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INTERNATIONAL MONETARY FUND

WORLD ECONOMIC OUTLOOK

Managing Divergent Recoveries

2021
APR

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ASSUMPTIONS AND CONVENTIONS

A number of assumptions have been adopted for the projections presented in the *World Economic Outlook* (WEO). It has been assumed that real effective exchange rates remained constant at their average levels during January 18, 2021 to February 15, 2021, except for those for the currencies participating in the European exchange rate mechanism II, which are assumed to have remained constant in nominal terms relative to the euro; that established policies of national authorities will be maintained (for specific assumptions about fiscal and monetary policies for selected economies, see Box A1 in the Statistical Appendix); that the average price of oil will be $58.52 a barrel in 2021 and $54.83 a barrel in 2022 and will remain unchanged in real terms over the medium term; that the six-month London interbank offered rate on US dollar deposits will average 0.3 percent in 2021 and 0.4 percent in 2022; that the three-month euro deposit rate will average –0.5 percent in 2021 and 2022; and that the six-month Japanese yen deposit rate will yield, on average, –0.1 percent in 2021 and 0.0 percent in 2022. These are, of course, working hypotheses rather than forecasts, and the uncertainties surrounding them add to the margin of error that would, in any event, be involved in the projections. The estimates and projections are based on statistical information available through March 22, 2021.

The following conventions are used throughout the WEO:

. . . to indicate that data are not available or not applicable;

– between years or months (for example, 2020–21 or January–June) to indicate the years or months covered, including the beginning and ending years or months; and

/ between years or months (for example, 2020/21) to indicate a fiscal or financial year.

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

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

For some countries, the figures for 2020 and earlier are based on estimates rather than actual outturns. Please refer to Table G in the Statistical Appendix, which lists the latest actual outturns for the indicators in the national accounts, prices, government finance, and balance of payments indicators for each country.

What is new in this publication:

- The *emerging market and middle-income economies* group has been added to selected Chapter 1 and Statistical Appendix tables and comprises emerging market and developing economies that are not classified as low-income developing countries.
- Starting with the April 2021 WEO, GDP data and forecasts for New Zealand are reported on a production basis rather than an expenditure basis.

In the tables and figures, the following conventions apply:

- If no source is listed in tables and figures, data are drawn from the WEO database.
- When countries are not listed alphabetically, they are ordered on the basis of economic size.
- Minor discrepancies between sums of constituent figures and totals shown reflect rounding.

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

Composite data are provided for various groups of countries organized according to economic characteristics or region. Unless noted otherwise, country group composites represent calculations based on 90 percent or more of the weighted group data.

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PREFACE

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

The analysis in this report was coordinated in the Research Department under the general direction of Gita Gopinath, Economic Counsellor and Director of Research. The project was directed by Petya Koeva Brooks, Deputy Director, Research Department; Malhar Nabar, Division Chief, Research Department; and Oya Celasun, Assistant Director, Research Department and Head of the IMF's Spillover Taskforce.

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Joseph Procopio from the Communications Department led the editorial team for the report, with production and editorial support from Christine Ebrahimzadeh, and editorial assistance from Lucy Scott Morales, James Unwin, and Vector Talent Resources.

The analysis has benefited from comments and suggestions by staff members from other IMF departments, as well as by Executive Directors following their discussion of the report on March 25, 2021. However, both projections and policy considerations are those of the IMF staff and should not be attributed to Executive Directors or to their national authorities.

FOREWORD

It is one year since COVID-19 was declared a global pandemic, a year of terrible loss of lives and livelihoods. Like many around the world, the team that produces the *World Economic Outlook* has also lost loved ones to the widening reach of the pandemic. The rising human toll worldwide and the millions of people that remain unemployed are grim markers of the extreme social and economic strain that the global community still confronts.

Yet, even with high uncertainty about the path of the pandemic, a way out of this health and economic crisis is increasingly visible. Thanks to the ingenuity of the scientific community, we have multiple vaccines that can reduce the severity and frequency of infections. In parallel, adaptation to pandemic life has enabled the global economy to do well despite subdued overall mobility, leading to a stronger-than-anticipated rebound, on average, across regions. Additional fiscal support in some economies, (especially the United States)—on top of an already unprecedented fiscal response last year and continued monetary accommodation—further uplift the economic outlook.

We are now projecting a stronger recovery in 2021 and 2022 for the global economy compared to our previous forecast, with growth projected to be 6 percent in 2021 and 4.4 percent in 2022. Nonetheless, the outlook presents daunting challenges related to divergences in the speed of recovery both across and within countries and the potential for persistent economic damage from the crisis.

As Chapter 1 emphasizes, multispeed recoveries are under way in all regions and across income groups, linked to stark differences in the pace of vaccine rollout, the extent of economic policy support, and structural factors such as reliance on tourism. Among advanced economies, the United States is expected to surpass its pre-COVID GDP level this year, while many others in the group will return to their pre-COVID levels only in 2022. Similarly, among emerging market and developing economies, China had already returned to pre-COVID GDP in 2020, whereas many others are not expected to do so until well into 2023.

The divergent recovery paths are likely to create significantly wider gaps in living standards between developing countries and others, compared to pre-pandemic expectations. Cumulative per capita income losses over 2020–22, compared to pre-pandemic projections, are equivalent to 20 percent of 2019 per capita GDP in emerging markets and developing economies (excluding China), while in advanced economies the losses are expected to be relatively smaller, at 11 percent. This has reversed gains in poverty reduction, with an additional 95 million people expected to have entered the ranks of the extreme poor in 2020, and 80 million more undernourished than before.

With a fuller understanding of how the shock has transmitted across sectors and borders, and based on past experiences of deep recessions, we are now better able to assess the likely medium-term losses. Many variables—differences in initial exposure to the shock, economic structures, and policy support—inform our projections for persistent damages and scarring over the medium term, as discussed in Chapter 2. Although medium-term losses for the global economy are expected to be smaller than in the aftermath of the global financial crisis, the cross-country pattern of damages is, however, likely to be different this time, with low-income countries and emerging markets suffering more compared to the fallout from the crisis a decade earlier when advanced economies were harder hit.

These divergences, however, are not just occurring between countries but also within them. As discussed in Chapter 3 (and in the April 2021 *Fiscal Monitor*), within-country income inequality will likely increase because young workers and those with relatively lower skills remain more heavily affected in not only advanced but also emerging markets and developing economies. In the latter group of countries, female employment rates remain below that of men, exacerbating these disparities. Some of these effects reflect how the crisis has affected some sectors more than others: employment has declined to a greater extent in those sectors with larger concentrations of younger or lower-skilled workers as well as in sectors

more vulnerable to automation. Because the crisis has accelerated the transformative forces of digitalization and automation, many of the jobs lost are unlikely to return, requiring worker reallocation across sectors—which itself often comes with severe earnings penalties.

A high degree of uncertainty surrounds these projections, with many possible downside and upside risks. Much still depends on the race between the virus and vaccines. Greater progress with vaccinations can uplift the forecast, while new virus variants that evade vaccines can lead to a sharp downgrade. Large divergences in recovery speeds also raise the prospect of divergent policy stances. In recent months, we have seen sharp increases in long-term interest rates, partly reflecting revised market expectations of the pace at which the US Federal Reserve will normalize policy as the growth outlook for the US economy improves. As discussed in Chapter 4 (and in the April 2021 *Global Financial Stability Report*), if such increases are orderly and reflect stronger growth expectations, then they need not pose difficulties for other countries. But if increases instead reflect a sense that advanced economy monetary policy stances will need to tighten abruptly as the recovery gathers momentum, then there could be adverse spillovers to emerging market and developing economies, particularly among those with high debt and large financing needs. This could set those economies back even further relative to advanced economies.

Averting divergent outcomes will require, above all, resolving the health crisis everywhere. At the same time, economic policies will need to limit persistent damage, secure the recovery, and prepare for the post-COVID world, while being mindful of available policy space. Already, unprecedented economic policy actions have prevented far worse outcomes—our estimates suggest last year's severe collapse could have been about at least three times as large had it not been for the swift policy support worldwide. Many countries are now left with more limited policy space and higher debt levels than prior to the pandemic. Policies, therefore, will have to become better targeted to maintain the ability to support economic activity through this uncertain period as the race between the virus and vaccines unfolds.

A tailored approach will be necessary, with policies well calibrated to the stage of the pandemic, strength of the economic recovery, and social and economic circumstances of individual countries. As discussed in this report, while the pandemic continues, policies should prioritize health care spending—on vaccine production and distribution, treatments, health care infrastructure—together with well-targeted fiscal support to affected households and firms. As the recovery progresses and labor market conditions normalize, targeted support should be gradually scaled back to avoid sudden cliffs. More emphasis should at that point be placed on retraining and reskilling workers, together with income support as needed to help them through the transition, while in parallel expanding hiring subsidies to incentivize job creation. Expedited and streamlined bankruptcy procedures can further facilitate reallocation. Resources will need to be devoted to reverse learning losses among children who lost instructional time during the pandemic, for instance, through increased spending on education.

Once the health crisis is over, policy efforts can focus more on building resilient, inclusive, and greener economies, both to bolster the recovery and to raise potential output. The priorities should include investing in green infrastructure to help mitigate climate change, strengthening social assistance and social insurance to arrest rising inequality, introducing initiatives to boost productive capacity and adapt to a more digitalized economy, and resolving debt overhangs.

Financing these endeavors will be easier for some countries than for others. For those with limited fiscal space, improved revenue administration, greater progressivity in taxation, and reorientation of expenditures toward critical health, social, and infrastructural spending will be essential. Anchoring policies in credible medium-term frameworks and adhering to the highest standards of debt transparency would help in this regard, by containing borrowing costs and reducing fiscal risks.

On the international stage, first and foremost, countries need to work together to ensure widespread vaccinations across the world. The vaccine industry is attempting to produce three times the level of vaccines produced in a normal year. Not surprisingly, they are facing major challenges, including input supply bottlenecks. Vaccine access is also deeply iniquitous with high-income countries, with 16 percent of the world's population, having pre-purchased 50 percent of the doses. Countries will need to work together to resolve production bottlenecks, ramp up production, ensure universal access, including through funding the COVAX facility on which many low-income countries rely heavily for doses, and avoid export controls.

Policymakers should also continue to ensure adequate access to international liquidity. Major central banks should provide clear guidance on future actions with ample time to prepare to avoid taper-tantrum kinds of episodes as occurred in 2013. Low-income countries will benefit from further extending the temporary pause on debt repayments under the Debt Service Suspension Initiative and operationalizing the G20 Common Framework for orderly debt restructuring. Emerging markets and low-income countries will benefit from a new allocation of the IMF's special drawing rights and through pre-emptively availing themselves of the IMF's precautionary financing lines, such as the Flexible Credit Line and the Short-Term Liquidity Line.

Even while all eyes are on the pandemic, it is essential that progress be made on resolving trade and technology tensions. Countries should also cooperate on climate change mitigation, digitalization, modernization of international corporate taxation, and on measures to limit cross-border profit shifting, tax avoidance, and evasion.

Over the past year, we have seen significant innovations in economic policy and massively scaled-up support at the national level, particularly among advanced economies that have been able to afford these initiatives. A similarly ambitious effort is now needed at the multilateral level, on top of the considerable support provided thus far by the IMF to 85 countries during this pandemic. Without additional efforts to give all people a fair shot, cross-country gaps in living standards could widen significantly, and decades-long trends of global poverty reduction could reverse.

Gita Gopinath
Economic Counsellor and Director of Research

EXECUTIVE SUMMARY

One year into the COVID-19 pandemic, the accumulating human toll continues to raise concerns, even as growing vaccine coverage lifts sentiment. High uncertainty surrounds the global economic outlook, primarily related to the path of the pandemic. The contraction of activity in 2020 was unprecedented in living memory in its speed and synchronized nature. But it could have been a lot worse. Although difficult to pin down precisely, IMF staff estimates suggest that the contraction could have been three times as large if not for extraordinary policy support. Much remains to be done to beat back the pandemic and avoid divergence in income per capita across economies and persistent increases in inequality within countries.

Improved outlook: After an estimated contraction of –3.3 percent in 2020, the global economy is projected to grow at 6 percent in 2021, moderating to 4.4 percent in 2022. The contraction for 2020 is 1.1 percentage points smaller than projected in the October 2020 *World Economic Outlook* (WEO), reflecting the higher-than-expected growth outturns in the second half of the year for most regions after lockdowns were eased and as economies adapted to new ways of working. The projections for 2021 and 2022 are 0.8 percentage point and 0.2 percentage point stronger than in the October 2020 WEO, reflecting additional fiscal support in a few large economies and the anticipated vaccine-powered recovery in the second half of the year. Global growth is expected to moderate to 3.3 percent over the medium term—reflecting projected damage to supply potential and forces that predate the pandemic, including aging-related slower labor force growth in advanced economies and some emerging market economies. Thanks to unprecedented policy response, the COVID-19 recession is likely to leave smaller scars than the 2008 global financial crisis. However, emerging market economies and low-income developing countries have been hit harder and are expected to suffer more significant medium-term losses.

Divergent impacts: Output losses have been particularly large for countries that rely on tourism and commodity exports and for those with limited policy space to respond. Many of these countries entered the crisis in a precarious fiscal situation and with less capacity to mount major health care policy responses or support livelihoods. The projected recovery follows a severe contraction that has had particularly adverse employment and earnings impacts on certain groups. Youth, women, workers with relatively lower educational attainment, and the informally employed have generally been hit hardest. Income inequality is likely to increase significantly because of the pandemic. Close to 95 million more people are estimated to have fallen below the threshold of extreme poverty in 2020 compared with pre-pandemic projections. Moreover, learning losses have been more severe in low-income and developing countries, which have found it harder to cope with school closures, and especially for girls and students from low-income households. Unequal setbacks to schooling could further amplify income inequality.

High uncertainty surrounds the global outlook. Future developments will depend on the path of the health crisis, including whether the new COVID-19 strains prove susceptible to vaccines or they prolong the pandemic; the effectiveness of policy actions to limit persistent economic damage (scarring); the evolution of financial conditions and commodity prices; and the adjustment capacity of the economy. The ebb and flow of these drivers and their interaction with country-specific characteristics will determine the pace of the recovery and the extent of medium-term scarring across countries (Chapter 2). In many aspects, this crisis is unique. In certain countries, policy support and lack of spending opportunities have led to large increases in savings that could be unleashed very quickly should uncertainty dissipate. At the same time, it is unclear how much of these savings will be spent, given the deterioration of many firms' and households' balance sheets (particularly among those with a high propensity to consume out of income) and the expiration of loan repayment moratoria. In sum, risks are assessed as balanced in the short term, but tilted to the upside later on.

Considering the large uncertainty surrounding the outlook, policymakers should prioritize policies

that would be prudent, regardless of the state of the world that prevails—for instance, strengthening social protection with wider eligibility for unemployment insurance to cover the self-employed and informally employed (see Chapter 2 of the April 2020 WEO); ensuring adequate resources for health care, early childhood development programs, education, and vocational training; and investing in green infrastructure to hasten the transition to lower carbon dependence. Moreover, as discussed in Chapters 2 and 3, they should be prepared to flexibly adjust policy support, for example, by shifting from lifelines to reallocation as the pandemic evolves, and linked to improvements in activity, while they safeguard social spending and avoid locking in inefficient spending outlays. It is important to anchor short-term support in credible medium-term frameworks (see the April 2021 *Fiscal Monitor*). Where elevated debt levels limit scope for action, effort should also be directed at creating space through increased revenue collection (fewer breaks, better coverage of registries, and switching to well-designed value-added taxes), greater tax progressivity, and by reducing wasteful subsidies.

Policy priorities: The factors shaping the appropriate stance of policy vary by country, especially progress toward normalization. Hence, countries will need to tailor their policy responses to the stage of the pandemic, strength of the recovery, and structural characteristics of the economy. Once vaccination becomes widespread and spare capacity in health care systems is generally restored to pre-COVID-19 levels, restrictions can begin to be lifted. While the pandemic continues, policies should first focus on escaping the crisis, prioritizing health care spending, providing well-targeted fiscal support, and maintaining accommodative monetary policy while monitoring financial stability risks. Then, as the recovery progresses, policymakers will need to limit long-term economic scarring with an eye toward boosting productive capacity (for example, public investment) and increasing incentives for an efficient allocation of productive resources. It is a delicate balance, especially given the prevailing uncertainty. Therefore, when support is eventually scaled back, it should be done in ways that avoid sudden cliffs (for instance, gradually reducing the government's share of wages covered under furlough and short-time work programs while increasing hiring subsidies to enable reallocation as needed). All the while, long-term challenges—boosting productivity, improving policy frameworks, and addressing climate change—cannot be ignored. Differential recovery speeds across countries may give rise to divergent policy stances, particularly if advanced economies benefit sooner than others from wide vaccine coverage. Clear forward guidance and communication from advanced economy central banks is particularly crucial, and not just for calibrating the appropriate domestic monetary accommodation. It also vitally bears on external financial conditions in emerging markets and the impact that divergent policy stances have on capital flows (Chapter 4).

Strong international cooperation is vital for achieving these objectives and ensuring that emerging market economies and low-income developing countries continue to narrow the gap between their living standards and those of high-income countries. On the health care front, this means ensuring adequate worldwide vaccine production and universal distribution at affordable prices—including through sufficient funding for the COVAX facility—so that all countries can quickly and decisively beat back the pandemic. The international community also needs to work together to ensure that financially constrained economies have adequate access to international liquidity so that they can continue needed health care, other social, and infrastructure spending required for development and convergence to higher levels of income per capita. Countries should also work closely to redouble climate change mitigation efforts. Moreover, strong cooperation is needed to resolve economic issues underlying trade and technology tensions (as well as gaps in the rules-based multilateral trading system). Building on recent advances in international tax policy, efforts should continue to focus on limiting cross-border profit shifting, tax avoidance, and tax evasion.

CHAPTER 1

GLOBAL PROSPECTS AND POLICIES

Divergent Recoveries amid High Uncertainty

Global prospects remain highly uncertain one year into the pandemic. New virus mutations and the accumulating human toll raise concerns, even as growing vaccine coverage lifts sentiment. Economic recoveries are diverging across countries and sectors, reflecting variation in pandemic-induced disruptions and the extent of policy support. The outlook depends not just on the outcome of the battle between the virus and vaccines (Figure 1.1)—it also hinges on how effectively economic policies deployed under high uncertainty can limit lasting damage from this unprecedented crisis.

