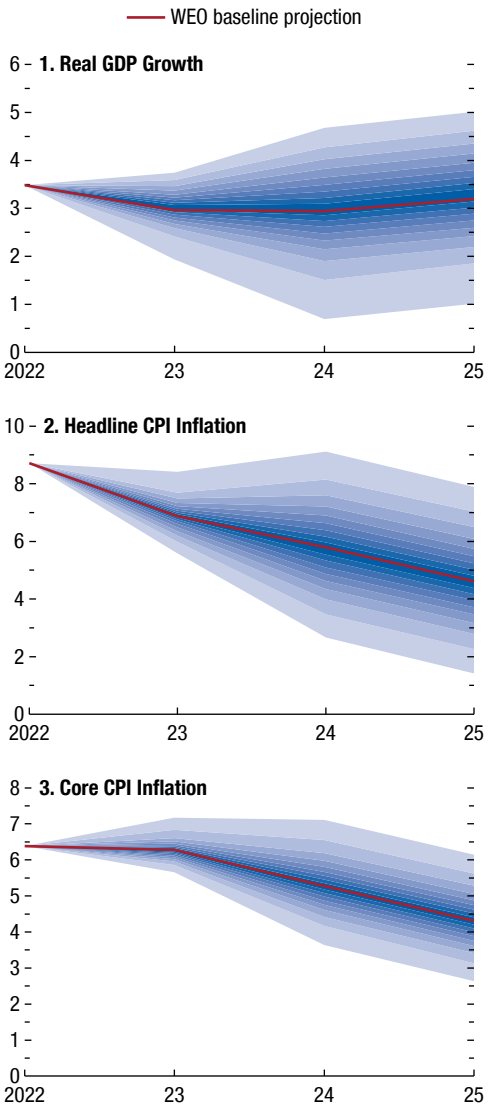
Upside Risks

Greater-than-expected global disinflation from further supply normalization: Supply constraints have been an important factor in the global inflation

The authors of this box are Jared Bebee, Harri Kemp, Pedro Rodriguez, and Rafael Portillo.

Box 1.2 *(continued)*

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*.

surge experienced during the pandemic recovery, both directly through higher goods inflation early on and indirectly by raising marginal costs. As multiple indicators point to normalization, fading supply disruptions are now helping with the ongoing disinflation. The scenario assumes that the global disinflation impulse is greater than in the baseline forecast, with the consumer price of manufactured goods relative to services—currently estimated to be 1 percent above the global aggregate trend prior to the COVID-19 pandemic—returning to trend over a two-year horizon. The additional impulse in the scenario is larger in countries, mainly advanced economies, that are starting from a higher relative goods price, with an impulse equal to –20 basis points of core inflation in 2023 and –50 basis points in 2024 (relative to baseline). For the remaining countries, except China, the impulse is two-thirds as large; China experiences a smaller shock. The lower-than-expected inflation raises purchasing power globally and allows central banks to lower rates at a more rapid pace over the scenario horizon, supporting global consumption, investment, and trade.

Stronger recovery in investment in advanced economies: Investment has been lagging since the COVID-19 crisis period ended, with global gross fixed capital formation remaining close to 10 percent below prepandemic trends. The scenario assumes investment grows by more than in the baseline over the next two years for several advanced economies, reflecting both (1) greater sensitivity to the expected recovery in some regions and sectors, and easing financial conditions, and (2) a stronger-than-expected boost from current policy packages (US Inflation Reduction Act, EU recovery fund). Higher investment supports global demand and trade but also adds to inflationary pressures, with the added assumption that Phillips curves are twice as sensitive to demand, as a result of the current inflation environment, which elicits a stronger policy response. However, the increase is modest in size: in the scenario, investment is 3 percent higher than the baseline by 2025 for the advanced economies group.

Downside Risks

Subdued confidence weighing on China's outlook: The scenario assumes a deeper-than-expected contraction in the real estate sector in the absence of swift action to restructure property developers, weaker consumption in the context of subdued confidence, and lack of meaningful policy support. As a result, China's private consumption and gross fixed capital

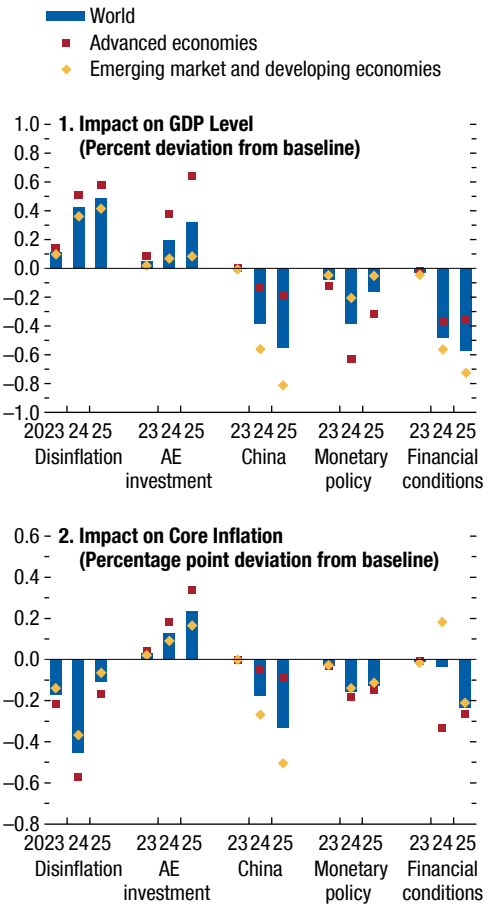
Box 1.2 *(continued)*

formation decline through 2025 by about –5 percent and –3.5 percent, relative to baseline. The shock fades beyond 2025.

Longer transmission lags and greater-than-expected effects from global monetary policy tightening: The relative resilience of the global economy in the first half of 2023 has raised the question of whether the full effect from the ongoing global monetary tightening is yet to be seen. The scenario assumes that the effects are larger than what is in the current WEO baseline, that the additional impulse in each country is proportional to the change in real rates since the beginning of the tightening cycle, and that the effects materialize by the end of 2023—and especially in 2024. The calibration draws on the uncertainty regarding transmission lags and magnitudes from different models and empirical estimates. Specifically, the shock is calibrated for the United States and the euro area by comparing the effects so far from the tightening, from the IMF's G20 Model—which happen early in the tightening cycle and are smaller—with the effects from the FRB/US model and the structural vector autoregression (SVAR) model in Gertler and Karadi (2015) for the United States and ECB-Base model for the euro area, which take longer and are generally larger. The differences between the two sets of estimates are then fed into the G20 Model as shocks to aggregate demand, resulting in lower activity and inflation and a decrease in the policy rate relative to the baseline. For other G20 countries, the shock to aggregate demand is calculated as the average of the US and EU estimates (for each 1 percentage point increase in the real rate) multiplied by that country's real rate increase. The estimated shocks to demand are largest in advanced economies (Australia, Canada, UK, US) and some emerging market economies (Brazil, Mexico).

Tighter financial conditions in emerging market economies: While the underlying cause is not included in the scenario, tighter financial conditions in emerging markets could result from a combination of higher-for-longer rates in advanced economies, especially the United States, and concerns about the implications for emerging market economies of lower growth in China. Following an incipient tightening toward the end of 2023, emerging market economies, excluding China, experience an increase in sovereign and corporate premiums of about 200 and 150 basis points, respectively, in the first half of 2024, relative to the baseline, with some of the tightening persisting into the second half of 2024 and into 2025. Relatedly, currencies of emerging market economies see a depreciation of 10 percent relative to the US dollar in the first half of 2024, relative to the baseline.

Figure 1.2.2. Impact of Scenario on GDP Level and Core Inflation



Source: IMF staff calculations.
Note: *X*-axis labels denote five distinct scenarios.
AE = advanced economy.