Pandemic Continues to Exact a Severe Human Toll

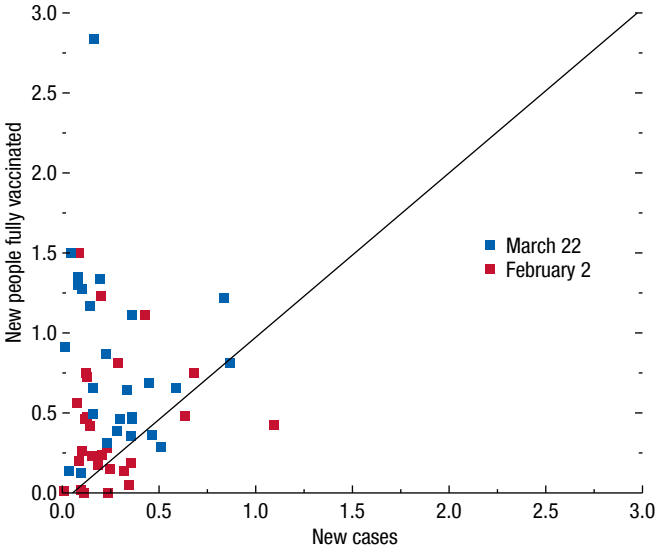
Social distancing, vaccinations, and treatments have helped slow the progress of the virus and saved lives. At the same time, the crisis has laid bare large differences in countries' capacity to support their population, especially the most vulnerable. The measured pandemic death toll (more than 2½ million people worldwide), excess mortality from other causes on account of delayed care, and elevated unemployment have imposed extreme social strains worldwide. Vaccination has begun in most countries, holding promise of eventual reductions in the severity and frequency of infections. Coverage varies considerably so far, and countries are expected to achieve widespread inoculation at different times (Figure 1.2).

A multispeed, incomplete recovery. Second and third infection waves have necessitated renewed restrictions in many countries since the October 2020 *World Economic Outlook* (WEO) forecast. This stop-go rhythm means that recovery is uneven and far from complete. Although GDP, in general, recovered stronger than expected in the second half of 2020, it remains significantly below pre-pandemic trends in most countries. Moreover, high-frequency indicators suggest a softening of momentum in some sectors in early 2021 (Figure 1.3).

- *Differences across countries*: Across countries, the recovery has been shaped by the path of the pandemic, curbs to mobility imposed to contain its progress, and policy actions. Output losses have been particularly large for countries that rely on tourism and commodity exports and for those with limited policy space to respond. Many of these countries entered the crisis in a precarious fiscal situation and with less capacity to mount major health care policy responses, forcing stricter lockdowns to contain the spread of the virus. Factors such as the proportion of "teleworkable" jobs, share of employment in small and medium enterprises, depth of capital markets, size of the informal sector, and quality of and access to digital infrastructure also played roles—in both the downturn and the speed of the recovery (Figure 1.4). Such differences may, in turn, lead to lasting divergences across countries if the pandemic is not beaten back universally. Close to 95 million more people are estimated to have fallen below the threshold of extreme poverty in 2020 compared with pre-pandemic projections, reversing a two-decade-long trend of global poverty reduction.
- *Differences across sectors*: Strong demand for products that support working from home and the release of pent-up demand for durable goods more generally (especially automobiles) have been key factors behind the global recovery since the second half of 2020 (Box 1.1). Following a short-lived and synchronized collapse, industrial production has returned to pre-pandemic levels. Consumption of contact-intensive services has remained depressed, however, as the reopening of many economies in May–June—which led to a surprise rebound in the third quarter of 2020—also triggered a second wave of infections and further curbs to mobility in the closing months of 2020 (Figure 1.5). Travel, the arts, entertainment, sports, hospitality, and brick-and-mortar retail have operated at a fraction of their capacity since the beginning of the pandemic and will not see a substantial rebound before the pandemic is brought under control.
- *International trade* in goods has shown similar patterns (Figure 1.6). Merchandise trade volumes have returned to pre-pandemic levels. Cross-border trade in services remains subdued.

Figure 1.1. A Race between Virus and Vaccines
(Per thousand, seven-day moving average; latest observation: March 22, 2021)

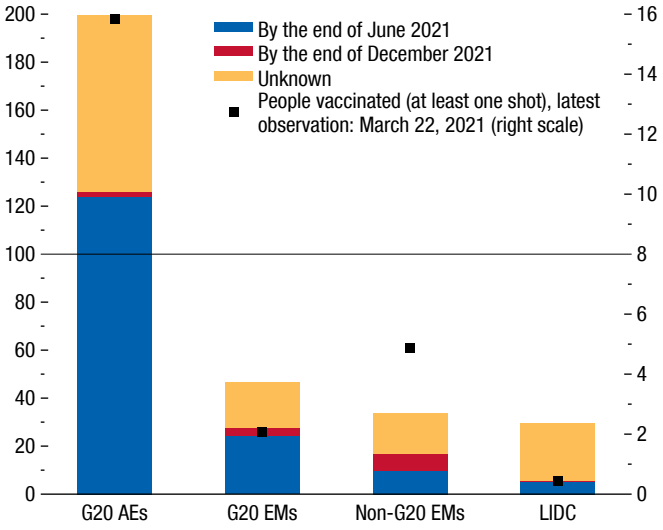
The race between the virus and vaccines has begun.



Sources: Johns Hopkins University COVID-19 statistics; and national government reports via *Our World in Data*.

Figure 1.2. Confirmed Vaccine Procurement
(Percent of population)

Procurement data suggest that most of the population in emerging market economies will not be vaccinated before 2022.



Sources: Duke Global Health Innovation Center; Johns Hopkins University COVID-19 statistics; and national government reports via *Our World in Data*.
Note: Vaccines are Gamaleya, Janssen (Johnson & Johnson), Moderna, Oxford/AstraZeneca, Pfizer/BioNTech, Sinopharm, and Sinovac. AEs = advanced economies; EMs = emerging market economies; G20 = Group of Twenty; LIDCs = low-income developing countries.

- *Labor market vulnerabilities*: The labor market recovery is also incomplete, with still-elevated unemployment and underemployment (Figure 1.7). Despite extraordinary policy support (including job retention programs and wage subsidies), unemployment rates have risen by about 1½ percentage points above their pre-pandemic averages in both advanced and emerging market and developing economies. Labor force participation has also dropped. Moreover, the true amount of slack may be even larger than these indicators suggest as many countries have introduced or expanded jobs retention programs (for example, *Kurzarbeit* in Germany; see Chapter 3).

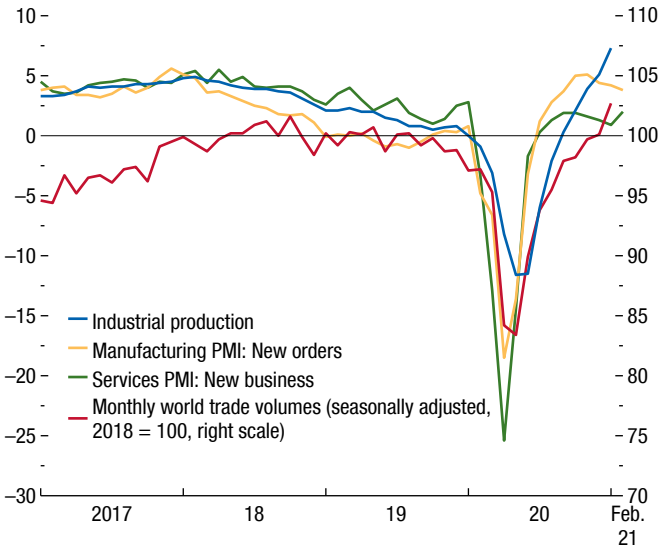
Divergence between asset markets and the rest of the economy: In contrast with the labor and product markets, notwithstanding recent volatility, asset markets have powered ahead, lifted by policy stimulus and expectations of a vaccine-driven normalization later this year (Figure 1.8). The disconnect is a double-edged sword: supportive financial conditions are vital for the recovery, but wide divergences between valuations and broader economic prospects raise financial stability risks (see the April 2021 *Global Financial Stability Report* (GFSR)).

Divergences within countries give rise to higher inequality: Given the asymmetric nature of the COVID-19 shock, the employment and earnings impact of the pandemic has been highly unequal across groups of workers. Youth, women, and the relatively lower-skilled have been hit the hardest (see Chapter 3). These demographic groups have suffered the most in this recession, in part because their jobs are concentrated in contact-intensive services and the informal sector (see the October 2020 *Regional Economic Outlooks*). Income inequality is likely to have increased significantly in both advanced economies and emerging markets (see Box 1.2 of the October 2020 WEO). Moreover, learning losses have been more severe in low-income developing countries, which have had more difficulty coping with school closures, and especially for girls and students from low-income households (Figure 1.9). Unequal setbacks to schooling could further amplify income inequality (see Chapter 2 and April 2021 *Fiscal Monitor*).

Figure 1.3. Global Activity Indicators

(Three-month moving average, annualized percent change; deviations from 50 for PMI, unless noted otherwise)

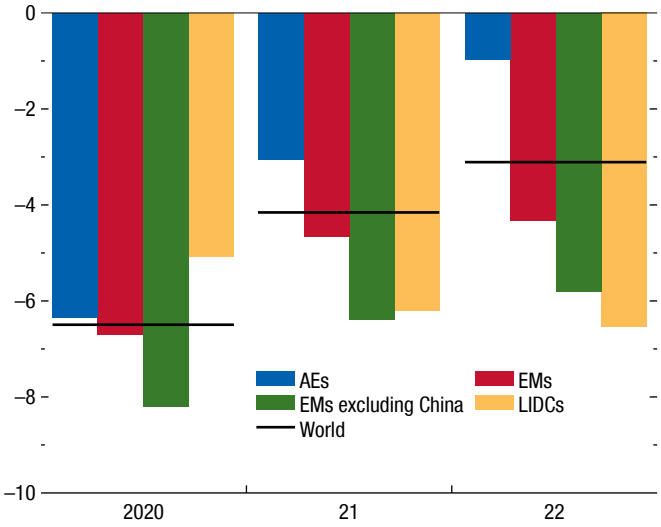
High-frequency indicators suggest that manufacturing and trade are back to pre-pandemic levels, but there is still some way to go in the services sector.



Sources: CPB Netherlands Bureau for Economic Policy Analysis; Haver Analytics; Markit Economics; and IMF staff calculations.
Note: PMI = purchasing managers' index.

Figure 1.4. Hardest-Hit Groups

(Revisions to cumulative per capita GDP growth from 2019 between the January 2020 and April 2021 WEO forecasts, percent)

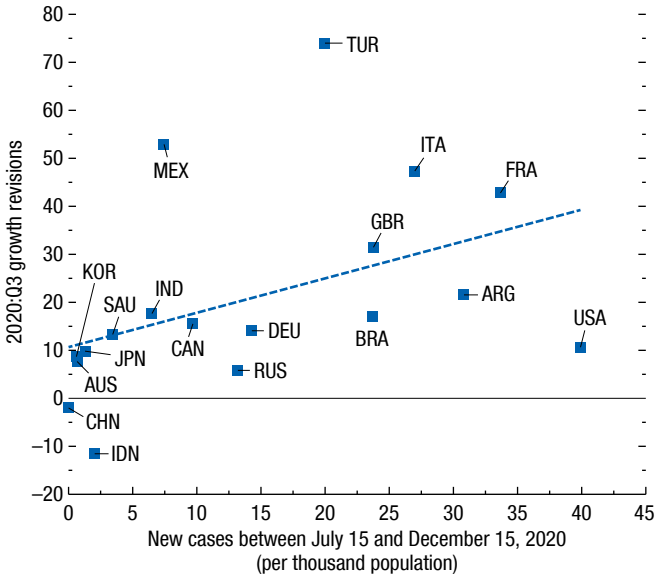


Source: IMF staff estimates.
Note: Per capita real GDP (2017 purchasing-power-parity dollars) is used in the calculations. AEs = advanced economies; EMs = emerging market economies; LIDCs = low-income developing countries; WEO = *World Economic Outlook*.

Figure 1.5. Growth Surprise and Rebound in COVID-19 Cases

(Percentage points; quarter over quarter seasonally adjusted annual rate)

Part of the positive growth surprise in 2020:Q3 resulted from reopening, leading to an infection surge and renewed lockdowns at the end of the year.



Sources: Johns Hopkins University COVID-19 statistics; and IMF staff calculations.
Note: Sample is G20 countries. Growth revisions are the difference between 2020:Q3 forecasts as of June 2020 and first estimates published by January 2021. Data labels use International Organization for Standardization (ISO) country codes. G20 = Group of Twenty.

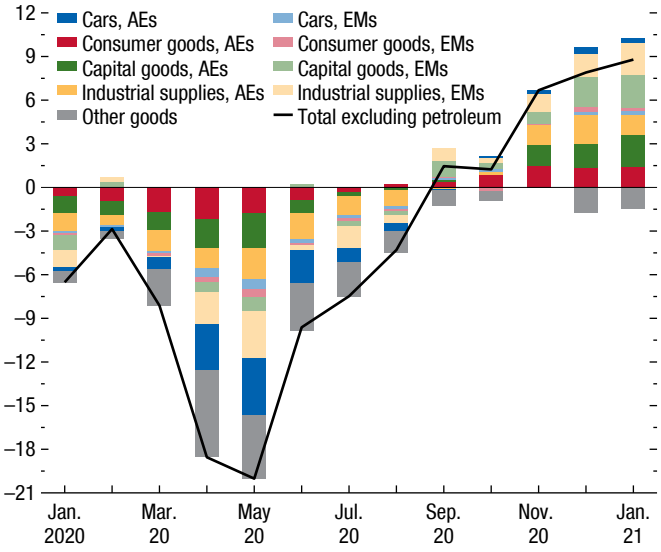
Unprecedented Policy Actions Prevented Far Worse Outcomes

A forceful, swift, global policy response: A year ago, with the world economy seemingly staring into the abyss, central banks swiftly provided liquidity and supported credit extension to a vast array of borrowers. At the same time, fiscal authorities channeled relief to households and firms through transfers, wage subsidies, and liquidity support (see the Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic). These actions supplemented other aspects of the safety net, such as unemployment insurance and nutrition assistance. Financial regulators in many countries facilitated continued credit provision with a range of measures.[1] Financial conditions have been broadly supportive (Figure 1.10). Exchange rate

[1]These included easing classification guidelines for nonperforming loans, relaxing provisioning requirements for banks, reducing risk weights on loans backed by public guarantees, introducing moratoriums on bankruptcy proceedings (see the "Policy Priorities" section), and flexibility regarding bank capital requirements (reducing macroprudential buffers, clarifying how breaches of capital buffers would be treated).

Figure 1.6. Global Imports: Contributions, by Types of Goods and Regions
(Contribution to year-over-year percent change, percentage points; based on value in US dollars)

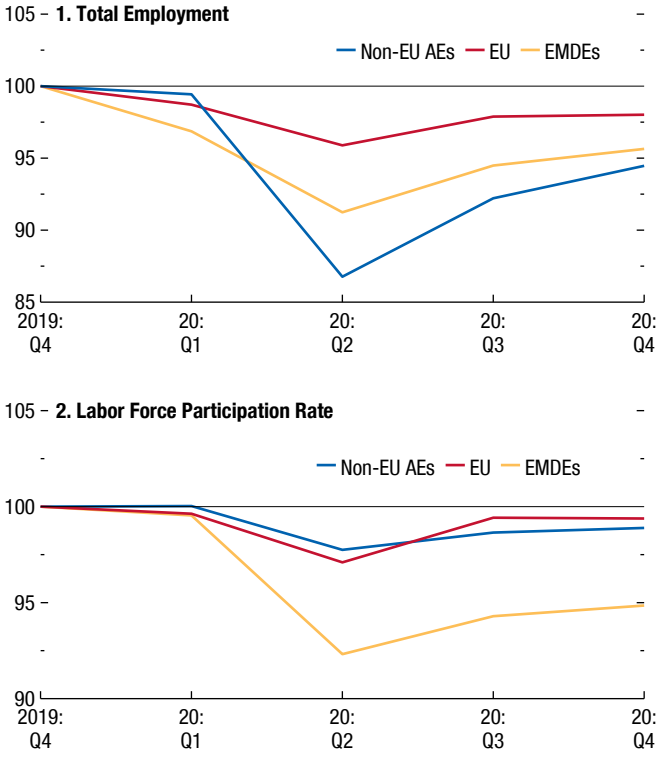
The sharp rebound in international trade in the second half of 2020 reflects pent-up demand for consumer durables (cars) from advanced economies and resumption of supply chains in emerging markets.



Sources: Haver Analytics; and IMF staff calculations.
Note: Advanced economies (AEs) comprise Australia, Canada, Denmark, euro area, Hong Kong SAR, Israel, Japan, Korea, New Zealand, Sweden, Taiwan Province of China, United Kingdom, and United States. Emerging market economies (EMs) comprise Argentina, Brazil, Chile, China, Colombia, Hungary, India, Malaysia, Mexico, Peru, Philippines, Poland, Russia, South Africa, Thailand, and Turkey.

Figure 1.7. Employment and Labor Force Participation
(Index, 2019:Q4 = 100)

There is still a long way to go to close the employment gap.



Sources: Haver Analytics; and IMF staff calculations.
Note: Based on 68 countries for panel 1 and 48 countries for panel 2 using seasonally adjusted quarterly series. Labor force participation rates are based on 15–64 years and indices are weight-averaged using the population from the latest WEO database. When 2020:Q4 data are not yet available, 2020:Q3 values are assumed. AEs = advanced economies; EMDEs = emerging market and developing economies; EU = European Union; WEO = *World Economic Outlook*.

movements have reflected these shifts in risk sentiment; most emerging market currencies and those of commodity exporters have appreciated, while the US dollar has depreciated since last April (Figure 1.11). All these developments helped limit amplification of the shock.

Mission not accomplished (yet): IMF staff estimates suggest that policy actions—including automatic stabilizers, discretionary measures, and financial sector measures—contributed about 6 percentage points to global growth in 2020. While difficult to pin down precisely, absent these actions, the global growth contraction last year could have been three times worse than it was. Even after this expansive support, and with a recovery under way since mid-2020, unemployment and underemployment remain elevated. Although estimating output gaps during this crisis has been tricky (social distancing and curbs on contact-intensive activities mean that both supply and demand have contracted), these developments imply notable slack in the economy (Figure 1.12). Much work remains to achieve a complete recovery. This is a particularly complicated task for policymakers, considering the high uncertainty surrounding the outlook and, for many, the prospect of cushioning the impact on incomes through further periods of stop-go activity with far less policy space than was available at the start of the crisis.

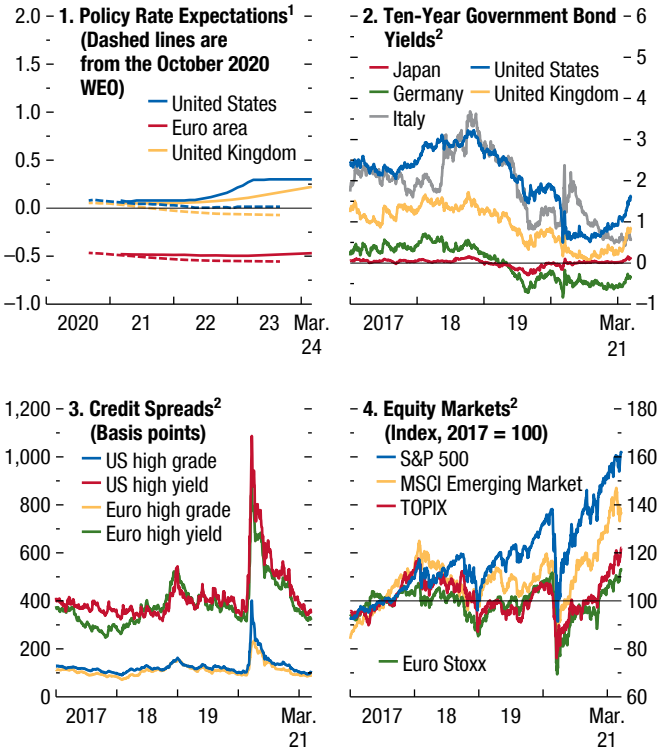
Outlook: Emerging Divergences and Challenges for Policy

High uncertainty surrounds the global outlook. Beyond the usual set of idiosyncratic shocks that normally beset all forecasting exercises, future

Figure 1.8. Advanced Economies: Monetary and Financial Market Conditions

(Percent, unless noted otherwise)

Financial conditions imply a continuing disconnect between financial markets and the real economy.



Sources: Bloomberg Finance L.P.; Haver Analytics; Refinitiv Datastream; and IMF staff calculations.
Note: MSCI = Morgan Stanley Capital International; S&P = Standard & Poor's; TOPIX = Tokyo Stock Price Index; WEO = *World Economic Outlook*.
[1]Expectations are based on federal funds rate futures for the United States, the sterling overnight interbank average rate for the United Kingdom, and the euro interbank offered forward rate for the euro area; updated March 17, 2021.
[2]Data are through March 17, 2021.

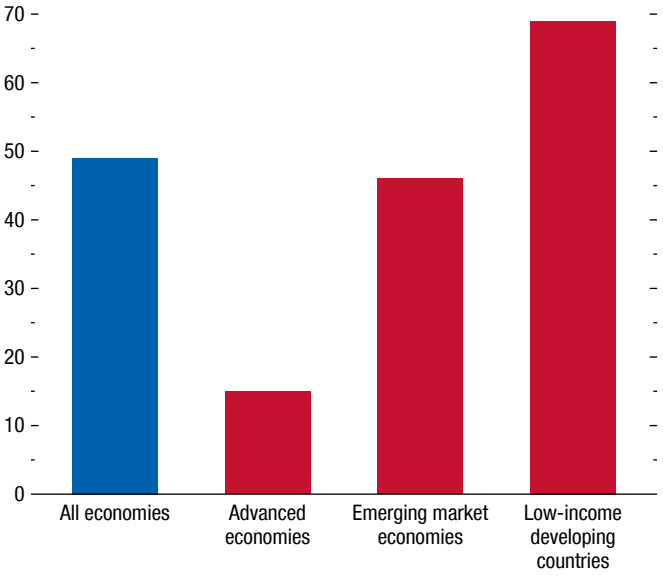
developments will depend on (1) the path of the pandemic, (2) policy actions, (3) the evolution of financial conditions and commodity prices, and (4) the capacity of the economy to adjust to health-related impediments to activity. The ebb and flow of these drivers and their interaction with country-specific characteristics will determine the pace of the recovery and the extent of medium-term scarring.

Uneven access to vaccines: Based on procurement data and the most recent progress on inoculation, the baseline assumes staggered and uneven distribution of vaccines across regions. Broad vaccine availability in advanced economies and some emerging market

Figure 1.9. Global Education Losses Due to the COVID-19 Pandemic

(Average missed days of instruction in 2020)

Education losses have been more severe in low-income developing countries.

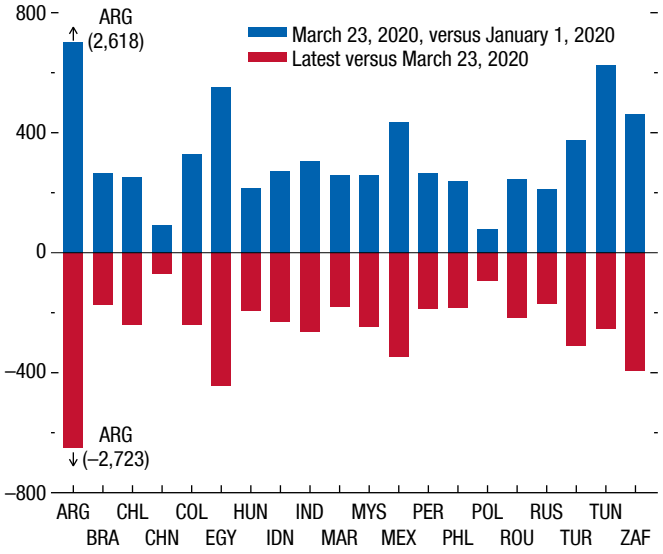


Sources: UNESCO-UNICEF-World Bank Survey on National Education Responses to COVID-19 School Closures; and IMF staff calculations.

Figure 1.10. Change in EMBI Spreads

(Basis points)

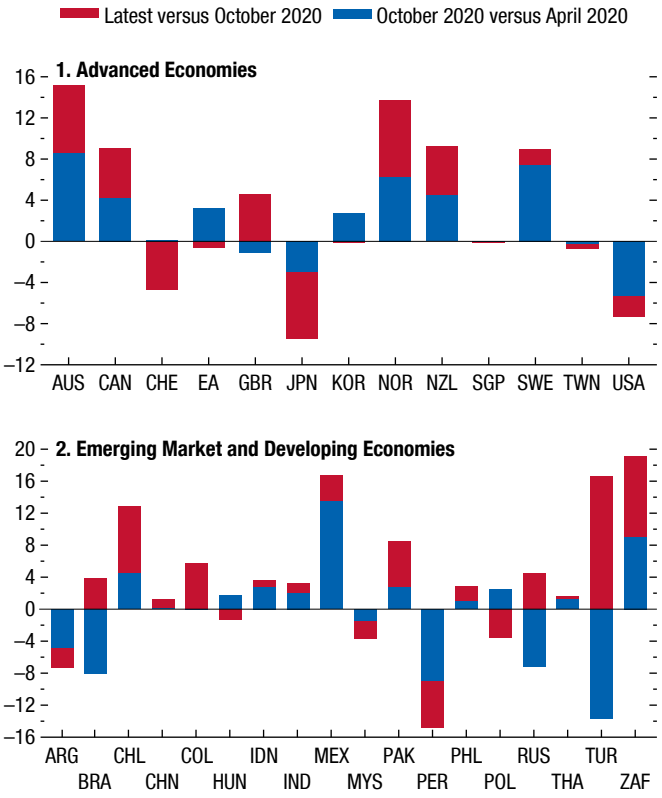
Emerging market financial conditions are almost back to precrisis levels.



Sources: Bloomberg Finance L.P.; and IMF staff calculations.
Note: Data are through March 17, 2021. EMBI = J.P. Morgan Emerging Markets Bond Index. Data labels use International Organization for Standardization (ISO) country codes.

Figure 1.11. Real Effective Exchange Rate Changes, April 2020–March 2021
(Percent)

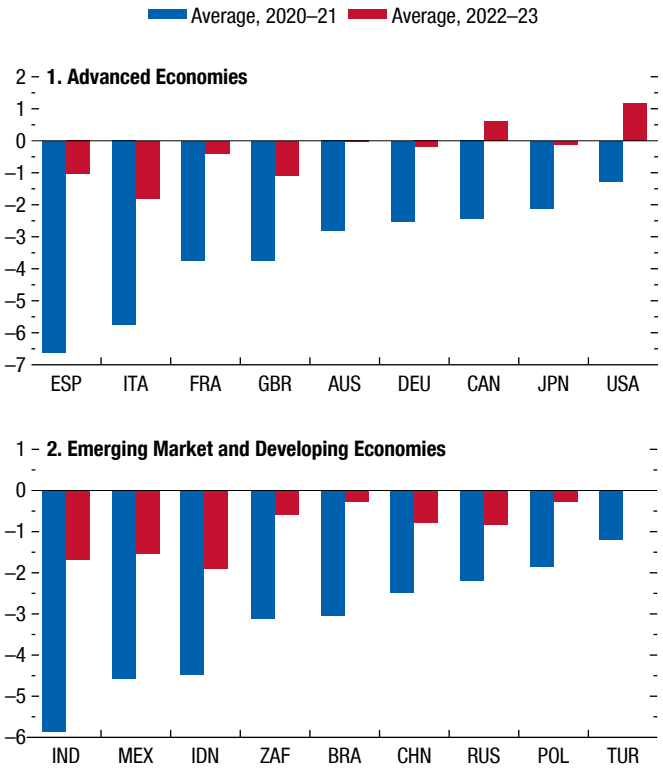
Movements in major currencies have reflected changes in risk sentiment and differences in monetary policy stances.



Source: IMF staff calculations.
Note: Positive change indicates appreciation. Latest data available are for March 19, 2021. EA = euro area. Data labels use International Organization for Standardization (ISO) country codes.

Figure 1.12. Output Gap Projections, 2020–23
(Percent of potential GDP)

Considerable slack is expected in advanced economies and emerging market and developing economies.



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

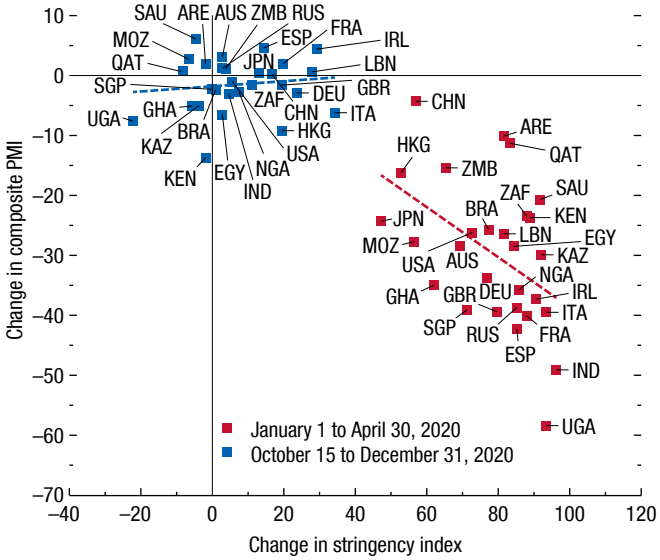
economies is expected for the summer of 2021 and in most countries by the second half of 2022. Key to the baseline is the assumption that vaccines and various therapies are accessible at affordable prices for all countries. This timetable assumes that effective protection, combined with improved testing and tracing, will reduce local transmissions to low levels everywhere by the end of 2022. Within this global picture, vaccine deployment will be staggered across regions, with some countries exiting the crisis much sooner, and with new strains forcing occasional and localized lockdowns before vaccines become widely available. These restrictions should have less impact on activity than in the previous waves because of their more-targeted nature, adaptation to remote work, and a more subdued starting point for contact-intensive activity than was the case in the first half of 2020 (Figure 1.13).

Differentiated fiscal support: Considerable variation is expected in the extent of policy support across countries (Figure 1.14). With regard to advanced economies, the United States and Japan have announced sizable fiscal support for 2021, and the European Union has agreed to start distributing the Next Generation EU funds. At $1.9 trillion, the Biden administration's new fiscal package is expected to deliver a strong boost to growth in the United States in 2021 and provide sizable positive spillovers to trading partners. Debt service costs are expected to remain manageable across advanced economies, thanks

Figure 1.13. Effect of Lockdowns on Activity: Beginning versus End, 2020

(Index)

Economic activity became less sensitive to mobility curbs toward the end of the year.

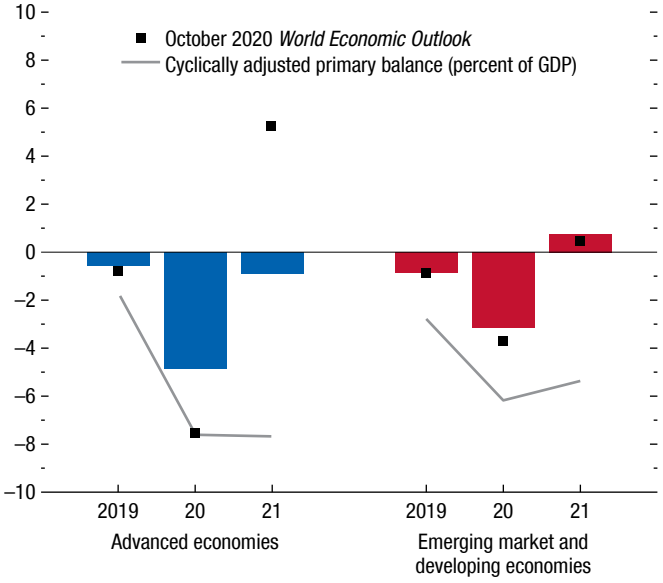


Sources: Markit PMI database; and Oxford COVID-19 Government Response Tracker.
Note: Samples comprise 28 countries where composite PMI values are available. Positive change in stringency index (0–100) denotes stronger measures; positive change in composite PMI denotes *relative* expansion. PMI = purchasing managers' index. Data labels use International Organization for Standardization (ISO) country codes.

Figure 1.14. Fiscal Stance, 2019–21

(Change in structural primary fiscal balance, percent of potential GDP)

The fiscal stance is expected to remain accommodative in advanced economies in 2021.



Source: IMF staff estimates.

to the relatively large fraction of their debt burden covered by long-term and sometimes negative-yielding bonds. Fiscal support in emerging market and developing economies has been more limited, and deficits are generally expected to decline as revenues improve and crisis-related expenditures unwind with the projected economic recovery. Higher debt service costs are also expected to constrain their ability to address social needs, including rising poverty and growing inequality, or to correct the setback in human capital accumulation during the crisis.

Broadly supportive financial conditions: The baseline assumes that monetary policy will remain accommodative and tighten only gradually as the recovery takes hold (including in some emerging market and developing economies where policy frameworks are well established and inflation expectations well anchored). As discussed in the April 2021 GFSR, financial conditions are expected to remain broadly supportive in advanced and emerging market and developing economies. Of course, important risks surround this benign scenario (discussed in the next section).

Rising commodity prices: Consistent with the projected global recovery, oil prices are projected to grow 30 percent in 2021 from their low base in 2020, in part reflecting the OPEC+ (Organization of the Petroleum Exporting Countries, including Russia and other non-OPEC oil exporters) supply curbs (Figure 1.15). Metal prices are projected to accelerate strongly in 2021, largely reflecting the rebound in China. Food prices are also expected to pick up this year (see the Commodities Special Feature in this chapter).

Diverging Paths, GDP below Pre-Pandemic Projections

After an estimated contraction of –3.3 percent in 2020, the global economy is projected to grow at 6 percent in 2021, moderating to 4.4 percent in 2022. The contraction for 2020 is 1.1 percentage points smaller than projected in the October 2020 WEO, reflecting the higher-than-expected growth

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

(Percent change, unless noted otherwise)

		Projections		Difference from January 2021 WEO *Update*[1]		Difference from October 2020 WEO[1]	
	2020	2021	2022	2021	2022	2021	2022
World Output	**–3.3**	**6.0**	**4.4**	**0.5**	**0.2**	**0.8**	**0.2**
Advanced Economies	**–4.7**	**5.1**	**3.6**	**0.8**	**0.5**	**1.2**	**0.7**
United States	–3.5	6.4	3.5	1.3	1.0	3.3	0.6
Euro Area	–6.6	4.4	3.8	0.2	0.2	–0.8	0.7
Germany	–4.9	3.6	3.4	0.1	0.3	–0.6	0.3
France	–8.2	5.8	4.2	0.3	0.1	–0.2	1.3
Italy	–8.9	4.2	3.6	1.2	0.0	–1.0	1.0
Spain	–11.0	6.4	4.7	0.5	0.0	–0.8	0.2
Japan	–4.8	3.3	2.5	0.2	0.1	1.0	0.8
United Kingdom	–9.9	5.3	5.1	0.8	0.1	–0.6	1.9
Canada	–5.4	5.0	4.7	1.4	0.6	–0.2	1.3
Other Advanced Economies[2]	–2.1	4.4	3.4	0.8	0.3	0.8	0.3
Emerging Market and Developing Economies	**–2.2**	**6.7**	**5.0**	**0.4**	**0.0**	**0.7**	**–0.1**
Emerging and Developing Asia	–1.0	8.6	6.0	0.3	0.1	0.6	–0.3
China	2.3	8.4	5.6	0.3	0.0	0.2	–0.2
India[3]	–8.0	12.5	6.9	1.0	0.1	3.7	–1.1
ASEAN-5[4]	–3.4	4.9	6.1	–0.3	0.1	–1.3	0.4
Emerging and Developing Europe	–2.0	4.4	3.9	0.4	0.0	0.5	0.5
Russia	–3.1	3.8	3.8	0.8	–0.1	1.0	1.5
Latin America and the Caribbean	–7.0	4.6	3.1	0.5	0.2	1.0	0.4
Brazil	–4.1	3.7	2.6	0.1	0.0	0.9	0.3
Mexico	–8.2	5.0	3.0	0.7	0.5	1.5	0.7
Middle East and Central Asia	–2.9	3.7	3.8	0.7	–0.4	0.7	–0.2
Saudi Arabia	–4.1	2.9	4.0	0.3	0.0	–0.2	0.6
Sub-Saharan Africa	–1.9	3.4	4.0	0.2	0.1	0.3	0.0
Nigeria	–1.8	2.5	2.3	1.0	–0.2	0.8	–0.2
South Africa	–7.0	3.1	2.0	0.3	0.6	0.1	0.5
Memorandum							
World Growth Based on Market Exchange Rates	–3.6	5.8	4.1	0.7	0.3	1.0	0.3
European Union	–6.1	4.4	3.9	0.3	0.2	–0.6	0.6
Middle East and North Africa	–3.4	4.0	3.7	0.9	–0.5	0.8	–0.2
Emerging Market and Middle-Income Economies	–2.4	6.9	5.0	0.5	0.0	0.8	0.0
Low-Income Developing Countries	0.0	4.3	5.2	–0.8	–0.3	–0.6	–0.3
World Trade Volume (goods and services)	**–8.5**	**8.4**	**6.5**	**0.3**	**0.2**	**0.1**	**1.1**
Imports							
Advanced Economies	–9.1	9.1	6.4	1.1	0.4	1.8	1.3
Emerging Market and Developing Economies	–8.6	9.0	7.4	–1.1	0.3	–2.0	1.4
Exports							
Advanced Economies	–9.5	7.9	6.4	1.0	0.2	0.9	1.3
Emerging Market and Developing Economies	–5.7	7.6	6.0	–0.7	–0.2	–1.9	0.3
Commodity Prices (US dollars)							
Oil[5]	–32.7	41.7	–6.3	20.5	–3.9	29.7	–9.3
Nonfuel (average based on world commodity import weights)	6.7	16.1	–1.9	3.3	–0.4	11.0	–2.4
Consumer Prices							
Advanced Economies[6]	0.7	1.6	1.7	0.3	0.2	0.0	0.1
Emerging Market and Developing Economies[7]	5.1	4.9	4.4	0.7	0.2	0.2	0.1
London Interbank Offered Rate (percent)							
On US Dollar Deposits (six month)	0.7	0.3	0.4	0.0	0.0	–0.1	–0.1
On Euro Deposits (three month)	–0.4	–0.5	–0.5	0.0	0.1	0.0	0.0
On Japanese Yen Deposits (six month)	0.0	–0.1	0.0	0.0	0.1	–0.1	0.0

Source: IMF staff estimates.