Impact on World Output and Inflation

Figure 1.2.2 (panels 1 and 2) presents the effects from all four scenarios. Panel 1 shows the effects on GDP for the years 2023, 2024, and 2025, while panel 2 shows the effects for inflation over the same horizon. Effects on global GDP are presented as percent deviations from the baseline, while effects on global core inflation are presented as percentage point

Box 1.2 *(continued)*

deviations from the baseline.[1] Global aggregates are shown in bars, while aggregates for advanced economies and emerging markets are shown in red squares and yellow diamonds, respectively.

The scenarios highlight the broadly balanced nature of risks to the outlook:

- The disinflationary scenario generates a decrease in global core inflation that troughs at –0.4 percentage point in 2024 relative to the baseline, generating a 0.5 percent increase in global GDP in 2024, which persists into 2025. The effect is somewhat more pronounced in advanced economies; as a result, the latter group sees a decrease in policy rates of 0.3 percentage point, relative to the baseline.
- The scenario of stronger recovery in investment in advanced economies generates a modest increase in global output of up to 0.3 percent by 2025 and is associated with moderately higher inflation. The impact on GDP in advanced economies peaks at 0.6 percent in 2025, adding an additional 0.3 percentage point to core inflation and requiring an increase in policy rates of about 0.75 percentage point, relative to the baseline. Spillovers to emerging markets are small.
- The downside scenario for China lowers its GDP by as much as –1.6 percent in 2025, with a decrease in core inflation of about 1 percentage point, relative to the baseline. There are spillovers to other countries, and the effect on global output is –0.6 percent by 2025.
- The scenario of longer monetary lags results in a decrease in global output of about –0.4 percent by 2024 and a modest decrease in global core inflation in that year (–0.1 percentage point). The effects are larger in advanced economies: –0.6 percent for output and –0.2 percentage point for core inflation. The main reason for the modest impact on inflation is that policy rates are lowered by 50 basis points in advanced economies in 2024 relative to the baseline, which helps soften the impact.
- Tighter financial conditions in emerging markets lower the level of global output by –0.5 percent by 2024. The effects are more pronounced in emerging market economies, but advanced economies are also negatively affected because of the loss of competitiveness. The inflation responses diverge across country groups initially—the disinflation is initially muted in emerging market economies, whose currencies depreciate, and is more pronounced in advanced economies, whose currencies appreciate—before converging in 2025.

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

Commodity Special Feature: Market Developments and the Commodity Price Channel of Monetary Policy

Primary commodity prices declined by 7.5 percent between February and August 2023. The widespread decline was led by base metals, with prices falling 15.7 percent, and European natural gas prices, plummeting 36.0 percent. The trend decline in cereal prices was temporarily halted by the collapse of the Black Sea Grain Initiative in July. Gold prices increased. This Special Feature analyzes the commodity price channel of monetary policy.

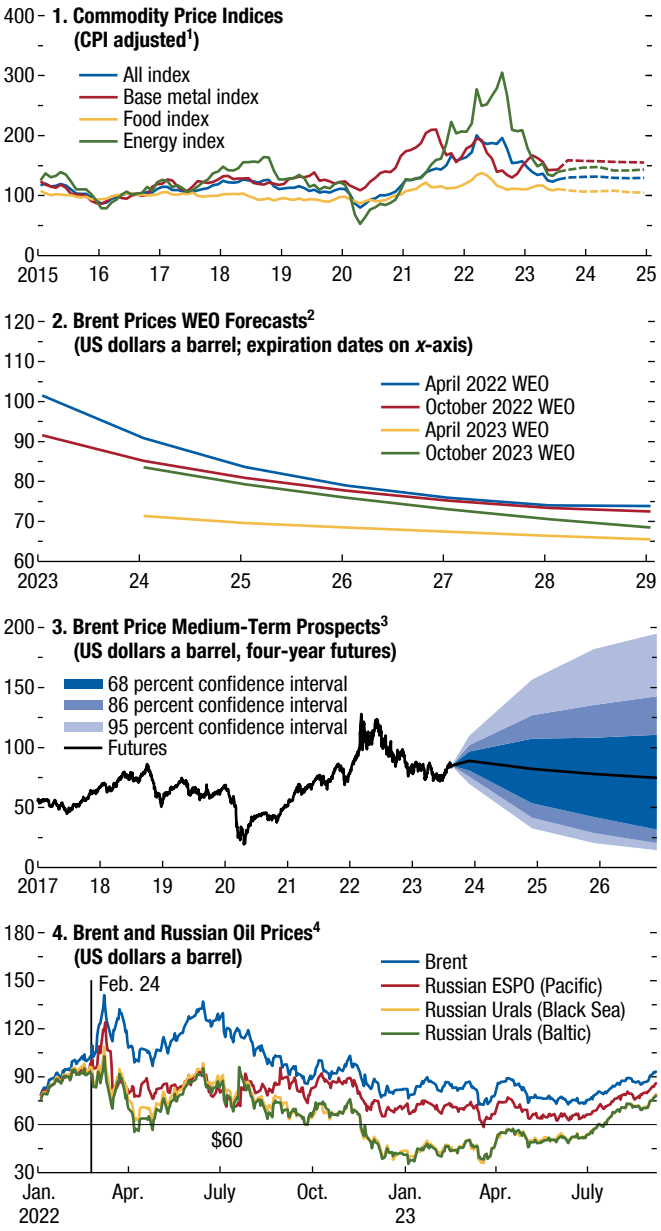
Commodity Market Developments

Supply curbs supporting oil prices. Thanks to a rebound in July and August, crude oil prices increased, by 4.4 percent, between February and August 2023, remaining, however, well below their peak of $115 in June 2022 (Figure 1.SF.1, panels 1 and 3). On the demand side, a weaker-than-expected rebound in China's oil consumption, temporary recession fears because of banking woes, and tighter monetary policy in many major economies all contributed to downward price pressures, especially in the second quarter of 2023.

On the supply side, output curbs by OPEC+ (Organization of the Petroleum Exporting Countries plus selected nonmember countries) of 1.2 million barrels a day (mb/d) announced in April—coupled with additional voluntary cuts of 1 mb/d and 0.3 mb/d by Saudi Arabia and Russia, respectively—were only partly offset by strong oil output growth in non-OPEC countries, most notably in the United States, where oil output is expected to increase by 1.1 mb/d this year. Western sanctions on Russian crude oil exports have had mixed effects: export flows of Russian oil have remained fairly steady, and its price discount relative to Brent oil has shrunk over time—Russian oil is trading above the $60 price cap imposed by the Group of Seven (G7) countries—as the size of the non-Western-aligned oil tanker fleet carrying Russian oil has increased, and as Russia appears to have set up its own maritime insurance.

The contributors of this Special Feature are Christian Bogmans, Wenchuan Dong, Jorge Miranda-Pinto, Andrea Pescatori (Team Lead), Ervin Prifti, Martin Stuermer, and Guillermo Verduzco-Bustos with research assistance from Joseph Moussa and Tianchu Qi. This Special Feature is based on Miranda-Pinto and others (2023).

Figure 1.SF.1. Commodity Market Developments



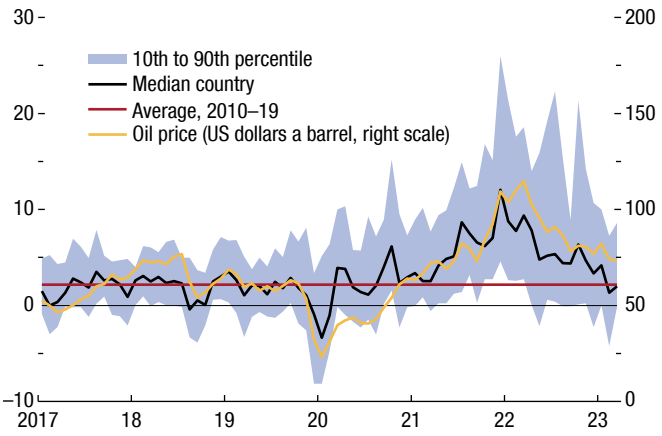
Sources: Argus; Bloomberg, L.P.; Haver Analytics; Refinitiv Datastream; IMF, Primary Commodity Price System; and IMF staff estimates.
[1]US consumer price index adjusted. Last actual value is applied to the forecast.
[2]Forecasts based on *World Economic Outlook* (WEO).
[3]Derived from prices of futures options on August 18, 2023.
[4]Last data point is September 8, 2023. All prices are daily midpoints.
ESPO = Eastern Siberia Pacific Ocean.