Note: Real effective exchange rates are assumed to remain constant at the levels prevailing during January 18–February 15, 2021. Economies are listed on the basis of economic size. The aggregated quarterly data are seasonally adjusted. WEO = *World Economic Outlook*.

[1]Difference based on rounded figures for the current, January 2021 WEO *Update*, and October 2020 WEO forecasts.

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

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

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

(Percent change, unless noted otherwise)

	Year over Year				Q4 over Q4[8]			
			Projections				Projections	
	2019	2020	2021	2022	2019	2020	2021	2022
World Output	**2.8**	**–3.3**	**6.0**	**4.4**	**2.5**	**–0.8**	**4.5**	**4.0**
Advanced Economies	**1.6**	**–4.7**	**5.1**	**3.6**	**1.5**	**–3.1**	**4.9**	**2.3**
United States	2.2	–3.5	6.4	3.5	2.3	–2.5	6.3	2.3
Euro Area	1.3	–6.6	4.4	3.8	1.0	–4.9	4.4	2.4
Germany	0.6	–4.9	3.6	3.4	0.4	–3.6	3.4	2.8
France	1.5	–8.2	5.8	4.2	0.8	–4.9	4.5	2.6
Italy	0.3	–8.9	4.2	3.6	–0.2	–6.6	4.1	2.1
Spain	2.0	–11.0	6.4	4.7	1.7	–9.1	7.2	1.5
Japan	0.3	–4.8	3.3	2.5	–1.0	–1.3	2.0	1.8
United Kingdom	1.4	–9.9	5.3	5.1	1.2	–7.8	6.5	2.0
Canada	1.9	–5.4	5.0	4.7	1.7	–3.2	4.1	3.8
Other Advanced Economies[2]	1.8	–2.1	4.4	3.4	2.0	–0.8	3.7	2.3
Emerging Market and Developing Economies	**3.6**	**–2.2**	**6.7**	**5.0**	**3.5**	**1.2**	**4.0**	**5.5**
Emerging and Developing Asia	5.3	–1.0	8.6	6.0	4.5	3.1	4.6	6.9
China	5.8	2.3	8.4	5.6	5.1	6.3	4.4	6.2
India[3]	4.0	–8.0	12.5	6.9	2.9	–0.7	4.2	9.6
ASEAN-5[4]	4.8	–3.4	4.9	6.1	4.5	–2.8	5.6	5.8
Emerging and Developing Europe	2.4	–2.0	4.4	3.9	. . .	. . .	. . .	. . .
Russia	2.0	–3.1	3.8	3.8	2.9	–3.0	4.6	2.6
Latin America and the Caribbean	0.2	–7.0	4.6	3.1	–0.3	–3.5	1.8	2.6
Brazil	1.4	–4.1	3.7	2.6	1.6	–1.2	0.9	2.6
Mexico	–0.1	–8.2	5.0	3.0	–0.8	–4.5	2.6	2.7
Middle East and Central Asia	1.4	–2.9	3.7	3.8	. . .	. . .	. . .	. . .
Saudi Arabia	0.3	–4.1	2.9	4.0	–0.3	–4.1	4.8	4.0
Sub-Saharan Africa	3.2	–1.9	3.4	4.0	. . .	. . .	. . .	. . .
Nigeria	2.2	–1.8	2.5	2.3	1.9	–0.7	3.2	1.6
South Africa	0.2	–7.0	3.1	2.0	–0.6	–4.2	1.1	2.0
Memorandum								
World Growth Based on Market Exchange Rates	2.4	–3.6	5.8	4.1	2.2	–1.4	4.6	3.4
European Union	1.7	–6.1	4.4	3.9	1.4	–4.7	4.7	2.4
Middle East and North Africa	0.8	–3.4	4.0	3.7	. . .	. . .	. . .	. . .
Emerging Market and Middle-Income Economies	3.5	–2.4	6.9	5.0	3.5	1.2	4.0	5.5
Low-Income Developing Countries	5.3	0.0	4.3	5.2	. . .	. . .	. . .	. . .
World Trade Volume (goods and services)	**0.9**	**–8.5**	**8.4**	**6.5**	**. . .**	**. . .**	**. . .**	**. . .**
Imports								
Advanced Economies	1.7	–9.1	9.1	6.4	. . .	. . .	. . .	. . .
Emerging Market and Developing Economies	–1.0	–8.6	9.0	7.4	. . .	. . .	. . .	. . .
Exports								
Advanced Economies	1.3	–9.5	7.9	6.4	. . .	. . .	. . .	. . .
Emerging Market and Developing Economies	0.5	–5.7	7.6	6.0	. . .	. . .	. . .	. . .
Commodity Prices (US dollars)								
Oil[5]	–10.2	–32.7	41.7	–6.3	–6.1	–27.6	30.9	–6.0
Nonfuel (average based on world commodity import weights)	0.8	6.7	16.1	–1.9	5.0	15.3	4.8	–0.5
Consumer Prices								
Advanced Economies[6]	1.4	0.7	1.6	1.7	1.4	0.4	1.9	1.7
Emerging Market and Developing Economies[7]	5.1	5.1	4.9	4.4	5.1	3.2	4.4	3.8
London Interbank Offered Rate (percent)								
On US Dollar Deposits (six month)	2.3	0.7	0.3	0.4	. . .	. . .	. . .	. . .
On Euro Deposits (three month)	–0.4	–0.4	–0.5	–0.5	. . .	. . .	. . .	. . .
On Japanese Yen Deposits (six month)	0.0	0.0	–0.1	0.0	. . .	. . .	. . .	. . .

[4]Indonesia, Malaysia, Philippines, Thailand, Vietnam.

[5]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 $41.29 in 2020; the assumed price, based on futures markets, is $58.52 in 2021 and $54.83 in 2022.

[6]The inflation rates for 2021 and 2022, respectively, are as follows: 1.4 percent and 1.2 percent for the euro area, 0.1 percent and 0.7 percent for Japan, and 2.3 percent and 2.4 percent for the United States.

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

[8]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 80 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)

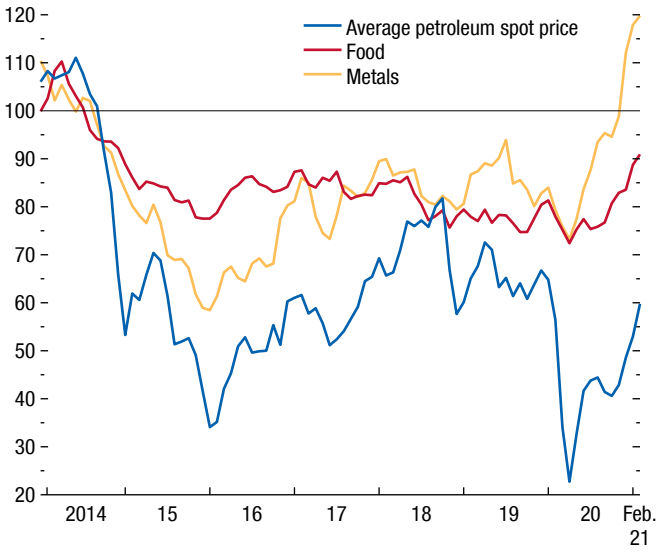
		Projections		Difference from January 2021 WEO *Update*[1]		Difference from October 2020 WEO[1]	
	2020	2021	2022	2021	2022	2021	2022
World Output	**–3.6**	**5.8**	**4.1**	**0.7**	**0.3**	**1.0**	**0.3**
Advanced Economies	**–4.7**	**5.2**	**3.6**	**0.8**	**0.6**	**1.4**	**0.7**
Emerging Market and Developing Economies	**–2.0**	**6.6**	**4.9**	**0.3**	**0.0**	**0.4**	**–0.1**
Emerging and Developing Asia	–0.1	8.4	5.8	0.2	0.0	0.4	–0.3
Emerging and Developing Europe	–2.3	4.3	4.0	0.5	0.0	0.5	0.6
Latin America and the Caribbean	–7.0	4.5	3.1	0.4	0.2	0.9	0.4
Middle East and Central Asia	–4.1	3.6	3.6	0.4	–0.3	0.4	–0.1
Sub-Saharan Africa	–2.5	3.4	3.8	0.3	0.1	0.3	–0.1
Memorandum							
European Union	–6.2	4.3	3.8	0.2	0.2	–0.7	0.6
Middle East and North Africa	–4.7	3.8	3.5	0.5	–0.4	0.5	–0.1
Emerging Market and Middle-Income Economies	–2.1	6.8	4.9	0.4	0.0	0.5	–0.1
Low-Income Developing Countries	–0.3	4.3	5.1	–0.6	–0.2	–0.4	–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, January 2021 WEO *Update*, and October 2020 WEO forecasts.

outturns in the second half of 2020 for most regions after lockdowns were eased. The projections for 2021 and 2022 are 0.8 percentage point and 0.2 percentage point stronger than in the previous forecast, reflecting additional fiscal support in a few large economies and the anticipated vaccine-powered recovery in the second half of the year. This pace reflects continued adaptation of all sectors of the economy to the challenging health situation.

Figure 1.15. Commodity Prices
(Deflated using US consumer price index; 2014 = 100)

The manufacturing rebound has helped lift metal and energy prices.



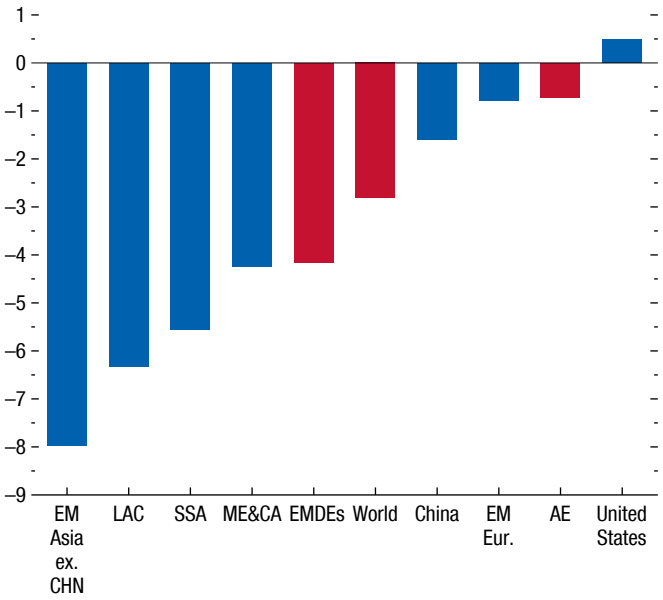
Sources: IMF Primary Commodity Price System; and IMF staff calculations.

The strength of the projected recovery varies across countries, depending on the severity of the health crisis, the extent of domestic disruptions to activity (related to countries' reliance on contact-intensive sectors), the exposure to cross-border spillovers, and—importantly—the effectiveness of policy support to limit persistent damage.

Beyond 2022 global growth is projected to moderate to 3.3 percent into the medium term. Persistent damage to supply potential across both advanced and emerging market economies and slower labor force growth because of population aging (largely in advanced economies, but also in a few emerging market economies), and necessary rebalancing to a sustainable growth path in China, are all expected to weigh on the growth outlook for the global economy in the medium term. GDP levels are projected to remain well below the pre-pandemic trend path through 2024 for most countries (Figure 1.16).

In *advanced economies*, occasional regional restrictions will likely be necessary at times to stem the progression of new strains of the virus. As the vulnerable population gets vaccinated, contact-intensive activities are expected to resume and drive a significant pickup in growth thanks to pent-up demand funded

Figure 1.16. Medium-Term GDP Losses Relative to Pre–COVID-19, by Region
(Revisions to projected 2024 GDP levels between the January 2020 and April 2021 WEO forecasts, percent)



Source: IMF staff estimates.
Note: AE = advanced economies; EM Asia ex. CHN = emerging and developing Asia excluding China; EM Eur. = emerging and developing Europe; EMDEs = emerging market and developing economies; LAC = Latin America and the Caribbean; ME&CA = Middle East and Central Asia; SSA = sub-Saharan Africa.

by accumulated savings in 2020. Recovery paths also vary within the group. The United States is projected to return to end-of-2019 activity levels in the first half of 2021 and Japan in the second half. In the euro area and the United Kingdom, activity is expected to remain below end-of-2019 levels into 2022. The gaps can be traced back to differences in behavioral and public health responses to infections, flexibility and adaptability of economic activity to low mobility, preexisting trends, and structural rigidities predating the crisis.

With respect to the October 2020 WEO, projections for 2021 have been revised down in Europe and up in Japan and the United States. The downward revision in Europe is more than offset by stronger-than-expected growth in the United States and Japan, reflecting additional fiscal support legislated in both countries at the end of 2020. In addition, the Biden administration's $1.9 trillion rescue package is expected to further boost GDP over 2021–22, with significant spillovers to main US trading partners.

European countries (for example, Cyprus, Italy, Malta, Portugal, Spain), were able to salvage part of the summer tourist season by reopening in mid-2020. But this was followed by a surge in infections that forced new lockdowns in the last months of 2020, carrying over to 2021. GDP growth for 2022 has been revised up by 0.7 percentage point to 3.8 percent in the euro area and by 1.9 percentage points in the United Kingdom to 5.1 percent.

In *emerging market and developing economies*, vaccine procurement data suggest that effective protection will remain unavailable for most of the population in 2021. Lockdowns and containment measures may be needed more frequently in 2021 and 2022 than in advanced economies, increasing the likelihood of medium-term scarring effects on the potential output of these countries (see Chapter 2). Considerable differentiation is expected between China—where effective containment measures, a forceful public investment response, and central bank liquidity support have facilitated a strong recovery—and others. Tourism-based economies within this group (such as Fiji, Seychelles, Thailand) face particularly difficult prospects considering the expected slow normalization of cross-border travel. Recovery profiles vary, based on regional differences in the severity of the pandemic, economic structure (employment and GDP shares of contact-intensive sectors), exposure to specific shocks (for instance, due to reliance on commodity exports), and the effectiveness of the policy response to combat the fallout.

For the *Emerging and Developing Asia* regional group, projections for 2021 have been revised up by 0.6 percentage point, reflecting a stronger recovery than initially expected after lockdowns were eased in some large countries (for example, India). However, still high COVID-19 caseloads in some large countries in 2020:Q1 (such as Indonesia and Malaysia) put a lid on growth prospects.

For the *Middle East and Central Asia*, projections for 2021 have remained broadly unchanged but reflect significant differences among countries, depending on the path of the pandemic, vaccine rollouts, tourism dependence, oil price developments, and policy space and actions. On average, countries that started vaccinations early on (for example, Gulf Cooperation Council countries) face relatively better prospects, while fragile and conflict-affected states, which may have to rely on the more limited supply provided by

COVAX, have seen their outlook darken since the October 2020 WEO.

Following a sharp drop in 2020, only a mild and multispeed recovery is expected in *Latin America and the Caribbean* in 2021. Thanks to the global manufacturing rebound in the second half of 2020, growth exceeded expectations in some large exporting countries in the region (for example, Argentina, Brazil, Peru) bringing the 2021 forecast to 4.6 percent (a 1 percentage point revision). The longer-term outlook continues to depend on the path of the pandemic, however. With some exceptions (for example, Chile, Costa Rica, Mexico), most countries have not secured enough vaccines to cover their populations. Moreover, 2021 projections for the tourism-dependent Caribbean economies have been revised down by 1.5 percentage points to 2.4 percent.

The pandemic continues to exact a large toll on *sub-Saharan Africa* (especially, for example, Ghana, Kenya, Nigeria, South Africa). Following the largest contraction ever for the region (–1.9 percent in 2020), growth is expected to rebound to 3.4 percent in 2021, significantly lower than the trend anticipated before the pandemic. Tourism-reliant economies will likely be the most affected.

Inflation Pressure to Remain Contained in Most Countries

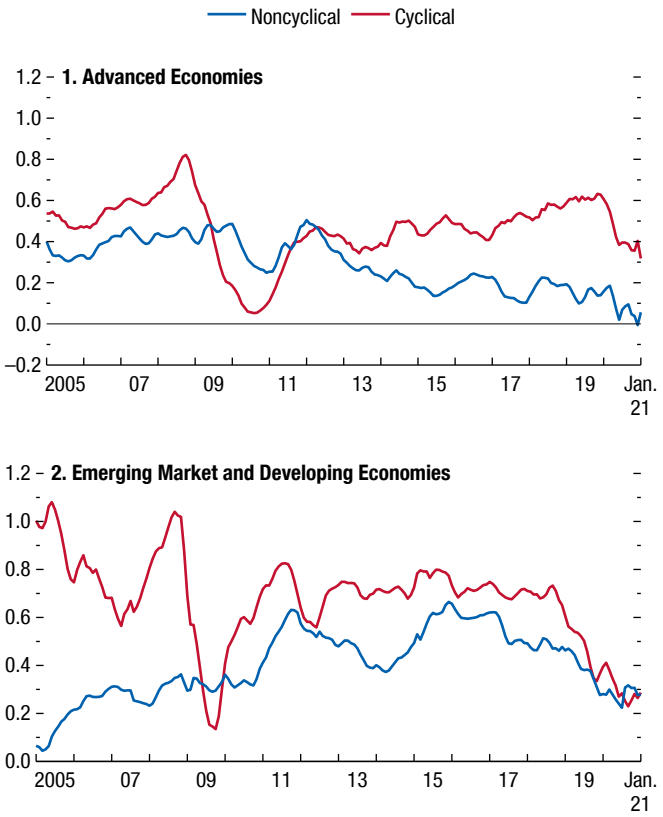
As noted, commodity prices (particularly for oil) are expected to firm up further in the months ahead. Given their record-low levels of a year ago, firmer prices should mechanically lift consumer price indices, and headline inflation, in particular, could turn volatile in coming months. The volatility should be short lived. Baseline projections show a return of inflation to its long-term average as the remaining slack subsides only gradually and commodity-driven base effects fade away.