Futures markets suggest that crude oil prices will slide by 16.5 percent year over year to average $80.5 a barrel in 2023 (from $96.4 in 2022) and continue to fall in coming years, to $72.7 in 2026 (Figure 1.SF.1, panel 2). The International Energy Agency expects oil demand to increase by 2.2 mb/d, reaching 102.2 mb/d in 2023, outstripping supply in the second half of the year. Uncertainty around this price outlook is elevated (Figure 1.SF.1, panel 3). Upside price risks stem from additional OPEC+ production cuts, a military escalation in the Black Sea, and insufficient investment in fossil fuel extraction. Downside price risks stem from a widespread global economic relapse, a slowdown in Chinese oil demand, and faster penetration of electric vehicles.

Natural gas prices continue to normalize. European Title Transfer Facility trading hub prices declined 36 percent from February to August 2023 to a monthly average of $10.7 a million British thermal units (MMBtu) and within the upper range of historical prices. Lower demand, high storage overhang from this past winter, and ample supplies of liquefied natural gas (LNG) and of pipeline gas from Norway and northern Africa have all lowered prices. Asian LNG prices declined by 26.4 percent, roughly in lockstep with EU prices. US Henry Hub prices increased by 8.6 percent from February to average $2.6/MMBtu in August 2023. The price differential between US and European gas is expected to slow gradually as US LNG export capacity expansion picks up in 2024 and beyond. This is reflected in a slowly narrowing gap between the US and EU futures price curves. Title Transfer Facility futures prices suggest that average annual prices could move from $13.6/MMBtu to $17.5/MMBtu in 2024 but then down to $9.1/MMBtu by 2028. US Henry Hub prices are expected to rise from an annual average of $2.7/MMBtu in 2023 to $3.9/MMBtu in 2028.

Metal prices have weakened. After a short-lived rebound during the winter, base metal prices declined by 15.7 percent from February to August as China's reopening lost steam and its real estate sector, which together with construction accounts for roughly 20 percent of global metal consumption, kept faltering (Figure 1.SF.1, panel 1). Higher interest rates and weak European industrial demand also contributed to the negative market sentiment. Forecasts for base metal prices have also been revised downward since the April 2023 *World Economic Outlook,* with prices now projected to decline by 4.7 percent in 2023 and 7.1 percent in 2024. Gold prices remain high following a slowdown in the Federal Reserve's tightening pace and continued demand for inflation hedges and alternatives to the dollar.

Figure 1.SF.2. Headline Inflation
(Month-over-month percent change, seasonally adjusted)



Sources: Haver Analytics; IMF, Primary Commodity Price System; and IMF staff calculations.
Note: Distribution (shaded area) covers countries accounting for 83.9 percent of World GDP (purchasing-power-parity-weighted).

Agricultural prices continue their downward trend. Between February and August, the IMF's food and beverage price index lost 6.7 percent, continuing its decline, though at a slower pace than in the second half of 2022. Prices of all major food commodities except sugar, rice, and pork contributed to the downward trend. As a result of a robust supply response in the 2022–23 season, grain prices fell consistently and in August stood 20.7 percent lower than in February. Grain prices remain, however, 7.7 percent above the average of the past five years. Food security concerns prompted recent export restrictions in India, the world's largest rice exporter. Risks to prices are tilted to the upside, stemming mostly from the ramifications of the end of the Black Sea Grain Initiative and uncertain effects of El Niño (see chapter text), possibly exacerbated by the proliferation of food export restrictions.

The Commodity Price Channel of Monetary Policy

Sharp fluctuations in commodity prices, among other factors, have been blamed for the recent global surge in inflation and for its subsequent fall (Figure 1.SF.2) (see, for example, Gagliardone and Gertler 2023; Blanchard and Bernanke 2023; and Ball, Leigh, and Mishra 2022). Commodity prices, however, are not exogenous with respect to the macroeconomy. Indeed,

part of the recent monetary policy reaction to inflation may have operated through a *commodity price channel*, as policy actions from major central banks affect global activity and financial conditions, which are typically major drivers of fluctuations in commodity prices. How quantitatively important is the commodity price channel of monetary policy—especially US monetary policy—in driving inflation in the United States and worldwide?

Empirical analysis of this question has been limited.[1] This Special Feature contributes to filling the gap by estimating the effects of US monetary policy shocks on commodity prices and, through this channel, their spillback to the US economy and spillovers to consumer prices in other countries. It also looks at pass-through from commodity prices to consumer prices and potential asymmetries.

A Conceptual Framework

Among central banks, the Federal Reserve plays a special role. This is because the bulk of cross-border capital flows are denominated in dollars, and US monetary policy is a key driver of the global financial cycle (Dées and Galesi 2021; Miranda-Agrippino and Rey 2020). Changes in US interest rates thus have pronounced repercussions for the rest of the world (Rey 2013).[2] Therefore, this analysis will focus on the effects of US monetary policy shocks (for an analysis of the effect of European Central Bank shocks, see Online Annex 1.1).[3]

Conceptually, US monetary policy can affect commodity prices through (1) a cost-of-carry channel, by affecting the opportunity cost of commodity storage; (2) a real-economy channel, by affecting current and future commodity consumption; (3) a liquidity-and-portfolio channel, by affecting financial conditions and thus trading liquidity in physical and derivative markets; and (4) an exchange rate channel, as most commodities are traded in dollars. Since monetary policy typically has long lags affecting the real economy, an immediate effect of a monetary policy shock through the real-economy channel can work only through expectations and thus only for easy-to-store commodities.[4]

The Effects of Monetary Policy Shocks on Commodity Prices: A High-Frequency Approach

Local projections are used in the analysis presented here to estimate the effects of monetary policy shocks—as in Jarociński and Karadi (2020)—on commodity prices.[5] The strongest impact is found for industrial metals (for example, nickel and copper) and oil. A 10 basis point monetary policy surprise leads to a 2.5 percent drop in the base metal price index and a 2 percent drop in oil prices, with the peak responses after about 20 days (see Figure 1.SF.3). Prices for raw materials, such as cotton and rubber, also have a similar decline, whereas the reaction of food prices, such as those for cereals, is smaller (less than 1 percent) and less precisely estimated.

Results are consistent with the cost-of-carry and real-economy channels, as higher interest rates increase the opportunity costs of holding inventories and, through the delayed effect on economic activity of higher funding costs, reduce future demand. These effects are more relevant for commodities with high storability (for example, base metals).[6] The gold price reaction is very precisely estimated, with the price dropping by 1.1 percent after 23 days. For a given exchange rate, this sets a cap for the cost-of-carry channel, since gold prices are moved, during normal times,

[1]Recent examples are Breitenlechner, Georgiadis, and Schumann (2022) and Ider and others (2023).

[2]The dollar is both an *intervention* currency and an *anchor* currency (Gourinchas 2019). This helps propagate US monetary policy impulses from the center to the periphery and provides a common component to the global monetary environment. The spillovers of US monetary policy to the rest of the world are further strengthened by the importance of dollar funding for global bank balance sheets, as well as the increasing length and complexity of global supply chains (Bruno and Shin 2015).

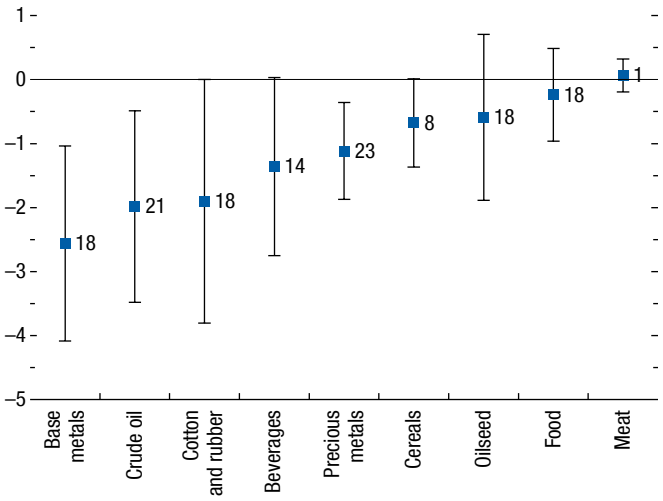
[3]Policy rate comovement among central banks is elevated. Moreover, US monetary policy shocks seem to lead to policy reactions and policy surprises from other central banks, such as the Bank of Canada and the European Central Bank (see Online Annex 1.1 for details). Kearns, Schrimpf, and Xia (2023) document that spillovers from other central banks are modest. In the case of China, typically it is fiscal policy that is more prevalently used for business cycle fluctuations rather than monetary policy. All online annexes are available at www.imf.org/en/Publications/WEO.

[4]Sizable monetary policy shocks can also have a nonlinear effect on commodity prices (Miao, Wu, and Funke 2011).

[5]Only dollar-denominated commodity prices are considered for 1990–2019. The *pure* monetary policy surprise from Jarociński and Karadi (2020), which does not consider central bank information effects, is used. More details are presented in Online Annex 1.1.

[6]The responses of natural gas prices (Henry Hub) are not considered, as gas markets present important structural changes throughout the sample. For the period 1990–2019, natural gas prices do not respond to US monetary policy. However, for the 2016–19 subsample only, when US natural gas exports increased dramatically, a significant decline in gas prices after US monetary policy tightening is observed.

Figure 1.SF.3. Peak Commodity Price Responses to a 10-Basis-Point US Monetary Policy Shock
(Percent change)



Sources: Bloomberg L.P.; IMF, Primary Commodity Price System; UN Comtrade; and IMF staff calculations.
Note: The numbers next to the boxes represent the horizon (day) of the maximum decline in commodity prices. 90 percent error bars are displayed.

mostly by the opportunity cost of storing gold.[7] Monetary policy shocks also affect the dollar, which appreciates by 0.4 percent, but the impact is short-lived.[8]

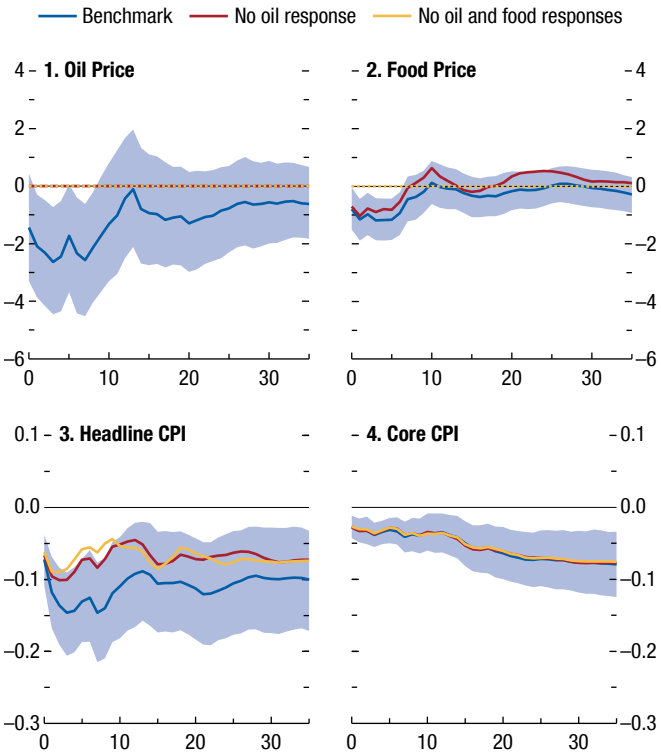
The Effects of Monetary Policy Shocks on Commodity Prices, Spillbacks, and Spillovers

Next, to gauge domestic spillbacks and spillovers from US monetary policy to other countries, a monthly proxy–structural vector autoregression approach is used. The analysis first looks at the effects of the commodity price channel on US inflation. It then moves on to the effects on other countries' inflation. The focus is on prices of food and oil, which have the most direct effects on headline inflation.

[7]Except in the case of natural gas, the results are robust to choosing different subsample periods, suggesting that the relationship between monetary policy and commodity prices has not changed over time. This remains the case even if the sample is broken into segments before and after 2004, a year typically used to distinguish between periods before and after the financialization of commodity markets (Tang and Xiong 2012).

[8]This suggests that, conditional on a monetary policy shock, the correlation between the dollar and commodity prices is negative at high frequencies. Although there is evidence that the unconditional correlation between commodity prices and the dollar has changed since 2015 (Hofmann, Igan, and Rees 2023), the analysis presented in this Special Feature does not find evidence of a change in the relationship between US monetary policy and commodity price indices for that period (see Online Annex 1.1 for details).

Figure 1.SF.4. Impulse Response Functions for a 10-Basis-Point US Monetary Policy Shock
(Percent)



Sources: Bloomberg L.P.; Board of Governors of the Federal Reserve System; UN Comtrade; US Bureau of Labor Statistics; US Energy Information Administration; and IMF staff calculations.
Note: Red (yellow) lines show the response of the variables under the assumption that oil prices (oil and food prices) do not react. Blue areas are 68 percent confidence bands. Oil and food prices are expressed in current-year dollars. CPI = consumer price index.

The Spillbacks

A 10 basis point increase in the US federal funds rate induces a decline in oil prices of 2 percent on impact, and the effect persists for eight months. Food prices decline by 1 percent, and the effect is less persistent. The responses of the headline consumer price index (CPI), industrial production, and the exchange rate are in line with the textbook implications of a monetary policy tightening (see Figure 1.SF.4 and Online Annex 1.1).[9]

[9]In addition to the monetary policy instrument, the first specification considers seven macroeconomic variables: the one-year Treasury bill, US headline CPI, US core CPI, US industrial production, the excess bond premium, the US dollar, the West Texas Intermediate oil price, and a food price index. The data span 1990–2019. The focus on food and energy commodities is because their pass-through to headline inflation is more direct and less delayed than those of other commodities, such as metals, fertilizers, and raw materials.

Table 1.SF.1. Average Response of CPIs
(Percent)

		0–6 Months	0–12 Months	12–24 Months
United States	Benchmark	–0.12	–0.12	–0.02
	No oil	–0.09	–0.07	–0.02
	Contribution[1]	(32)	(40)	–
	No oil, no food	–0.07	–0.06	–0.01
	Contribution	(41)	(47)	–
	Contribution MA[2]	(43)	(40)	–
Other Countries	Benchmark	–0.07	–0.07	0
	No oil	–0.04	–0.03	–0.01
	Contribution	(48)	(57)	–
	No oil, no food	–0.02	–0.02	0
	Contribution	(66)	(74)	–

Sources: Board of Governors of the Federal Reserve System; US Energy Information Administration; World Bank; and IMF staff calculations.
Note: Average response of CPIs to 10 basis point increase in interest rate. Time ranges in each column are average period of decline. CPI = consumer price index; MA = Mediation Analysis.
[1]Percentages in parentheses are contributions of commodity channel.
[2]"Contribution MA" presents the contribution of the overall commodity index from instrumental variables local projection (IV-LP) mediation analysis (MA).

To isolate the commodity price channel of US monetary policy, in the spirit of Bernanke, Gertler, and Watson (1997), the impulse response functions are estimated again, with the condition imposed that US monetary policy has no effect on (1) oil prices and (2) both oil and food prices. If the commodity price channel is shut down, US monetary policy has smaller effects on the CPI. As Table 1.SF.1 shows, absent oil and food price responses, headline CPI would have declined by 0.07 percentage point rather than by 0.12 percentage point in the first half-year, implying a 41 percent contribution of the commodity price channel. The contribution is similar for the first year, but it declines over time as core inflation becomes the main driver (see Figure 1.SF.4, panel 4). Oil prices have a dominant role, since oil prices affect food prices but not vice versa.