The subdued outlook reflects developments in the labor market, where subdued wage growth and weak worker bargaining power have been compounded recently by high unemployment, underemployment, and lower participation rates. Moreover, various measures of underlying inflation remain low. IMF staff analysis on sectoral price developments points to muted price pressure, both in sectors where pricing is typically less sensitive to the business cycle and in sectors where prices tend to respond to aggregate demand fluctuations (Figure 1.17). Trimmed-mean inflation rates (which eliminate extreme price changes from the price distribution every month to filter out underlying inflation and provide slow-moving, unbiased estimates of price pressure) point to *declining*, not increasing, inflation pressure (Figure 1.18).

Measuring slack has arguably become more difficult during the pandemic as both supply and demand have shifted. Nevertheless, even if output gaps are less negative than currently estimated, the implications for inflation should be relatively moderate. Phillips curves have become flatter in recent years—reflecting various

Figure 1.17. Headline Inflation: Cyclical and Noncyclical Contributions
(Percentage points)

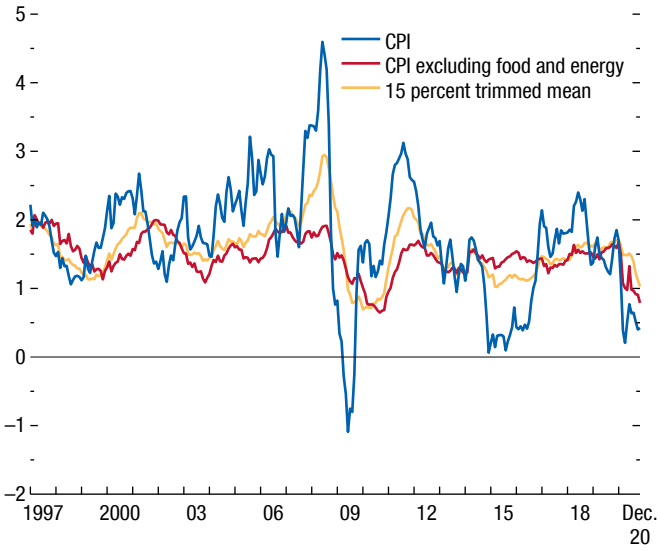
Price inflation (excluding food and energy) has dropped in sectors usually sensitive to fluctuations in aggregate demand (cyclical) and those that are not.



Sources: Eurostat; Haver Analytics; Organisation for Economic Co-operation and Development; and IMF staff calculations.
Note: The figure plots the time fixed effects of regressions in which three-month trailing averages of contributions to headline inflation are regressed on country and time fixed effects, with the weights being the GDP in purchasing-power-parity terms. The contribution of a component is defined as its year-over-year price change multiplied by its weight in the headline consumer price index basket.

Figure 1.18. Trend Inflation in Advanced Economies
(Percent)

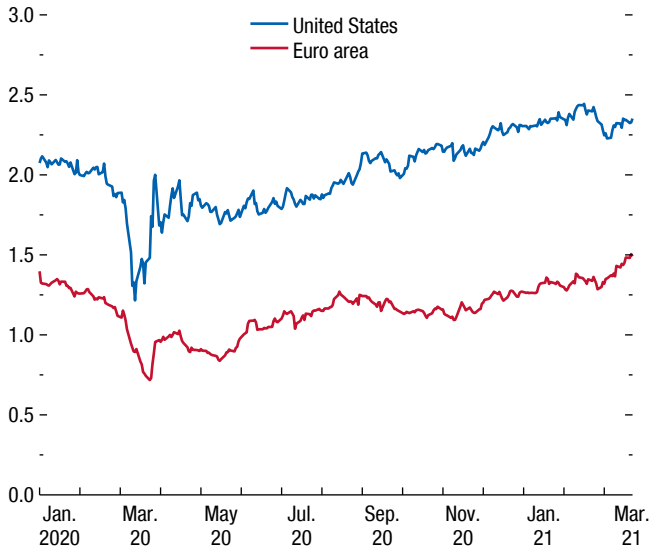
Trimmed-mean inflation points to declining inflation pressure in advanced economies, in line with various measures of slack.



Sources: Cleveland Federal Reserve; Haver Analytics; and IMF staff calculations.
Note: CPI = consumer price index.

Figure 1.19. Five-Year, Five-Year Inflation Swaps
(Percent; market-implied average inflation rate expected over the five-year period starting five years from date shown)

Market-based measures of long-term inflation expectations have been stable; they have increased slightly in the United States since May, but remain in line with the recently reformulated inflation objective of the Federal Reserve.



Sources: Bloomberg Finance L.P.; and IMF staff calculations.
Note: Latest data available are for March 17, 2021.

factors, including globalization, automation, rising market concentration, and associated higher monopsony power of firms in labor markets. For the same reason that inflation did not drop much when output gaps were large and negative during the global financial crisis, inflation is unlikely to increase much—unless output gaps become positive and *very* large for an extended period of time and monetary policy does not react to rising inflation expectations.

Whether inflation temporarily overshoots or starts trending up in the medium term has very different implications and depends, in the first instance, on the credibility of monetary frameworks and the reaction of monetary authorities to rising inflation pressure. For instance, if monetary policy is used primarily to keep government borrowing costs low (or is widely perceived as doing so) at the expense of ensuring price stability, inflation expectations and inflation could, in principle, increase rapidly. But this appears unlikely for most advanced and many emerging market economies with independent central banks. The adoption of inflation-targeting frameworks in the 1990s has helped anchor inflation expectations around central banks' inflation targets in advanced economies. Moreover, during the pandemic, survey measures of inflation expectations have remained broadly stable, as have market measures—even though the latter have recently increased slightly (Figure 1.19).

Monetary frameworks have also improved considerably in many emerging markets over the past decade. Inflation expectations are much more anchored, inflation has declined and become less persistent, and the risk of runaway inflation has decreased accordingly. However, progress has not been uniform. Some countries continue to observe high and volatile inflation and may be limited in the monetary accommodation they can provide without risking destabilizing inflation (see Chapter 3 of the October 2018 WEO). Rapidly rising food prices have already lifted headline inflation rates in some regions, including sub-Saharan Africa and Asia (see the Commodities Special Feature in this chapter). Temporarily high headline inflation could raise inflation expectations in these economies and affect inflation durably.

Cross-Border Services Trade Expected to Remain Subdued

As the recovery strengthens in 2021, global trade is projected to accelerate to 8.4 percent, mainly because of the rebound in merchandise volumes. Cross-border services trade (tourism, transportation) is expected to remain subdued until the pandemic is brought under control everywhere. Pandemic-related restrictions on international travel and a more general fear of traveling are expected to have lasting effects on income from exported services.

At the global level, current account deficits and surpluses narrowed early in the crisis but subsequently widened with rising trade and commodity prices. Current account positions are expected to remain broadly stable into the medium term, with a gradual narrowing of positions in the United States and China. Stocks of international assets and liabilities, however, are expected to remain at historically high levels (Figure 1.20).

One Overarching Uncertainty and Many Risks

Because the path of the pandemic is so uncertain, it is very difficult to quantify the balance of risks around the central outlook; risks abound on both sides. New vaccines that offer a path to recovery are being approved on an ongoing basis. However, uncertainty remains regarding their effectiveness against new strains of the virus. Delays in inoculating all parts of the world could lead to vaccine-resistant virus mutations, new outbreaks could start anywhere and anytime, and renewed restrictions may be required to slow transmission. Uncertainty about the duration of this stop-go rhythm makes other elements difficult to predict: the strength of the private investment response; the extension of policy lifelines (as governments balance the provision of relief with maintaining space for further response down the road); and the extent of scarring. Risks are balanced in the near term, but more to the upside further out.

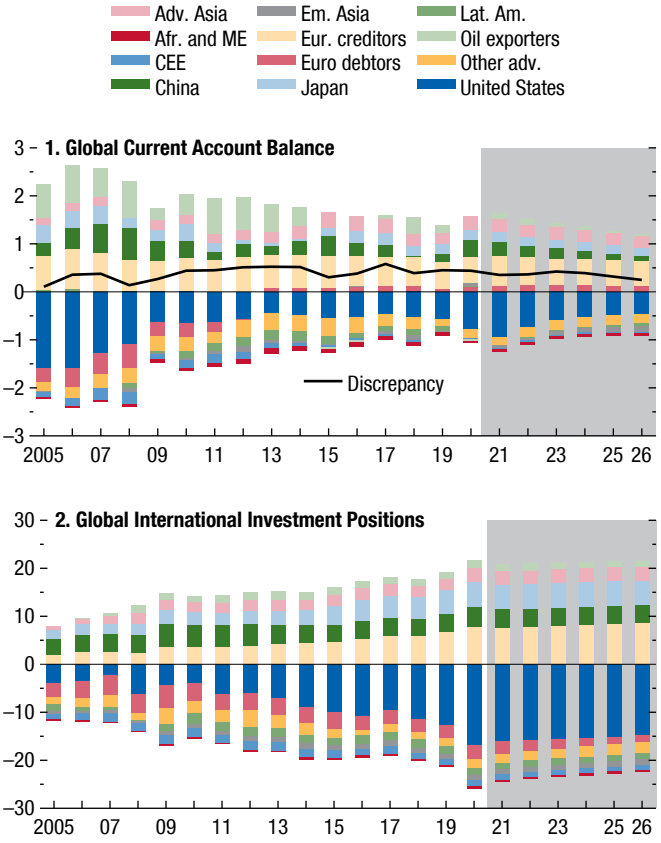
The main downside risk factors include the following:

- *Pandemic resurgence*: Vaccine-resistant strains are potential headwinds for economic activity, as are operational risks, such as vaccine production and distribution delays. Excessive staggering across different regions may trigger start-stop patterns in the response to reemerging infection hotspots, extending the period of social distancing and uncertainty facing households, firms, and policymakers. Moreover, if mutations outpace the rollout of vaccines, COVID-19 could become an endemic disease of unknown severity.
- *Tighter financial conditions*: A reassessment of market fundamentals (such as in response to adverse

Figure 1.20. Current Account and International Investment Positions

(Percent of world GDP)

Global current account balances widened in 2020 and are projected to widen further in 2021.



Source: IMF staff estimates.
Note: Adv. Asia = advanced Asia (Hong Kong SAR, Korea, Singapore, Taiwan Province of China); Afr. and ME = Africa and the Middle East (Democratic Republic of the Congo, Egypt, Ethiopia, Ghana, Jordan, Kenya, Lebanon, Morocco, South Africa, Sudan, Tanzania, Tunisia); CEE = central and eastern Europe (Belarus, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovak Republic, Turkey, Ukraine); Em. Asia = emerging Asia (India, Indonesia, Pakistan, Philippines, Thailand, Vietnam); Eur. creditors = European creditors (Austria, Belgium, Denmark, Finland, Germany, Luxembourg, the Netherlands, Norway, Sweden, Switzerland); Euro debtors = euro area debtors (Cyprus, Greece, Ireland, Italy, Portugal, Slovenia, Spain); Lat. Am. = Latin America (Argentina, Brazil, Chile, Colombia, Mexico, Peru, Uruguay); Oil exporters = Algeria, Azerbaijan, Iran, Kazakhstan, Kuwait, Nigeria, Oman, Qatar, Russia, Saudi Arabia, United Arab Emirates, Venezuela; Other adv. = other advanced economies (Australia, Canada, France, Iceland, New Zealand, United Kingdom).

COVID-19 developments or earlier-than-expected withdrawal of policy support), an increase in core sovereign yields (in response to large fiscal support), or a reevaluation of inflation risks (following inflation surprises in the context of large monetary and fiscal support) could trigger a sharp repricing of financial assets. Risky asset prices could fall sharply, causing volatility and triggering significant losses at major nonbank financial institutions. Higher risk premiums would generate financing difficulties for leveraged firms and households. A wave of bankruptcies—which have remained contained so far thanks to extensive policy support—could erode banks' capital buffers and constrain their ability to provide credit. Amid high and rising debt levels, vulnerable borrowers could face rollover risks, an issue that would be particularly acute for some emerging markets and low-income countries. Tighter financial conditions would hamper growth prospects. This could lead to further repricing of financial assets in a potentially dangerous feedback loop.

- *Extended scarring*: Although policy actions have so far prevented the grave health and economic crisis from morphing into a systemic financial crisis (possibly limiting the extent of scarring that otherwise might have occurred), the COVID-19 crisis could still lead to substantial and persistent damage to supply potential. This may arise, for example, from diminishing labor force participation, bankruptcies, and associated disruptions of production networks (see Chapter 2). The longer the recession, the more likely it is that such effects will be permanent, especially in emerging market and developing economies, where the prevalence of relatively small firms and shallow capital markets could dampen investment and employment for a long time. Disruption to production networks might durably cripple productivity growth. At the same time, lifeline measures to safeguard firms' cash flow could keep some unviable firms afloat and lead to inefficient allocation of capital and labor that drags down medium-term growth. To the extent that retraining programs are inhibited by reduced in-person interaction, labor reallocation may also be slowed. Extended scarring could also compound inflation risks as supply constraints bind tighter due to the erosion of productive capacity.
- *Intensified social unrest*: While social unrest declined in the first months of the pandemic (due to reduced mobility), recent events suggest that the multiyear trend before the pandemic could rapidly reassert itself—particularly in countries where progress on underlying social and political issues has stalled and where the crisis has exposed or exacerbated preexisting problems. A longer crisis could intensify social unrest, which could damage sentiment and slow activity further. Necessary reform efforts could also be derailed, with negative impacts on long-term growth and debt sustainability. Recent IMF staff analysis suggests that food price volatility could play a key role in triggering unrest.
- *Increased frequency of natural disasters*: The frequency and severity of natural disasters due to extreme weather related to climate change have increased in recent years, inflicting a large humanitarian toll and loss of essential livelihoods. Some small and susceptible economies could even suffer relatively large economic damage, not least because the pandemic policy response has stretched their fiscal capacities and diminished their ability to cope with disaster-related spikes in health care needs (see Box 1.2). Natural disasters could also contribute to financial stress, particularly in the insurance sector.
- *Geopolitical, trade, and technology risks*: Many pre–COVID-19 risk factors continue to be relevant. Tensions between the United States and China remain elevated on numerous fronts, including international trade, intellectual property, and cybersecurity. Domestic economic disparities arising from the pandemic downturn may also prompt new trade barriers, motivated by the need to protect domestic workers. Amid already-high levels of trade restrictions, such actions would add to inefficiencies and weigh on the recovery. Furthermore, risks of protectionist tendencies surrounding technology are emerging. Protectionist tendencies could extend to medical supplies and COVID-19–related pharmaceutical advances, which would impede the global supply of vaccines.

On the upside, the main risks to the outlook include the following:

- *Expedited vaccine production and rollout*: New vaccines are being approved on an ongoing basis. While operational challenges are large, these may be overcome sooner than anticipated, especially if more vaccines are approved that do not require cold chain low-temperature storage or can be administered in one jab. Finally, as vulnerable populations are vaccinated and hospitalization rates decline, the

fear of becoming infected could rapidly disappear. Improved consumer sentiment would boost services consumption, lead to more front-loading of investment, and lift growth above the baseline.

- *Unanticipated larger effects from fiscal support*: In contrast to the fiscal response in the aftermath of the global financial crisis, fiscal support—as part of policymakers' response to the pandemic—has been remarkably strong and could have larger effects than currently projected. Moreover, advanced economies may still have untapped fiscal space that could be used to engineer a much stronger recovery, minimize the extent of scarring, and accelerate the shift to lower carbon dependence.
- *Coordinated policies*: Monetary and fiscal policy easing came in a strong and synchronized fashion during the early phase of the pandemic. A better-than-expected recovery could occur if international coordination on exit policies is maintained in the later phase of the recovery. Moreover, intensified cooperation on vaccination could expedite the production and distribution of vaccines, end the pandemic sooner than expected, and limit the extent of scarring.

Some of these risk factors are considered in alternative scenarios discussed in the Scenario Box.

Policy Priorities

Despite an outlook that is unusually varied across countries, the overarching objectives of policy remain remarkably uniform. Foremost among these is overcoming the immediate health crisis and returning employment to normal levels. Beyond this, countries need to limit the long-term impact of the crisis by limiting scarring, including from zombie firms, and reduce inequality—both within and across countries. Further ahead, the threat of climate change is ever-more pressing, demanding bold action to limit emissions, particularly for the largest polluters.

Strong international cooperation is vital for achieving these objectives and ensuring that emerging markets and low-income developing countries continue to narrow the gap between their living standards and those of high-income economies. On the health care front, this means ensuring adequate worldwide vaccine production and universal distribution at affordable prices so that all countries can quickly and decisively beat back the pandemic. Export restrictions on vaccines, vaccine inputs, and medical goods should be removed. The international community also needs to work closely to ensure that financially constrained economies have adequate access to international liquidity so that they can continue health care, other social, and infrastructure spending required for their development and continued convergence to higher income per capita. Beyond addressing issues arising directly from the pandemic, countries should also work closely to redouble climate change mitigation efforts and to resolve economic issues underlying trade and technology tensions as well as close gaps in the rules-based multilateral trading system. Building on recent advances in international tax policy, efforts should continue to focus on limiting cross-border profit shifting, tax avoidance, and tax evasion.

Tailor Policies to the Stages of the Pandemic and Recovery

While the objectives of policy may be similar, the policies needed to achieve them must be tailored to countries' individual circumstances. To impose some structure on this variety, the policy priorities that follow are separated into phases of the crisis: immediate actions; initiatives to secure the recovery; and measures for building a more resilient, inclusive, and environmentally sustainable economy for the post–COVID-19 world. This is, of course, somewhat approximate; in practice, the lines between successive phases are blurred, and countries may need to embark on some policies from later phases before those from earlier ones are complete. And the uneven recovery will mean that different countries may remain in different phases for some time. Nevertheless, the common goal of exiting the crisis means that this ordering can guide global policy priorities and the international cooperation required to deliver them.

Considering the large uncertainty surrounding the outlook, policymakers should prioritize policies that would be prudent regardless of the state of the world that prevails—for instance, strengthening social protection with wider eligibility for unemployment insurance to cover the self-employed and informally employed (see Chapter 2 of the April 2020 WEO); ensuring adequate resources for health care, early childhood development programs, education, and vocational training; and investing in green infrastructure to hasten the transition to lower carbon dependence. Moreover, they should be prepared to flexibly

adjust policy support; for example, from lifelines to reallocation as the pandemic evolves (as discussed in Chapters 2 and 3), while they safeguard social spending and avoid locking in inefficient spending outlays. It is important to anchor near-term support in credible medium-term frameworks.

Phase 1: Escaping the Crisis

The outlook for health and economic variables remains uncertain and challenging. In this context, policymakers still have immediate concerns to deal with.