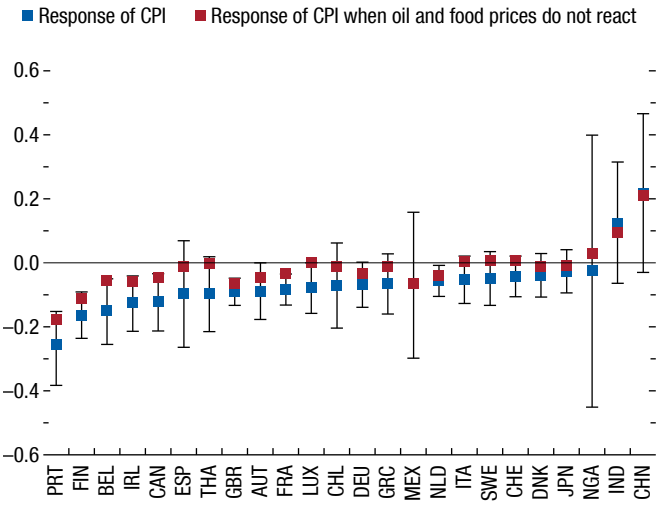
An instrumental variable–local projection mediation analysis tends to confirm these results, with an average commodity price contribution of 43 percent over a half-year period (see Table 1.SF.1 and Online Annex 1.1).

The Spillovers

Figure 1.SF.5 reports the effects of US monetary policy on countries' CPI (in blue), along with the effect of US monetary policy on countries' CPI absent the commodity price channel (red).[10] As expected,

[10]To study the effects of US monetary policy on foreign inflation through commodity prices, the previous specification is augmented with the CPI of country *i* and the bilateral exchange rate for country *i* and the United States, with the estimate repeated for a set of 24 countries. The same decomposition is performed to study how much of the change in country *i*'s CPI is due to US monetary policy's effect on commodity prices.

Figure 1.SF.5. Contribution of Oil and Food Prices in the Transmission of US Monetary Policy Shocks
(Percent)



Sources: Board of Governors of the Federal Reserve System; US Energy Information Administration; World Bank; and IMF staff calculations.
Note: Blue and red squares are the average one-year response of CPIs after an increase of 10 basis points in the US interest rate. Error bars are 68 percent confidence intervals. Data labels in the figure use International Organization for Standardization (ISO) country codes. CPI = consumer price index.

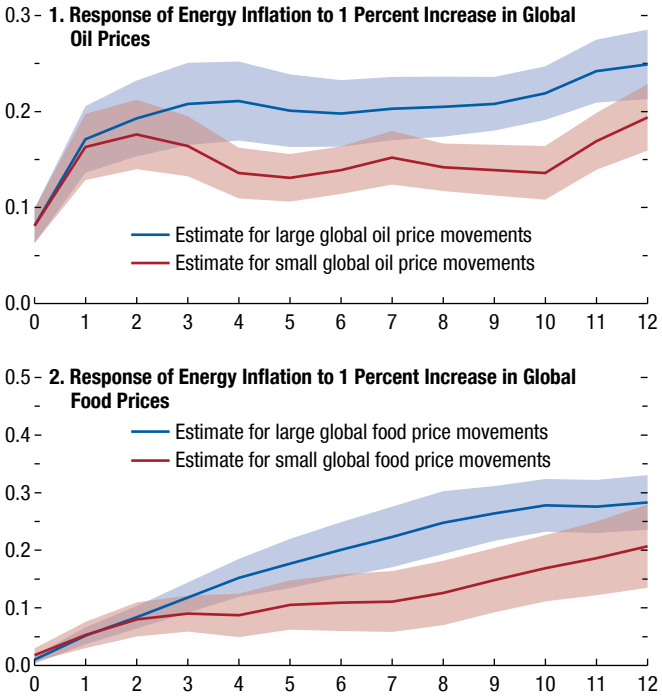
most countries' CPIs decline after a US monetary policy tightening. The role of the commodity price channel is quantitatively important for several countries. As highlighted in Table 1.SF.1, for the average country, the commodity price channel accounts for 66 percent of the total spillover of US monetary policy onto inflation in the first half-year. The oil price alone contributes 48 percent.

Asymmetric Pass-Through

Some observers have suggested that in the most recent episode of heightened inflation, the pass-through from global commodity prices to domestic consumer prices increased. It has also been suggested that producers are eager to pass cost changes on to consumers when commodity prices are on the rise but refrain from doing so when commodity prices decline. Finally, producers may also pass a larger fraction of commodity price changes on to consumer prices when the changes to commodity prices are larger and happen more quickly, attracting the attention of producers by virtue of their salience.

A series of local projections of domestic food and energy inflation on food commodity price and oil price

Figure 1.SF.6. Asymmetric Pass-Through of Commodity Price Shocks
(Percent)



Sources: Ha, Kose, and Ohnsorge (2021); and IMF staff calculations.
Note: Shaded area is 90 percent confidence interval. Numbers on *x*-axis represent months after shock. Coefficient on large (small) price movements estimated on subsample of price changes larger than (smaller or equal to) one standard deviation.

shocks are conducted to test these hypotheses. For food inflation, there is no evidence that the pass-through is higher during commodity price booms than busts or that the pass-through for price increases is larger than that for price decreases. However, some evidence shows that the pass-through of large oil price shocks to domestic energy inflation could be twice the size of that for small ones (Figure 1.SF.6, panel 1). For food inflation, there is also evidence that the food price pass-through is heightened for larger and thus more salient shocks (Figure 1.SF.6, panel 2).

Conclusions

Monetary policy has a strong direct effect on commodity prices, especially those of industrial and storable commodities such as oil and metals. Spillbacks and spillovers to other countries from US monetary policy shocks are fast. After a 10 basis point monetary policy shock, the decline in oil and food prices over the course of six months reduces both domestic and other countries' inflation by 0.05 percent on average. This result implies that the commodity price channel of US monetary policy has relatively larger spillovers to other countries than spillbacks to the United States. Whereas the commodity price channel accounts for 41 percent of the total decline in US headline CPI, it accounts for 66 percent of the total decline in headline CPI for the average country in the sample.

Spillovers from US monetary policy shocks tend to be more relevant for consumer prices in other advanced economies, whereas the reaction of consumer prices in emerging market economies and their commodity price channels are less precisely estimated, as emerging markets tend to have more regulated prices. There is no significant commodity price channel for core inflation. Major central banks, when setting policy objectives, should consider their spillbacks and spillovers through a commodity price channel and expect stronger pass-through during times of sharp commodity price changes (relative to times of small changes). Finally, as the Federal Reserve tends to set the tone for the global monetary policy stance, and given that other major central banks such as the European Central Bank can also affect commodity prices, the commodity price channel could be strengthened in periods of high monetary policy coordination.