Health care spending should remain a priority. The fastest way to improve economic outcomes is to suppress the pandemic. As a result, the economic benefits of spending to distribute and administer the vaccine far outweigh any costs. Vaccine production capacity and, in some countries, regulatory restrictions remain bottlenecks that could be overcome with further public investment and alignment of regulations. Cooperation on the global production and distribution of vaccines is essential. Governments should not seek to restrict international dissemination of vaccines. Policies such as limits on exports of vaccines and other medical supplies only promote retaliation that interrupts supply chains and leaves all countries worse off. Additional support for the COVAX project and global distribution of excess doses could help guarantee vaccine access for all.

Fiscal policy support should be well targeted and calibrated to the stage of the pandemic. Until the pandemic ends, fiscal policy should remain supportive. Of course, fiscal space is limited in some countries. In such cases, extraordinary spending will need to be balanced with debt sustainability within credible frameworks. But in countries with space, fiscal policy should continue to provide targeted transfers to affected households and businesses through furlough programs, loans to businesses, and direct payments to households. Such programs should be well calibrated, targeted to the stage of the pandemic, and gradually phased out as demand picks up. It is important that support be means-tested in countries that primarily rely on widescale payments to households. When support eventually is scaled back, it should be done in ways that avoid sudden cliffs (for instance, gradually reducing the government's share of wages covered under furlough and short-time work programs while increasing hiring subsidies to enable reallocation as needed). In general, stronger social assistance will not only dampen the impact on households during the current crisis, but will also provide an automatic policy response during an uncertain recovery. Some examples include Togo, which has permanently adopted the digital infrastructure for emergency cash transfers linked to national IDs, and Indonesia, which has extended unemployment subsidies to the informal sector.

Aided by monetary accommodation wherever possible: Given synchronized negative supply and demand shocks, the overall effect on output gaps is somewhat hard to determine. Yet, inflation remains subdued and expectations well anchored in many countries, suggesting that monetary policy can remain accommodative in those economies. With interest rates in many countries still at their lower bound, this likely means a combination of continued expansion of central bank balance sheets (including, as needed, in some emerging markets) and communicating future interest rate paths that remain low for the foreseeable future. Clear forward guidance and communication from advanced economy central banks is particularly crucial, and not just for calibrating the appropriate domestic monetary accommodation. It also vitally bears on external financial conditions in emerging markets and the impact that divergent policy stances have on capital flows (Chapter 4). In this context, emerging market economies may need to consider the appropriateness of other policies in the toolkit to ensure stability—including exchange rate policies, capital flow management, and macroprudential policy. In general, flexible exchange rates are best able to absorb international shocks and limit resource misallocation in countries with well-developed financial markets and limited balance sheet mismatches. In contrast, foreign exchange intervention and temporary capital flow management measures may, under some circumstances, be useful for countries with balance sheet vulnerabilities, including by giving monetary policy more autonomy to respond to domestic inflation and output developments. However, such policies should not substitute for needed macroeconomic adjustment.

With macroprudential policies appropriately trained on containing financial stability risks: A prolonged period of accommodative monetary policy will likely add to already-elevated financial vulnerabilities as marginal borrowers benefit from investors' search for yield and deteriorating loan origination standards. As noted in the April 2021 GFSR, taking into consideration possible lags between the activation and impact of

macroprudential tools, policymakers should take early action. They should tighten selected macroprudential policy tools to tackle pockets of elevated vulnerabilities while avoiding a broad tightening of financial conditions. If such tools are not available—for example, in some segments of the nonbank financial intermediation sector—policymakers should urgently develop them. Given the challenges to designing and operationalizing macroprudential tools within existing frameworks, policymakers should also consider building buffers elsewhere to protect the financial system.

Phase 2: Safeguarding the Recovery

The transition to a post-pandemic economy may be long and difficult. Along that transition, policymakers will need to balance the benefits of policies that mitigate scarring against the costs of weakening incentives for efficient allocation of productive resources while being mindful of available policy space.

Policies should address persistent economic scarring. Without offsetting policy action, the crisis will have persistent effects over the medium term on firms, labor markets, and human capital accumulation.

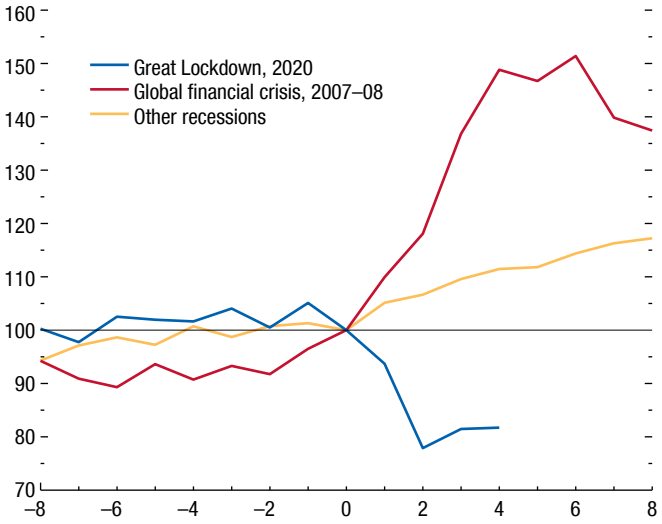
- Failure of *firms* during a crisis destroys firm-specific employment and supplier matches. By limiting the failure of viable firms, policymakers prevent persistent economic harm. Policy actions have generally limited corporate failures during the pandemic, but, as the recovery proceeds, governments should switch from broad-based support for firms to policies more targeted toward hard-hit sectors, such as retail, the arts, and other contact-intensive services (Chapter 2).
- *Labor market policies* should be geared toward preventing workers from falling into long-term unemployment, and furlough and short-time work programs should be scaled back as labor market conditions renormalize (see Chapter 3). Support for retraining and reskilling should continue, even as the recovery takes hold. Given that the move to a new sector can take some time, displaced workers also require extended income support to manage their transition to more productive roles.
- The interruption of schooling during the pandemic has taken a severe toll on the building of *human capital* essential for sustained growth. Improvements in educational attainment in low-income countries are at particular risk, given limited capacity to deliver schooling through other means (see Box 2.3). Without remedial policy actions—such as increased spending on education and associated infrastructure—disparities in educational attainment risk perpetuating a growing divergence within societies and between rich and poor countries.
- Where space permits and the recovery is weak, *broader fiscal support* can be an effective way to ward off some of the more pernicious long-term impacts of the recession. Programs focused on meeting medium-term growth and equity objectives—such as building infrastructure to speed the transition to reduced carbon dependence; increasing research spending; and investing in early childhood development, education, and vocational training programs—will also help offset persistent economic scarring. Where elevated debt levels limit scope for action, effort should also be directed at creating space through increased revenue collection (fewer breaks, better coverage of registries, and switching to well-designed value-added taxes), greater tax progressivity, and by reducing wasteful subsidies.

Without sacrificing efficiency. Although emergency measures were necessary to mitigate suffering during the depths of the crisis, persisting indefinitely with them will hinder growth needed to sustain the recovery. Policies that prop up failing firms ultimately crowd out new ventures and hinder aggregate reallocation of capital and labor. Likewise, overly generous unemployment insurance may dampen incentives to work.

- One particular efficiency-related risk to the recovery is the possibility of *zombie firms*. Unlike during the global financial crisis and other past recessions, corporate bankruptcies have declined across advanced economies (Figure 1.21). This is in part a result of policies that prevent creditors from enforcing claims on struggling firms, such as moratoriums on bank loan repayments, which obviate the need to seek similar protections in bankruptcy. Smaller firms, in particular, seem to have benefited from these policies. Firms that are large enough tend to access capital markets by issuing bonds. The number of corporate defaults among firms issuing speculative-grade debt has reached its highest level since the global financial crisis (see the April 2021 GFSR). Together, this evidence suggests that, although policy action to support firms has undoubtedly kept many viable firms afloat, it is also keeping alive inefficient firms that would have failed even without the downturn. To prevent such zombie

Figure 1.21. Bankruptcies, Current and Past Recessions
(Index, last prerecession quarter = 100; recession quarters on x-axis)

Unlike during previous crises, bankruptcies declined with respect to pre–COVID-19 levels.



Sources: CEIC Data Company Limited; national authorities; and IMF staff calculations.
Note: Data are from 13 countries with varying coverage during 1990:Q1–2020:Q3. Lines are averages across recession types, with quarter 0 the last prerecession quarter. For the Great Lockdown, quarter 0 is 2019:Q4 for all countries. For the global financial crisis, quarter 0 is the country specific date of peak real GDP during 2007–08. Other recessions are country specific and identified by two consecutive quarters of negative growth during 1990–2006 and 2009–19.

firms from continuing to take up resources, governments will have to roll back blanket loans and credit guarantees, relying more on dedicated out-of-court restructuring mechanisms and simpler procedures for reorganization of small firms, restructuring loans, and filing for bankruptcy. In addition, lenders should be encouraged to actively identify and manage distressed borrowers, including while moratoriums and other support measures remain in place. Governments in many countries therefore have an unenviable choice between accepting increased firm failures in the short term and supporting unproductive zombie firms in the long term. The trade-off is likely to be most difficult in the sectors that have been hit the hardest. Moreover, widespread firm failure could spill over to the financial sector, impacting banks' capital buffers. As a result, governments should also consider policies that approximate the recapitalizing effects of equity injections, which are hard for all but the largest firms to pursue directly. Such measures include loans whose repayment is conditional on sufficient subsequent profits or underwriting similar private sector loans.

- The transition to a post–COVID-19 economy will inevitably require *sectoral reallocation* as resources flow to recovering sectors. This is best achieved by scaling back the overall level of support, both for households and firms, combined with targeted support for the hardest-hit sectors. In particular, the services sector has experienced a much more severe slowdown than other parts of the economy. As a result, continued and targeted support may be best concentrated on firms in services. Early withdrawal of support from the most-affected sectors risks an uneven recovery and sector-specific scarring, hindering necessary reallocation in the long term. Of course, the balance between this withdrawal of support and propping up nonviable firms will be difficult; sector-specific policies will need to be phased out eventually. But by doing so more slowly in the most-affected sectors, governments can hope to limit sectoral scarring.
- The crisis hit smaller firms hardest. As a result, *policies to promote competition and limit market concentration* should be enhanced to guard against sharp increases in monopoly power during the recovery.

Phase 3: Investing in the Future

Several issues will pose challenges to policy in the longer term, both pandemic related and legacies inherited from preexisting trends. Foremost among these are the ongoing climate crisis, reforms to policy frameworks, and improved international policy cooperation.

International policy cooperation remains essential. The pandemic has affected every person on the planet, without concern for nationality. Accordingly, governments should work together to address the global ramifications of the crisis.

- Continued *access to liquidity* can prevent external funding pressures from spilling over across countries and can expand monetary policy space. To decrease the likelihood that balance of payments needs curtail essential spending on health care and social support, the IMF has expanded its lending toolkit: providing new financing facilities, increasing access limits for emergency finance, and increasing access to debt service relief grants. And, supported by the IMF and World Bank, the Group of 20 (G20) Debt Service Suspension Initiative makes 73 countries eligible for suspension of debt

service payments until June 2021. An increase in allocations to special drawing rights (SDRs) for all countries would deepen the buffer against ongoing shocks during an uneven recovery. While temporary liquidity relief can help mitigate the lack of policy space, for some countries it may not be enough in situations where sovereign debt is unsustainable. In such instances, eligible countries should work with creditors to restructure their debt under the new common framework approved by the G20. Without such action, these economies may be forced to forgo critical health care and capital spending as they divert scarce foreign reserves to meet external payment obligations, setting back their long-term development and convergence to higher income per capita even further.

- Relatedly, global disputes over *trade* more broadly remain unresolved. These include the failure to reconcile a deadlock on appointments to the World Trade Organization Appellate Body and trade tensions between the United States and China.

Boosting productivity and growth: Even before the pandemic, productivity growth had been sluggish for several decades. Although the underlying causes are hard to determine, it is possible that growth in efficiency will continue to be anemic and will require corrective policies, such as investment in education, research, and infrastructure. That said, an alternate future could emerge, with innovations in artificial intelligence that lead to rapid advances in productivity as a new wave of automation extends to nonroutine tasks. Clusters of growth in sectors such as logistics and services could prove a tonic after a decade of subpar growth in many countries. Such an outcome would not be without its drawbacks: a hollowing out of lower-skill and routine occupations could amplify inequality, and the digital divide could exacerbate differences between those with and without online opportunities. Policies such as improvement in broadband networks and cheaper access to telecommunications could help offset these costs, while worker retraining and investment in digital literacy more broadly would help widen access to emerging job opportunities.

Improved frameworks can generate policy space. The amount of space available for a policy to act depends on the framework in which it operates. Improvements to policy frameworks can relax some of the constraints impeding action.

- Countries in distress may need to consider preemptive *debt restructuring*. Although far from ideal, a negotiated restructuring with creditors of highly indebted countries would be preferable to a disorderly default. If bond contracts contain collective action clauses and the new offer is seen as reasonable by the qualifying majority of bondholders, restructuring would be easier to administer. Restructuring options could include maturity extensions, interest rate reductions, principal reductions, and other debt swaps. The G20 Common Framework provides a template for some countries and could potentially be extended beyond the current list of Debt Service Suspension Initiative-eligible countries.
- *Fiscal space*, more generally, can be generated through measures that not only raise revenue but also improve progressivity—for example, by increasing taxes on affluent individuals and highly profitable corporations relatively less affected by the pandemic, closing domestic corporate tax loopholes, reducing tax expenditures, and improving revenue administration (including through greater reliance on e-filing to improve compliance). National efforts will need to be supplemented with strong international cooperation to limit profit shifting and tax evasion and avoidance. These initiatives can be reinforced on the expenditure side by improving the efficiency and governance of public investment and procurement, reducing poorly targeted subsidies, and rationalizing recurrent spending. Committing to return to compliance with fiscal rules, or preapproving tax reforms now for implementation after the pandemic is durably suppressed, could reinforce the credibility of fiscal frameworks.
- *Monetary policy frameworks*: In countries with interest rates at their effective lower bound (mostly advanced economies, but also some emerging market economies, such as Chile and Peru), continued unconventional policies, including asset purchases, forward guidance, and even negative interest rates, can provide scope to expand policy space. In emerging markets, asset purchase programs may provide extra policy space, provided objectives are clear and policies are well communicated and form part of a larger and coherent policy framework with an explicit central bank mandate for ensuring price stability. A credible fiscal policy framework can further enhance the scope for temporarily pursuing such unconventional monetary policies as it can send a

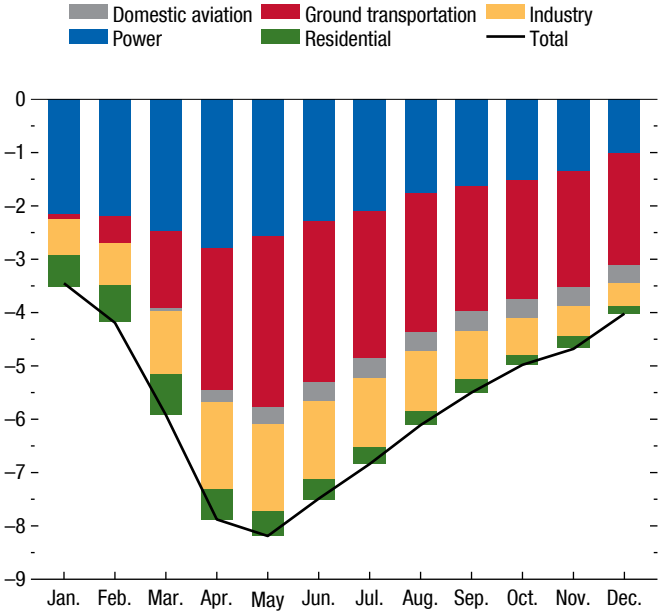
strong signal on the limits of sovereign issuance and central bank purchases (see Chapter 4).

Without global cooperation, climate change will continue to hamper economic growth and convergence. Global emissions were about 4 percent lower in 2020, broadly in line with reductions in output (Figure 1.22). This decline is likely temporary. The global economy must produce similar declines every year of the next 30 to lower emissions 80 percent by 2050. Without immediate and coordinated global policy action, emissions will rise again as the pandemic passes and output rises, and countries with the least capacity to absorb the costs of adaptation—small states and low-income countries—will suffer most (see Box 1.2). A comprehensive policy package can mitigate the worst harms of climate change at relatively low transitional output costs (see Chapter 3 of the October 2020 WEO). It should rely on a combination of policies:

- *Carbon pricing*: Higher carbon prices are essential to discourage use of the most socially costly fuels, most notably coal. Because the first dollar of the carbon tax is the most effective, countries without the political will for large taxes should not shy away from moderate, preferably increasing, carbon taxes or should consider carbon trading systems. A carbon price floor arrangement among large emitting countries, designed flexibly to accommodate equity considerations and constraints on national policies, can help coordinate and scale up actions in this regard (see the October 2019 *Fiscal Monitor*).
- *Green infrastructure investment*: A green infrastructure push, funded in part by a carbon tax, could offset the economic losses from higher energy costs. Such a push could include improved transmission and distribution of electricity from renewable power plants, grants to improve buildings' energy efficiency, and better green transportation infrastructure (public transit, electric vehicle charging, and the like).
- *Subsidies for green research*: Although the effects are uncertain and delayed, subsidies for research in green technologies have the potential to speed the shift to a zero-carbon economy dramatically and—given the small size of the green technology sector—are relatively cheap. Importantly, by lowering the cost of future green energy and negative emission technologies, research subsidies will help meet future decarbonization targets.
- *Targeted compensatory transfers*: Those on lower incomes will be hit hardest by climate change mitigation policies, as they have more energy-intensive consumption and are more likely to work in energy-intensive sectors. Targeted transfers and feebates funded by carbon taxes can help offset these effects, making climate change mitigation inequality-neutral.

Figure 1.22. Cumulative Global Carbon Dioxide Emissions, 2020 versus 2019
(Percent difference)

Global emissions were 4 percent lower in 2020, reflecting pandemic-driven lower activity.



Source: Carbon Monitor (https://carbonmonitor.org/).

Scenario Box

At the time of the October 2020 *World Economic Outlook* (WEO), there was significant uncertainty regarding the likely approval and availability of vaccines, and the magnitude of the deviations from baseline in the alternative scenarios that were explored reflected that degree of uncertainty. While some uncertainties regarding vaccines have been resolved, others have arisen. Although these uncertainties may not lead to deviations from the baseline that are as large as was the case in October, they are still material.