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	
	2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024
Europe	**2.7**	**1.2**	**1.5**	**15.4**	**10.5**	**9.4**	**2.0**	**2.0**	**2.1**	**. . .**	**. . .**	**. . .**
Advanced Europe	**3.5**	**0.7**	**1.2**	**8.5**	**5.9**	**3.3**	**1.9**	**2.5**	**2.6**	**6.0**	**6.0**	**6.0**
Euro Area[4,5]	3.3	0.7	1.2	8.4	5.6	3.3	–0.7	1.2	1.4	6.7	6.6	6.5
Germany	1.8	–0.5	0.9	8.7	6.3	3.5	4.2	6.0	6.6	3.1	3.3	3.3
France	2.5	1.0	1.3	5.9	5.6	2.5	–2.0	–1.2	–1.3	7.3	7.4	7.3
Italy[6]	3.7	0.7	0.7	8.7	6.0	2.6	–1.2	0.7	0.9	8.1	7.9	8.0
Spain	5.8	2.5	1.7	8.3	3.5	3.9	0.6	2.1	2.0	12.9	11.8	11.3
The Netherlands	4.3	0.6	1.1	11.6	4.0	4.2	9.2	7.6	7.6	3.5	3.7	4.1
Belgium	3.2	1.0	0.9	10.3	2.5	4.3	–3.6	–2.7	–1.9	5.6	5.7	5.7
Ireland	9.4	2.0	3.3	8.1	5.2	3.0	10.8	7.8	7.2	4.5	4.1	4.2
Austria	4.8	0.1	0.8	8.6	7.8	3.7	0.7	0.1	0.0	4.8	5.1	5.4
Portugal	6.7	2.3	1.5	8.1	5.3	3.4	–1.2	1.3	1.1	6.1	6.6	6.5
Greece	5.9	2.5	2.0	9.3	4.1	2.8	–10.1	–6.9	–6.0	12.4	10.8	9.3
Finland	1.6	–0.1	1.0	7.2	4.5	1.9	–3.6	–1.7	–0.9	6.8	7.3	7.4
Slovak Republic	1.7	1.3	2.5	12.1	10.9	4.8	–8.2	–2.7	–4.0	6.2	6.1	5.9
Croatia	6.2	2.7	2.6	10.7	8.6	4.2	–1.6	–0.2	–0.4	6.8	6.3	5.9
Lithuania	1.9	–0.2	2.7	18.9	9.3	3.9	–5.1	0.0	0.9	5.9	6.5	6.3
Slovenia	2.5	2.0	2.2	8.8	7.4	4.2	–1.0	4.4	3.8	4.0	3.6	3.8
Luxembourg	1.4	–0.4	1.5	8.1	3.2	3.3	3.6	3.7	4.0	4.8	5.2	5.8
Latvia	2.8	0.5	2.6	17.2	9.9	4.2	–4.7	–3.0	–2.4	6.9	6.7	6.6
Estonia	–0.5	–2.3	2.4	19.4	10.0	3.8	–2.9	1.8	2.6	5.6	6.7	7.1
Cyprus	5.6	2.2	2.7	8.1	3.5	2.4	–9.1	–8.6	–7.9	6.8	6.7	6.4
Malta	6.9	3.8	3.3	6.1	5.8	3.1	–5.7	–3.0	–2.9	2.9	3.1	3.2
United Kingdom[6]	4.1	0.5	0.6	9.1	7.7	3.7	–3.8	–3.7	–3.7	3.7	4.2	4.6
Switzerland	2.7	0.9	1.8	2.8	2.2	2.0	10.2	8.0	8.0	2.2	2.1	2.3
Sweden	2.8	–0.7	0.6	8.1	6.9	3.6	4.8	5.4	5.4	7.5	7.5	8.1
Czech Republic	2.3	0.2	2.3	15.1	10.9	4.6	–6.1	0.5	1.7	2.1	2.8	2.6
Norway	3.3	2.3	1.5	5.8	5.8	3.7	30.2	26.2	25.4	3.3	3.6	3.8
Denmark	2.7	1.7	1.4	8.5	4.2	2.8	13.5	11.4	9.9	4.5	5.0	5.0
Iceland	7.2	3.3	1.7	8.3	8.6	4.5	–2.0	–0.6	–0.4	3.8	3.4	3.8
Andorra	8.8	2.1	1.5	6.2	5.2	3.5	17.0	17.9	18.4	2.1	1.9	1.7
San Marino	5.0	2.2	1.3	5.3	5.9	2.5	8.0	3.8	2.9	4.3	4.0	3.9
Emerging and Developing Europe[7]	**0.8**	**2.4**	**2.2**	**27.9**	**18.9**	**19.9**	**2.6**	**–0.4**	**–0.3**	**. . .**	**. . .**	**. . .**
Russia	–2.1	2.2	1.1	13.8	5.3	6.3	10.5	3.4	4.0	3.9	3.3	3.1
Türkiye[6]	5.5	4.0	3.0	72.3	51.2	62.5	–5.3	–4.2	–3.0	10.3	9.9	10.1
Poland	5.1	0.6	2.3	14.4	12.0	6.4	–3.0	1.0	0.3	2.9	2.8	2.9
Romania	4.7	2.2	3.8	13.8	10.7	5.8	–9.3	–7.3	–7.1	5.6	5.6	5.4
Ukraine[6]	–29.1	2.0	3.2	20.2	17.7	13.0	5.0	–5.7	–7.2	24.5	19.4	10.6
Hungary	4.6	–0.3	3.1	14.5	17.7	6.6	–8.0	–0.9	–1.6	3.6	3.9	3.8
Belarus	–3.7	1.6	1.3	15.2	4.7	5.7	3.7	2.7	2.0	4.2	4.0	3.6
Bulgaria	3.4	1.7	3.2	13.0	8.5	3.0	–0.7	0.0	0.1	4.2	4.6	4.4
Serbia	2.3	2.0	3.0	12.0	12.4	5.3	–6.9	–2.3	–3.2	9.4	9.1	9.0

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 in the case of Slovenia.

[6]See the country-specific notes for Italy, Türkiye, Ukraine, and the United Kingdom in the "Country Notes" section of the Statistical Appendix.

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

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	
	2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024
Asia	**3.9**	**4.6**	**4.2**	**3.8**	**2.8**	**2.7**	**1.8**	**1.6**	**1.5**	**. . .**	**. . .**	**. . .**
Advanced Asia	**1.8**	**2.1**	**1.8**	**3.8**	**3.5**	**2.7**	**3.6**	**3.8**	**3.9**	**2.9**	**2.8**	**2.9**
Japan	1.0	2.0	1.0	2.5	3.2	2.9	2.1	3.3	3.7	2.6	2.5	2.3
Korea	2.6	1.4	2.2	5.1	3.4	2.3	1.8	1.3	1.7	2.9	2.7	3.2
Taiwan Province of China	2.4	0.8	3.0	2.9	2.1	1.5	13.3	11.8	12.1	3.7	3.7	3.7
Australia	3.7	1.8	1.2	6.6	5.8	4.0	1.1	0.6	–0.7	3.7	3.7	4.3
Singapore	3.6	1.0	2.1	6.1	5.5	3.5	19.3	16.6	15.2	2.1	1.8	1.8
Hong Kong SAR	–3.5	4.4	2.9	1.9	2.2	2.3	10.6	7.1	6.3	4.3	3.2	3.1
New Zealand	2.7	1.1	1.0	7.2	4.9	2.7	–9.0	–7.9	–6.5	3.3	3.8	4.9
Macao SAR	–26.8	74.4	27.2	1.0	0.9	1.7	–23.5	19.9	32.4	3.0	2.7	2.5
Emerging and Developing Asia	**4.5**	**5.2**	**4.8**	**3.8**	**2.6**	**2.7**	**1.2**	**0.7**	**0.6**	**. . .**	**. . .**	**. . .**
China	3.0	5.0	4.2	1.9	0.7	1.7	2.2	1.5	1.4	5.5	5.3	5.2
India[4]	7.2	6.3	6.3	6.7	5.5	4.6	–2.0	–1.8	–1.8	. . .	. . .	. . .
Indonesia	5.3	5.0	5.0	4.2	3.6	2.5	1.0	–0.3	–0.6	5.9	5.3	5.2
Thailand	2.6	2.7	3.2	6.1	1.5	1.6	–3.0	–0.2	1.9	1.3	1.2	1.1
Vietnam	8.0	4.7	5.8	3.2	3.4	3.4	–0.3	0.2	0.7	2.3	2.1	2.1
Philippines	7.6	5.3	5.9	5.8	5.8	3.2	–4.5	–3.0	–2.6	5.4	4.7	5.1
Malaysia	8.7	4.0	4.3	3.4	2.9	2.7	3.1	2.7	2.8	3.8	3.6	3.5
Other Emerging and Developing Asia[5]	**3.9**	**3.8**	**5.6**	**12.3**	**10.8**	**7.4**	**–3.8**	**–1.2**	**–1.2**	**. . .**	**. . .**	**. . .**
Memorandum												
ASEAN-5[6]	**5.5**	**4.2**	**4.5**	**4.8**	**3.6**	**2.5**	**2.7**	**2.3**	**2.3**	**. . .**	**. . .**	**. . .**
Emerging Asia[7]	**4.5**	**5.2**	**4.8**	**3.4**	**2.3**	**2.5**	**1.3**	**0.8**	**0.7**	**. . .**	**. . .**	**. . .**