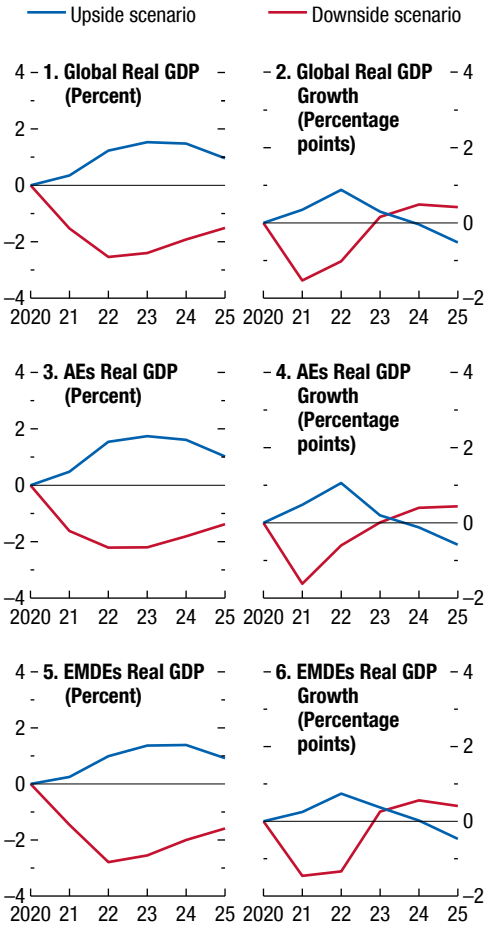
To illustrate this, the G20 Model is used to estimate the potential impact of the increased uncertainty about the path of the pandemic owing to new variants, the efficacy of vaccines, and the pace of vaccine rollout. The upside scenario explores the potential for the recovery to be much stronger than expected in the baseline as the rollout of vaccines allows activity in contact-intensive sectors to rebound quickly and thereby boost confidence. The downside scenario explores the possibility that vaccine rollout does not go as smoothly as in the baseline and that variants are more resistant to vaccines. Consequently, more modifications to existing formulations will be required, leading to significant delays in achieving herd immunity and thus recovery in contact-intensive sectors.

Upside

In the upside scenario (blue lines in Scenario Figure 1), it is assumed that vaccine rollout occurs about 10 percent faster than in the baseline and that vaccines are effective in preventing infections from the growing range of variants as well as containing infectiousness of those vaccinated. Better developments on the vaccine front and quickly receding disease concerns in turn lead to faster-than-expected normalization of mobility, boosting the confidence of both households and firms. This confidence leads to a faster-than-expected drawdown of accumulated savings, quick release of pent-up demand, and a ramp-up in private investment. Given well-anchored inflation expectations, the resulting demand-driven pickup in inflation does not lead monetary authorities in most countries to tighten policy, and the resultant lower real interest rates further stimulate private demand. Fiscal authorities are assumed to reduce spending on automatic stabilizers as dictated by the recovery, but there is no additional withdrawal of baseline discretionary measures.

The authors of this box are Ben Hunt and Susanna Mursula.

Scenario Figure 1. Alternative Evolutions in the Fight against the COVID-19 Virus
(Deviation from baseline)



Source: IMF, G20 Model simulations.
Note: AEs = advanced economies; EMDEs = emerging market and developing economies.

The faster near-term rebound in demand helps reduce some of the temporary but persistent scarring contained in the baseline as labor demand strengthens, quickly containing the loss in human capital; some bankruptcies are avoided, and renewed private investment temporarily spurs productivity growth.

With vaccine rollout occurring sooner and with more accumulated savings and pent-up demand in advanced economies, these economies lead the faster recovery; emerging market and developing economies follow, with a slightly less pronounced impact.

Scenario Box *(continued)*

Global GDP grows faster than baseline by just under ½ percentage point in 2021, accelerating to almost 1 percentage point in 2022, but moderating sharply in 2023 to something very close to baseline. Advanced economy GDP growth is roughly ½ percentage point above baseline in 2021, accelerating to more than 1 percentage point above baseline in 2022. Growth in emerging market and developing economy GDP is roughly ¼ percentage point above baseline in 2021, accelerating to ¾ percentage point above baseline in 2022. The faster recovery, combined with the associated unwinding of some of the scarring assumed in the baseline, leaves global output almost 1 percent above baseline by the end of the WEO horizon.

Downside

In the downside scenario (red lines in Scenario Figure 1), it is assumed that supply bottlenecks in production and other logistical problems with delivering the vaccines that are most effective against growing variants allow existing variants to become well entrenched, and additional mutations occur. This leads to delays in reaching herd immunity of roughly six months in advanced economies and nine months in emerging market and developing economies. Persistently high infection rates and deaths slow the normalization in mobility and the recovery in demand in contact-intensive sectors. This reduces the incomes of firms and households and their expectations of future income, further damaging consumer and firm confidence. Slower recovery increases risk aversion and leads to tighter financial conditions for vulnerable businesses, further undermining growth. Unconventional monetary policy measures are assumed to prevent significant increases in sovereign rates. The lack of conventional monetary policy space and shrinking fiscal space limit policymakers' ability to respond further, and no additional discretionary fiscal measures are assumed. The weaker rebound in activity leads to more proportional scarring than assumed in the baseline, slowing the speed of bounce-back once vaccine availability and efficacy have improved sufficiently to allow mobility to return to pre-pandemic levels.

Global GDP growth slows by roughly 1½ percentage points more than in the baseline in 2021 and by a further 1 percentage point below baseline in 2022 before rebounding mildly above baseline in 2023 and thereafter. Growth in advanced and emerging market and developing economies suffers to about the same degree in 2021, but sharper tightening in financial conditions for vulnerable businesses in emerging market and developing economies means that their growth suffers more than growth in advanced economies in 2022. The much slower recovery leads to additional scarring and, combined with tighter financial conditions, results in output roughly 1½ percent below baseline by the end of the WEO horizon.

Box 1.1. Global Manufacturing: V-Shaped Recovery and Implications for the Global Outlook

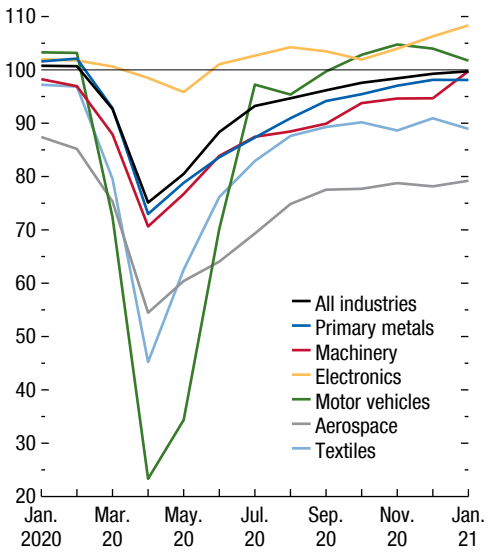
Global manufacturing contracted sharply in the spring of 2020. Unlike during the global financial crisis, however, the decline was short lived, with synchronized V-shaped recoveries across both advanced and emerging market economies in the second half of the year. While the rebound reflects in part the resumption of production following the shutdowns, other demand-related factors have also played a role, including the release of pent-up demand after lockdowns were eased and increased demand for products to facilitate work-from-home and protective equipment.

The recovery has been more pronounced in some industries than in others (Figure 1.1.1), reflecting several factors:

- *Consumer spending on durables has surged in advanced economies, reflecting policy support programs, pent-up demand, and limited spending on services as a result of the pandemic:* The share of durables in consumer spending increased to about 12 percent in the third quarter of 2020, up from an average of 10.5 percent in the two years preceding the pandemic. The surge is most visible for such items as cars and electrical appliances. Global car sales, for example, were back to pre-pandemic levels as of December 2020, after falling by more than 40 percent through April. The bounce-back also likely reflected a desire to maintain safe distances and avoid public transportation as well as purchase incentive programs and tax deductions. The car industry has been the largest driver of the manufacturing recovery, accounting for about 35 percent of the global rebound in the second half of 2020, while electrical equipment accounted for almost 5 percent of the rebound (Figure 1.1.2). The shift toward durables has also supported the sharp rebound in global trade, with advanced economies' imports of consumer goods accounting for almost one-third of the recovery in global trade values (excluding petroleum) in the second half of 2020. The recovery in durables spending was less pronounced in emerging markets, excluding China.
- *The pandemic has increased demand for some products*: These include electronics to accommodate the shift toward teleworking and virtual learning as well as plastic, rubber, and textiles as the main source of personal protective equipment. These sectors account for about 10 percent of the rebound in manufacturing.
- *Lingering uncertainties around the pandemic outlook have hindered the recovery of private investment, particularly in equipment:* This has limited the rebound in the production of machinery and other capital goods. Output in these sectors remains about 6 percent below pre-pandemic levels (except for the aerospace sector, which is almost 20 percent below its pre-pandemic level). There are signs of continued improvement in the production of machinery; capital goods imports picked up in late 2020.

The near-term outlook for global manufacturing remains positive, as evidenced in the February global manufacturing purchasing managers' index indicators, which point to a continuing expansion, though at a slower pace. While the near-term recovery could be tempered by the resurgence of COVID-19 cases in several major economies, evidence from social distancing measures in late 2020 and early 2021 in Europe and the United Kingdom suggests a relatively limited impact on manufacturing activity. In part, this is because containment measures have not been as

Figure 1.1.1. Global Manufacturing: Selected Industries
(Index, December 2019 = 100; seasonally adjusted)



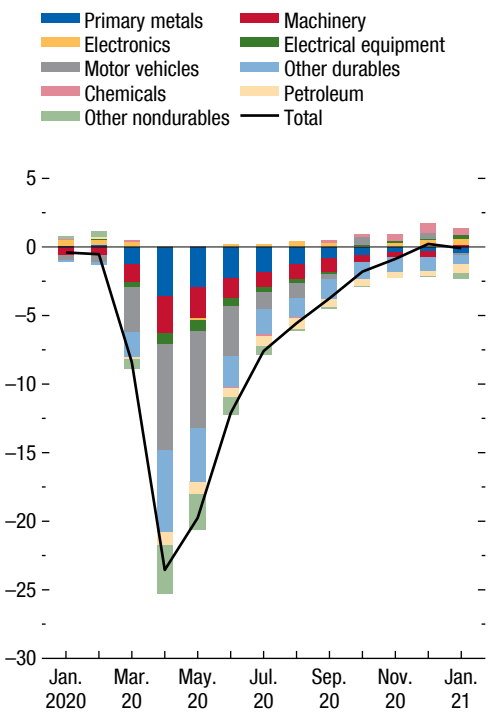
Sources: Haver Analytics; and IMF staff calculations.
Note: Excluding China.

The author of this box is Nadia Mounir, with research assistance from Aneta Radzikowski.

Box 1.1 *(continued)*

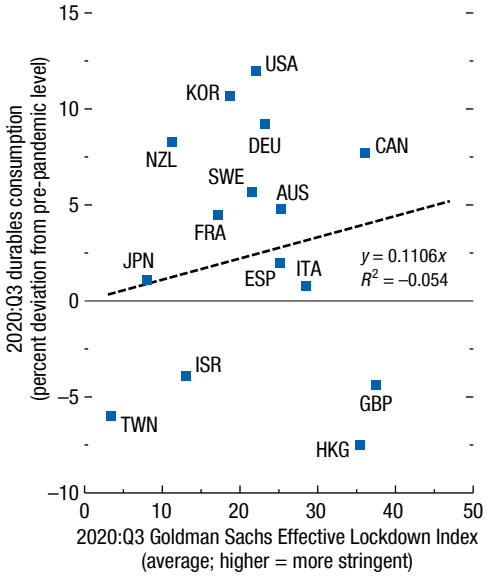
Figure 1.1.2. Global Manufacturing, by Industry

(Contribution to year-over-year percent change; percentage points)



Sources: Haver Analytics; and IMF staff calculations.
Note: Excluding China.

Figure 1.1.3. Correlation between Lockdowns in Advanced Economies and Durables Consumption



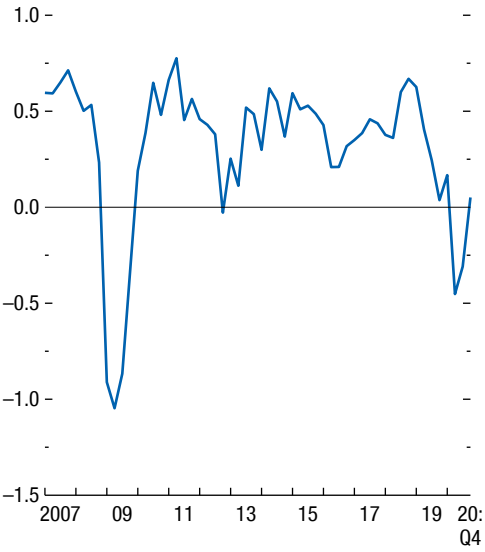
Sources: Goldman Sachs; Haver Analytics; Organisation for Economic Co-operation and Development database; and IMF staff calculations.
Note: Advanced economies comprise Australia, Canada, Denmark, euro area, Hong Kong SAR, Israel, Japan, Korea, New Zealand, Sweden, Taiwan Province of China, United Kingdom, and United States. This group represents 41.4 percent of global consumption based on purchasing-power-parity weights. Estimated coefficient of the lockdown index was –0.5 in Q2, significant at the 5 percent level. Data labels use International Organization for Standardization (ISO) country codes.

stringent as in April and May, and disruptions to production and supply chains have been much less severe. Demand for goods, particularly durables, also appears to have become less sensitive to variations in mobility, as seen in the second half of 2020 (Figure 1.1.3).

Beyond the near term, widespread availability of vaccines and normalization of contact-intensive activity, together with continued policy support, should help fuel the manufacturing recovery. Further normalization of global capital expenditures will be an important source of demand for manufacturing. However, several factors specific to the COVID-19 recession could limit the upside of this recovery: (1) global demand will likely shift from durables to services as these have accounted for the bulk of the global GDP decline and remain well below their pre–COVID-19 levels, and (2) inventory restocking, an important element in cyclical upturns, is likely to be slower this time, given less destocking during the pandemic recession than in prior recessions and lingering uncertainties around the pandemic outlook (Figure 1.1.4).

Box 1.1 *(continued)*

Figure 1.1.4. Inventory in Advanced Economies and Manufacturing Outlook
(Changes in inventory as percent of GDP; aggregated by purchasing-power-parity weights)



Sources: Haver Analytics; and IMF staff calculations.
Note: Advanced economies comprise Australia, Canada, Czech Republic, Denmark, euro area, Israel, Japan, Korea, New Zealand, Norway, Sweden, Taiwan Province of China, United Kingdom, and United States. The group represents 42.9 percent of world GDP based on purchasing-power-parity weights.

Box 1.2. Who Suffers Most from Climate Change? The Case of Natural Disasters

Major weather-related disasters lead on impact to sizable declines in real GDP per capita of 1.2 percentage points, on average, with stronger negative effects in areas where exposure and vulnerability are high, such as in low-income developing countries and small island economies. Climate change and a continued rise in global temperatures are likely to further increase the frequency and intensity of natural disasters. Improvements to structural, financial, and social resilience could accelerate the post-disaster recovery phase and minimize such welfare losses.

Ongoing climate change poses a fundamental threat to the global economy. Without successful mitigation policies, increasing temperatures will reduce global living standards by at least 5–10 percent (relative to holding temperatures fixed at current levels) by the end of the century (see Chapter 3 of the October 2020 *World Economic Outlook*).

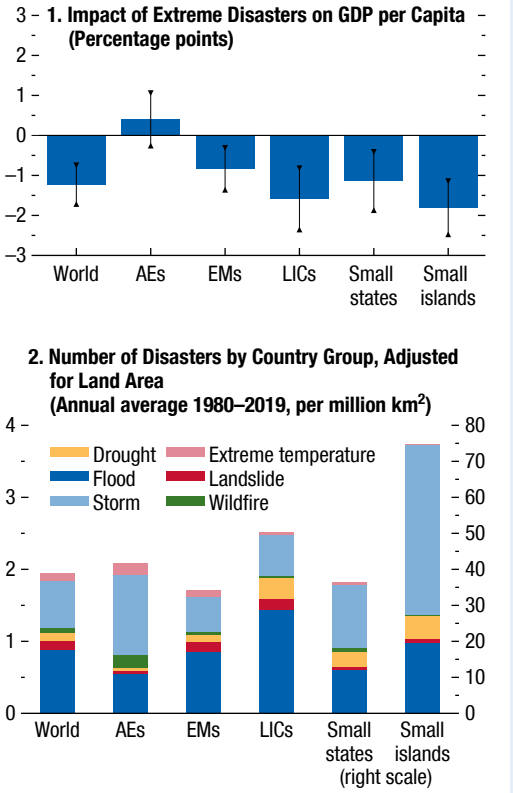
In the absence of successful mitigation policies, low-income countries are not only the most exposed to the costs of climate change, they are also the most limited in their capacity to adapt, even though they are the smallest contributors to emissions of greenhouse gases. These costs are most likely to be imposed by more frequent and catastrophic natural disasters, as the rise in global temperatures has likely already contributed to more frequent weather-related disasters (IPCC 2012), on top of other natural disasters, such as earthquakes, to which low-income countries are likewise vulnerable.

While economies recover well from moderate disasters, extreme disasters tend to lower economic output.[1] On impact, major weather-related disasters lower real GDP per capita by 1.2 percentage points, on average, with stronger effects in low-income countries and small island economies—with a loss of 1.6 percentage points and 1.8 percentage points, respectively (Figure 1.2.1, panel 1)—where exposure and vulnerability are high, as these countries experience more reported disasters per square kilometer

The author of this box is Evgenia Pugacheva. The box has benefited from comments by Stéphane Hallegatte.

[1]See Botzen, Deschenes, and Sanders (2019) for an overview of the literature on the macroeconomic implications of natural disasters. For major disasters that fall within the top 5th percentile of disasters by severity, Felbermayr and Gröschl (2014) estimates a decline in GDP growth of 0.46 percentage point in the year of the shock. Strobel (2011) finds that the impact of hurricane landfall on coastal counties in the United States reduces the GDP per capita growth rate locally by 0.45 percentage point—but has no effect on national growth rates, as economic activity in the unaffected areas compensates for the losses. Loayza and others (2012) likewise stresses that the impact of a disaster depends on its severity. Cantelmo, Melina, and Papageorgiou (2019) argues that severe repeated natural disasters have persistent negative effects.

Figure 1.2.1. Heterogeneous Effects and Frequency of Weather-Related Natural Disasters



Sources: EM-DAT (Emergency Events Database); and IMF staff calculations.
Note: Error bars in panel 1 represent 90 percent confidence intervals. In panel 2, for each year, the number of disasters is added up and divided by the total land area of the country group, then averaged over years. Small states are defined as territories with land area under 30,000 square kilometers (for reference, Haiti is 27,750 square kilometers).
AEs = advanced economies; EMs = emerging market economies; LICs = low-income countries.