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	
	2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024
North America	**2.3**	**2.1**	**1.5**	**7.9**	**4.2**	**2.8**	**–3.4**	**–2.7**	**–2.6**	**. . .**	**. . .**	**. . .**
United States	2.1	2.1	1.5	8.0	4.1	2.8	–3.8	–3.0	–2.8	3.6	3.6	3.8
Mexico	3.9	3.2	2.1	7.9	5.5	3.8	–1.2	–1.5	–1.4	3.3	2.9	3.1
Canada	3.4	1.3	1.6	6.8	3.6	2.4	–0.3	–1.0	–1.0	5.3	5.5	6.3
Puerto Rico[4]	2.0	–0.7	–0.2	5.9	2.9	1.5	. . .	. . .	. . .	6.2	6.8	6.6
South America[5]	**3.8**	**1.6**	**2.0**	**17.4**	**18.7**	**14.7**	**–3.0**	**–1.9**	**–1.6**	**. . .**	**. . .**	**. . .**
Brazil	2.9	3.1	1.5	9.3	4.7	4.5	–2.8	–1.9	–1.8	9.3	8.3	8.2
Argentina	5.0	–2.5	2.8	72.4	121.7	93.7	–0.7	–0.6	1.2	6.8	7.4	7.2
Colombia	7.3	1.4	2.0	10.2	11.4	5.2	–6.2	–4.9	–4.3	11.2	10.8	10.4
Chile	2.4	–0.5	1.6	11.6	7.8	3.6	–9.0	–3.5	–3.6	7.9	8.8	9.0
Peru	2.7	1.1	2.7	7.9	6.5	2.9	–4.1	–1.9	–2.1	7.8	7.6	7.4
Ecuador	2.9	1.4	1.8	3.5	2.3	1.8	2.4	1.5	1.6	3.2	3.8	3.9
Venezuela	8.0	4.0	4.5	186.5	360.0	200.0	3.6	2.2	3.4	. . .	. . .	. . .
Bolivia	3.5	1.8	1.8	1.7	3.0	4.4	–0.4	–2.7	–3.3	4.7	4.9	5.0
Paraguay	0.1	4.5	3.8	9.8	4.7	4.1	–6.0	0.6	0.1	6.8	6.2	6.0
Uruguay	4.9	1.0	3.2	9.1	6.1	5.9	–3.5	–3.7	–3.3	7.9	8.1	8.0
Central America[6]	**5.4**	**3.8**	**3.9**	**7.2**	**4.2**	**3.6**	**–3.2**	**–2.2**	**–2.1**	**. . .**	**. . .**	**. . .**
Caribbean[7]	**13.9**	**9.8**	**8.3**	**12.6**	**13.2**	**6.5**	**4.4**	**0.8**	**2.0**	**. . .**	**. . .**	**. . .**
Memorandum												
Latin America and the Caribbean[8]	4.1	2.3	2.3	14.0	13.8	10.7	–2.4	–1.8	–1.5	. . .	. . .	. . .
Eastern Caribbean Currency Union[9]	9.9	4.7	4.0	5.5	4.2	2.4	–13.4	–11.3	–10.2	. . .	. . .	. . .

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	
	2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024
Middle East and Central Asia	**5.6**	**2.0**	**3.4**	**14.0**	**18.0**	**15.2**	**8.6**	**4.1**	**3.6**	**. . .**	**. . .**	**. . .**
Oil Exporters[4]	**5.7**	**2.2**	**3.4**	**13.3**	**12.9**	**9.4**	**13.8**	**6.8**	**6.0**	**. . .**	**. . .**	**. . .**
Saudi Arabia	8.7	0.8	4.0	2.5	2.5	2.2	13.6	5.9	5.4	5.6	. . .	. . .
Iran	3.8	3.0	2.5	45.8	47.0	32.5	4.2	3.4	3.7	9.3	9.4	9.6
United Arab Emirates	7.9	3.4	4.0	4.8	3.1	2.3	11.7	8.2	7.7	. . .	. . .	. . .
Kazakhstan	3.3	4.6	4.2	15.0	15.0	9.0	3.5	–1.5	–0.7	4.9	4.8	4.8
Algeria	3.2	3.8	3.1	9.3	9.0	6.8	9.8	2.9	1.0	. . .	. . .	. . .
Iraq	7.0	–2.7	2.9	5.0	5.3	3.6	17.3	–1.9	–4.3	. . .	. . .	. . .
Qatar	4.9	2.4	2.2	5.0	2.8	2.3	26.7	17.6	15.4	. . .	. . .	. . .
Kuwait	8.9	–0.6	3.6	4.0	3.4	3.1	36.0	30.3	27.7	2.2	2.2	2.2
Azerbaijan	4.6	2.5	2.5	13.9	10.3	5.6	29.8	16.3	15.7	5.9	5.9	5.8
Oman	4.3	1.2	2.7	2.8	1.1	1.7	6.4	5.1	5.4	. . .	. . .	. . .
Turkmenistan	1.6	2.5	2.1	11.2	5.9	10.5	7.1	3.4	1.8	. . .	. . .	. . .
Bahrain	4.9	2.7	3.6	3.6	1.0	1.4	15.4	6.6	7.0	5.4	. . .	. . .
Oil Importers[5,6]	**5.3**	**1.8**	**3.3**	**15.1**	**26.7**	**25.1**	**–5.1**	**–3.1**	**–3.6**	**. . .**	**. . .**	**. . .**
Egypt	6.7	4.2	3.6	8.5	23.5	32.2	–3.5	–1.7	–2.4	7.3	7.1	7.5
Pakistan	6.1	–0.5	2.5	12.1	29.2	23.6	–4.7	–0.7	–1.8	6.2	8.5	8.0
Morocco	1.3	2.4	3.6	6.6	6.3	3.5	–3.5	–3.1	–3.2	11.8	12.0	11.7
Uzbekistan	5.7	5.5	5.5	11.4	10.2	10.0	–0.8	–4.3	–4.6	8.9	8.4	7.9
Sudan[7]	–2.5	–18.3	0.3	138.8	256.2	152.4	–11.2	–1.0	–7.4	32.1	46.0	47.2
Tunisia	2.5	1.3	1.9	8.3	9.4	9.8	–8.6	–5.8	–5.4	15.2	. . .	. . .
Jordan	2.5	2.6	2.7	4.2	2.7	2.6	–8.8	–7.6	–5.4	22.9	. . .	. . .
Georgia	10.1	6.2	4.8	11.9	2.4	2.7	–4.0	–6.1	–5.8	17.3	18.4	18.6
Armenia	12.6	7.0	5.0	8.6	3.5	4.0	0.8	–1.4	–2.3	13.0	13.5	14.0
Tajikistan	8.0	6.5	5.0	6.6	4.6	5.7	15.6	–3.7	–2.4	. . .	. . .	. . .
Kyrgyz Republic	6.3	3.4	4.3	13.9	11.7	8.6	–46.5	–20.0	–6.1	9.0	9.0	9.0
West Bank and Gaza[7]	3.9	3.0	2.7	3.7	3.4	2.7	. . .	. . .	. . .	24.4	24.2	24.0
Mauritania	6.5	4.5	5.3	9.6	7.5	4.0	–15.3	–9.9	–11.1	. . .	. . .	. . .
Memorandum												
Caucasus and Central Asia	4.8	4.6	4.2	13.0	11.0	8.3	6.0	0.4	0.6	. . .	. . .	. . .
Middle East, North Africa, Afghanistan, and Pakistan[6]	5.7	1.7	3.3	14.1	19.0	16.2	8.9	4.7	4.0	. . .	. . .	. . .
Middle East and North Africa	5.6	2.0	3.4	14.4	17.5	15.0	10.2	5.2	4.6	. . .	. . .	. . .
Israel[8]	6.5	3.1	3.0	4.4	4.3	3.0	3.4	4.2	4.0	3.8	3.5	3.9

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.

[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 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	
	2022	2023	2024	2022	2023	2024	2022	2023	2024	2022	2023	2024
Sub-Saharan Africa	**4.0**	**3.3**	**4.0**	**14.5**	**15.8**	**13.1**	**–1.9**	**–2.7**	**–2.8**	**. . .**	**. . .**	**. . .**
Oil Exporters[4]	**3.2**	**2.5**	**3.0**	**18.0**	**21.6**	**21.3**	**2.8**	**1.1**	**0.9**	**. . .**	**. . .**	**. . .**
Nigeria	3.3	2.9	3.1	18.8	25.1	23.0	0.2	0.7	0.6	. . .	. . .	. . .
Angola	3.0	1.3	3.3	21.4	13.1	22.3	9.6	3.1	3.7	. . .	. . .	. . .
Gabon	3.0	2.8	2.6	4.3	3.8	2.5	1.6	–0.8	–2.1	. . .	. . .	. . .
Chad	3.4	4.0	3.7	5.8	7.0	3.5	6.2	0.2	–3.3	. . .	. . .	. . .
Equatorial Guinea	3.2	–6.2	–5.5	4.9	2.4	4.0	9.6	–2.6	–3.0	. . .	. . .	. . .
Middle-Income Countries[5]	**3.6**	**2.7**	**3.6**	**9.4**	**9.4**	**6.6**	**–2.7**	**–3.3**	**–3.0**	**. . .**	**. . .**	**. . .**
South Africa	1.9	0.9	1.8	6.9	5.8	4.8	–0.5	–2.5	–2.8	33.5	32.8	32.8
Kenya	4.8	5.0	5.3	7.6	7.7	6.6	–5.1	–4.9	–4.9	. . .	. . .	. . .
Ghana	3.1	1.2	2.7	31.9	42.2	23.2	–2.1	–2.5	–2.8	. . .	. . .	. . .
Côte d'Ivoire	6.7	6.2	6.6	5.2	4.3	2.3	–6.5	–4.7	–3.8	. . .	. . .	. . .
Cameroon	3.8	4.0	4.2	6.3	7.2	4.8	–1.8	–2.6	–2.4	. . .	. . .	. . .
Zambia	4.7	3.6	4.3	11.0	10.6	9.6	3.6	5.0	7.4	. . .	. . .	. . .
Senegal	4.0	4.1	8.8	9.7	6.1	3.3	–19.9	–14.6	–7.9	. . .	. . .	. . .
Low-Income Countries[6]	**5.7**	**5.3**	**5.8**	**18.7**	**19.1**	**14.1**	**–6.8**	**–5.5**	**–5.7**	**. . .**	**. . .**	**. . .**
Ethiopia	6.4	6.1	6.2	33.9	29.1	20.7	–4.3	–2.4	–2.0	. . .	. . .	. . .
Tanzania	4.7	5.2	6.1	4.4	4.0	4.0	–5.4	–5.1	–4.2	. . .	. . .	. . .
Democratic Republic of the Congo	8.9	6.7	4.7	9.3	19.1	10.6	–5.2	–6.0	–5.3	. . .	. . .	. . .
Uganda	6.4	4.6	5.7	7.2	5.8	4.7	–8.2	–7.1	–8.2	. . .	. . .	. . .
Burkina Faso	1.5	4.4	6.4	14.1	1.4	3.0	–6.2	–5.1	–5.2	. . .	. . .	. . .
Mali	3.7	4.5	4.8	9.7	5.0	2.8	–6.9	–6.5	–5.7	. . .	. . .	. . .

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	
	2005–14	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
World	**2.3**	**2.0**	**1.9**	**2.5**	**2.5**	**1.7**	**–4.0**	**5.3**	**3.0**	**2.0**	**1.9**
Advanced Economies	**0.9**	**1.7**	**1.3**	**2.1**	**1.9**	**1.3**	**–4.7**	**5.5**	**2.2**	**1.1**	**1.1**
United States	0.8	2.0	0.9	1.6	2.4	1.8	–3.6	5.6	1.7	1.6	1.0
Euro Area[1]	0.4	1.7	1.6	2.5	1.6	1.4	–6.4	5.8	3.2	0.5	1.1
Germany	1.4	0.6	1.4	2.3	0.7	0.8	–3.9	3.1	1.1	–0.6	0.9
France	0.4	0.6	0.7	2.2	1.5	1.5	–7.9	6.1	2.2	0.7	1.1
Italy[2]	–0.9	0.9	1.5	1.8	1.1	0.7	–8.7	7.7	4.1	1.0	1.0
Spain	–0.4	3.9	2.9	2.8	1.9	1.2	–11.6	6.5	5.1	2.0	1.3
Japan	0.6	1.7	0.8	1.8	0.8	–0.2	–4.0	2.5	1.3	2.4	1.5
United Kingdom[2]	0.5	1.6	1.3	1.8	1.1	1.1	–11.4	7.3	3.3	0.0	0.2
Canada	0.9	–0.1	0.0	1.8	1.4	0.4	–6.2	4.4	1.7	–1.1	0.2
Other Advanced Economies[3]	2.3	1.5	1.8	2.4	2.0	1.2	–2.2	5.8	1.8	1.0	1.6
Emerging Market and Developing Economies	**4.3**	**2.8**	**2.8**	**3.3**	**3.3**	**2.3**	**–3.1**	**5.7**	**3.5**	**2.9**	**2.9**
Emerging and Developing Asia	7.1	5.8	5.8	5.7	5.6	4.4	–1.3	6.7	3.9	4.6	4.2
China	9.4	6.5	6.2	6.4	6.3	5.6	2.1	8.4	3.1	5.0	4.2
India[2]	6.2	6.7	7.0	5.6	5.3	2.8	–6.7	8.2	6.5	5.5	5.3
Emerging and Developing Europe	3.5	0.5	1.5	4.0	3.4	2.3	–1.5	7.4	2.7	2.7	1.9
Russia	3.3	–2.2	0.0	1.8	2.9	2.2	–2.3	6.1	–0.6	2.4	1.3
Latin America and the Caribbean	2.2	–0.8	–1.9	0.3	0.2	–1.0	–8.1	6.4	3.3	1.5	1.4
Brazil	2.6	–4.1	–3.8	0.8	1.3	0.7	–3.7	4.4	2.4	2.5	0.9
Mexico	0.4	1.5	0.6	0.8	0.9	–1.3	–9.5	4.9	3.0	2.3	1.3
Middle East and Central Asia	1.8	0.6	2.0	0.0	0.7	–0.2	–4.7	2.4	7.2	0.1	1.6
Saudi Arabia	0.7	–0.6	–1.4	–0.1	5.4	1.3	–8.9	6.5	4.0	–1.2	1.9
Sub-Saharan Africa	2.5	0.4	–1.3	0.2	0.5	0.4	–4.3	2.1	1.4	0.8	1.4
Nigeria	4.1	0.0	–4.2	–1.8	–0.7	–0.4	–4.3	1.1	0.7	0.4	0.6
South Africa	1.6	–0.2	–0.8	–0.3	0.1	–1.2	–7.3	3.8	1.1	–0.6	0.3
Memorandum											
European Union	0.8	2.1	1.8	2.9	2.1	1.8	–5.8	6.0	3.4	0.5	1.3
ASEAN-5[4]	3.7	3.3	3.6	4.1	3.9	3.2	–5.4	3.2	4.5	3.2	3.6
Middle East and North Africa	1.3	0.4	2.3	–0.7	0.4	–0.7	–5.2	2.5	3.5	0.1	1.6
Emerging Market and Middle-Income Economies	4.6	3.0	3.1	3.6	3.6	2.5	–3.0	6.4	3.4	3.3	3.1
Low-Income Developing Countries	3.5	2.2	1.5	2.5	2.7	2.6	–1.2	1.1	4.1	1.6	2.9

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

[2]See the country-specific notes for India, Italy, and the United Kingdom in the "Country Notes" section of the Statistical Appendix.

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

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

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