Box 1.2 *(continued)*

of land area (Figure 1.2.1, panel 2).[2] The impact in advanced economies is more muted as they are often better equipped to deal with natural disasters. Indeed, better and faster reconstruction plus large public relief spending can lead to an increase in output following a disaster, at least in the short term. Medium- to long-term effects of weather-related disasters could be persistent. For instance, tropical cyclones, which have devastating effects on both small island economies and coastal regions of bigger countries, lead to losses that are not recovered even 20 years after the storm strikes (see Chapter 3 of the October 2017 *World Economic Outlook*). Furthermore, such events disproportionately affect the poorest segment of the population, with intergenerational effects as people's health is damaged, their livelihood is destroyed, and children are prevented from attending school (Chapter 2 of the April 2020 *Sub-Saharan Africa Regional Economic Outlook*).

The main mechanism by which disasters reduce output is the destruction of productive capital. Unlike disasters that destroy only durable consumption goods, such as cars and furniture, capital-destroying disasters tend to reduce GDP (Strulik and Trimborn 2019). And damage to public infrastructure and provision of water, gas, and electricity can halt production activity, with effects that echo along supply chains. Reconstruction efforts are also costly, diverting resources from other production activities and reducing aggregate productivity because of capital misallocation (Hallegatte and Vogt-Schilb 2019). But if done right, better reconstruction can not only minimize the impact of disasters on consumption, production, and overall welfare, it can also reduce vulnerability to future shocks (Hallegatte, Rentschler, and Walsh 2018).

Within this broader context, a three-pronged strategy can address the specific challenge of extreme weather events, especially for low-income countries (IMF 2019). The first prong involves building structural resilience by investment in disaster-proof infrastructure, early warning systems, and stricter enforcement of building codes and zoning rules. The second prong calls for building financial resilience by ensuring access to preapproved contingent credit lines, participation in risk pooling insurance facilities, provision in the budget for financial buffers, and better measurement and greater disclosure of exposure and vulnerability to climatic hazards (see Chapter 5 of the April 2020 *Global Financial Stability Report*). The third prong involves building social resilience through enhanced disaster preparedness and management capacity to limit the disruption of critical public services, strengthening existing social protection systems to limit the impact on the most vulnerable, and improving the timeliness and scope of international assistance.

[2]The econometric specification used to estimate the impact of weather-related natural disasters on real GDP per capita during 1980–2019 is given by $\Delta \ln(y_{i,t}) = \beta_1 d_{i,t} + \beta_2 d_{i,t-1} + \theta_1 X_{i,t} + \alpha_i + \mu_t + \varepsilon_{i,t}$, in which i indexes countries, t indexes years; $\Delta \ln(y_{i,t})$ is growth in real GDP per capita; $d_{i,t}$ is the natural disaster indicator variable, which takes a value of 1 when damages to property and capital stock as a percent of the previous year's GDP exceed 10 percent or when the number of people killed or affected exceeds 10 percent of the population (total for all disasters within a country for a given year) and takes a value of 0 otherwise—these criteria correspond to very extreme natural disasters; β_1 is the coefficient of interest; $X_{i,t}$ is a set of controls that includes two lags of growth and log GDP per capita in purchasing-power-parity terms; α_i and μ_t are country and year fixed effects, respectively, with standard errors clustered at the country level.

Special Feature: Commodity Market Developments and Forecasts

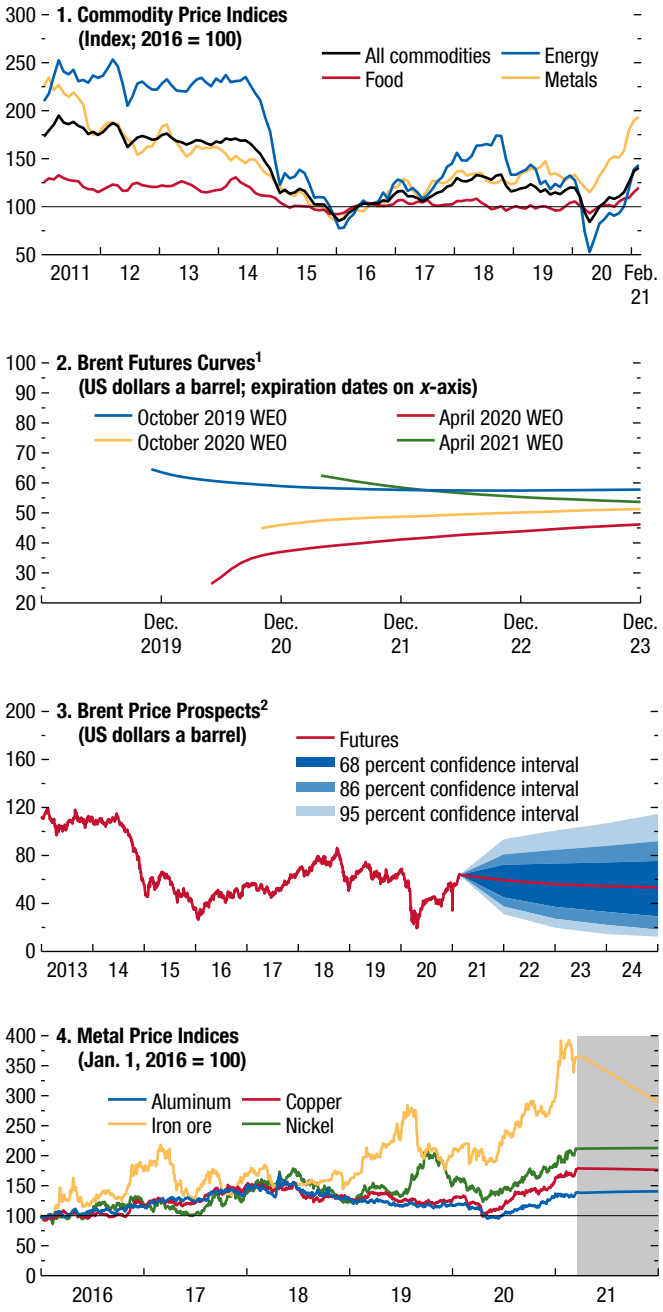
The IMF's primary commodity price index increased by 29 percent between August 2020 and February 2021, the reference period for the current World Economic Outlook *(WEO) (Figure 1.SF.1, panel 1). The broad-based increase, led by energy commodities, followed announcement of effective COVID-19 vaccines last November and continued until January despite renewed lockdowns that weakened the demand outlook, especially for petroleum products. This special feature also includes an in-depth analysis of food security.*

The Oil Market Rebalance Continues, while Natural Gas Prices Showed Seasonal Volatility

Oil prices increased by 39 percent between August 2020 and February 2021 on positive vaccine news and the rapid economic recovery in Asia. A resurgence of COVID-19 cases and difficulties in vaccine rollout at the beginning of the year weakened the oil demand outlook and led the OPEC+ (Organization of the Petroleum Exporting Countries, including Russia and other non-OPEC oil exporters) coalition to review more prudently the relaxation of the 7 million barrels a day production curbs announced in April 2020 (see the October 2020 WEO).

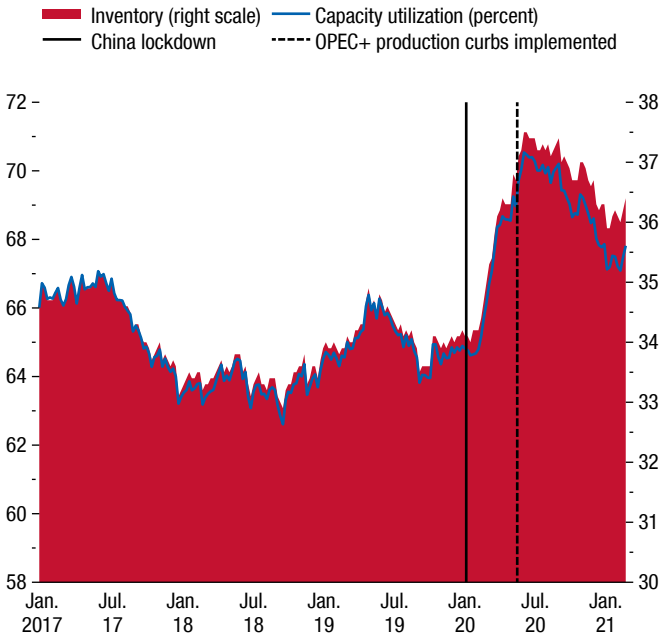
Futures markets point to *backwardation* (a downward sloping futures curve), with oil prices at $58.5 a barrel in 2021—42 percent higher than the 2020 average—falling to $50.7 in 2025. This is mostly because of a temporary tight demand-supply balance expected this year—in line with International Energy Agency projections of a steady decline in oil inventories, with oil demand (supply) projected at 96.4 million barrels a day (95.5 million barrels a day) in 2021. Although oil prices persistently above $60 a barrel may induce a substantial production recovery of higher-cost producers in non-OPEC+ countries, including of US shale oil, most of them seem focused on balance sheet repair. Risks to oil prices are slightly tilted to the upside as upside risks from large cuts in oil and gas upstream investments exceed downside risks from a setback in global oil demand recovery, still elevated inventories, and, in the medium term, a breakdown of the OPEC+ coalition (Figure 1.SF.1, panels 2 and 3, and Figure 1.SF.2).

Figure 1.SF.1. Commodity Market Developments



Sources: Bloomberg Finance L.P.; IMF, Primary Commodity Price System; Refinitiv Datastream; and IMF staff estimates.
Note: WEO = *World Economic Outlook*.
[1]WEO futures prices are baseline assumptions for each WEO and are derived from futures prices. April 2021 WEO prices are based on February 12, 2021, closing.
[2]Derived from prices of futures options on February 18, 2021.

Figure 1.SF.2. Global Oil Inventory



Sources: KPLER; and IMF staff calculations.
Note: Inventory is expressed in days of 2019 oil consumption. OPEC+ = Organization of the Petroleum Exporting Countries, including Russia and other non-OPEC oil exporters.

Natural gas prices showed strong weather-induced seasonal volatility. Asian liquefied natural gas prices spiked to almost $40 per million British thermal units (MMBTU) in January 2021, spilling over to European prices (for example, the Dutch Title Transfer Facility price rose to $7.3 per MMBTU), while US Henry Hub spot prices reached $17.5 per MMBTU as a cold snap crippled shale gas output in Texas amid strong electricity demand in mid-February. High natural gas price volatility sustained the power sector's demand for thermal coal. South African coal prices were also boosted by strong Indian steel and cement industry demand. Phaseout plans and rising emission costs continue to weigh on the demand outlook for coal over the medium term.

Base Metal Prices Rallied on a Stronger Recovery in Industrial Production

Base metal prices increased by 30 percent between August 2020 and February 2021. The resurgent industrial activity in China and other advanced economies, coupled with optimism about US fiscal stimulus, boosted sentiment toward metals. The prices of copper and iron ore, heavily used in the construction and manufacturing sectors, increased by 30 percent and 35 percent, respectively. The strong demand for electric vehicles also pushed up prices of metals, such as cobalt and nickel, that are used in their batteries. Precious metal prices decreased by 6 percent after reaching highs in August 2020 as demand for safe assets faded.

The IMF base metal price index is projected to increase by 32.1 percent in 2021 and decrease by 4.5 percent in 2022. Uncertainty over the speed of the global economic recovery and potential production and trade disruptions due to the pandemic are the main risks to the forecast (Figure 1.SF.1, panel 4). Precious metal prices are expected to increase by 6.0 percent in 2021 and by 0.4 percent in 2022 because monetary policies are expected to continue to be accommodative.

Disappointing Crops and Precautionary Stockpiling Sent Food Prices Higher

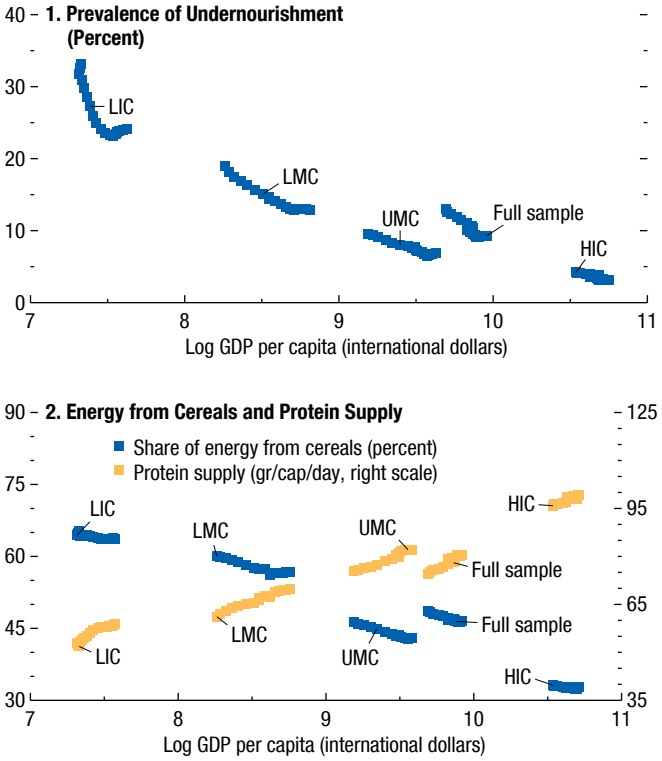
The IMF's food and beverage price index increased by 20 percent, led by vegetable oils and cereals, which rose by 45 percent and 41 percent, respectively. The second half of 2020 saw a surge in prices of many staple crops, including wheat, corn, soybeans, and palm oil, reversing an earlier trend of stable or declining prices over the first months of the pandemic when large global supplies and weaker demand weighed on prices.

Soybean and corn prices surged by more than 50 percent between August 2020 and February 2021. These prices were supported by weaker-than-expected harvests, first in the United States and more recently in South America, and strong demand from China, which is seeking to rebuild its hog population after an outbreak of African swine fever in 2019. Wheat increased by 38 percent, following dry winter wheat conditions across the US Great Plains, a small 2020 crop in the European Union, and strong stockpiling demand. Wheat prices received further support from a looming Russian export tax, scheduled between February 15 and June 30 this year, aimed at combating domestic food price inflation.

Food (In)security: Collateral Damage of the Pandemic?

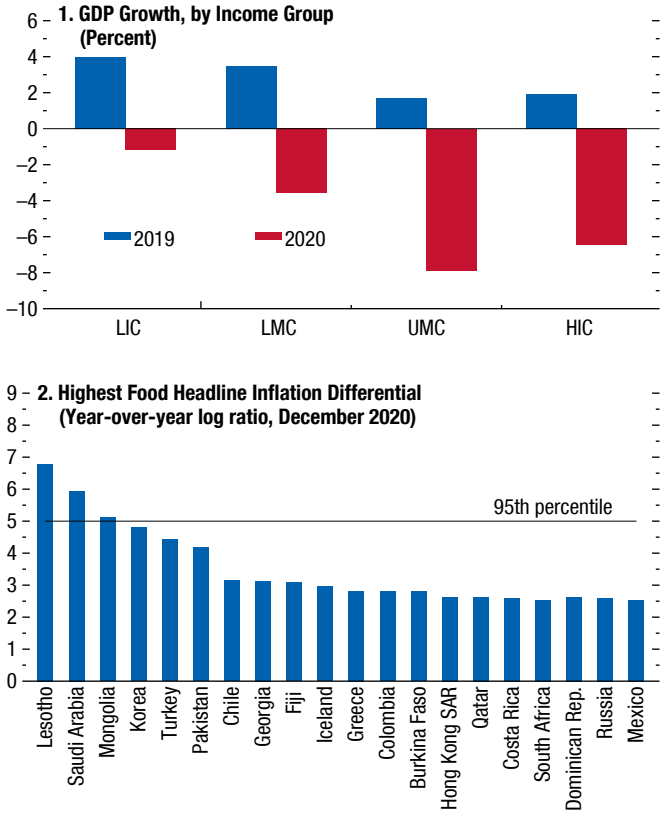
Changes in access to and availability of food (*food security*) have been important across human

Figure 1.SF.3. Undernourishment, Diet Composition, and Income



Sources: Food and Agriculture Organization; World Bank; and IMF staff calculations.
Note: The statistics refer to the estimation sample. Data labels use World Bank income group classification. Gr/cap/day = grams per capita a day; HIC = high income; LIC = low income; LMC = lower middle income; UMC = upper middle income.

Figure 1.SF.4. The Impact of the Pandemic



Source: IMF staff calculations.
Note: In panel 1, data labels use World Bank income group classification. Data are simple averages of each group. In panel 2, the horizontal line is the 95th percentile for the food headline inflation differential since January 2015, which is 5 percent. HIC = high income; LIC = low income; LMC = lower middle income; UMC = upper middle income.

history, not only for their impact on people's health and their ability to thrive, but also by catalyzing political change and triggering conflict. The first world food crisis of modern times, between 1972 and 1975, led to 2 million hunger-related deaths and the violent toppling of incumbent governments. The increase in global food prices in the late 2000s ignited a series of anti-government protests that spread across the Middle East and North Africa.

Food (in)security also has significant repercussions on economic development. Undernourishment, especially in childhood, can have negative effects on physical and cognitive development, limiting educational attainment and lifetime earning potential, possibly perpetuating inequality (Atinmo and others 2009). When the phenomenon is widespread across the population, it can reduce human capital accumulation and potential growth (Fogel 2004).

Despite the progress of the past two decades, undernourishment is still elevated in many countries (Figure 1.SF.3). The quality of institutions and income per capita are major long-term determinants (Timmer 2000); however, economic cycles, such as downturns, tend to exacerbate food security problems, halting progress and even reversing past gains. The ongoing global health crisis, by leading to a dramatic fall in incomes (Figure 1.SF.4), has thus raised serious concerns about access to food in some regions and for some segments of the population. In some cases, disruptions in food supply chains have exacerbated the problem, reducing the availability of food and raising domestic food prices (Figure 1.SF.4). The COVID-19 pandemic thus risks erasing decades of progress in reducing undernourishment globally, which jeopardizes United Nations Sustainable Development Goal No. 2 (bringing the number of undernourished people to zero by 2030).

This Special Feature tries to answer the following questions: How is food insecurity affected by fluctuations in GDP and food prices? How effective are social transfers in containing increases in undernourishment in the short term? What drives domestic food price inflation?

What Is Food (In)security?

According to the United Nations, there is food and nutrition security if all people at all times have "physical, social and economic access to sufficient, safe and nutritious food that meets their preferences and dietary needs for an active and healthy life" (CSF 2012). Absent these conditions, food insecurity arises.

This Special Feature focuses on the two dimensions of food security that are measurable and economically relevant: (1) caloric intake, proxied by "prevalence of undernourishment," which is the share of households with a caloric intake below a given threshold; and (2) diet composition (proxied by the cereal contribution to the overall caloric intake and protein supply).[1]

The next section studies how undernourishment and diet vary with fluctuations in economic activity and food prices and whether they react to countercyclical stabilizers, such as spending on social transfers.

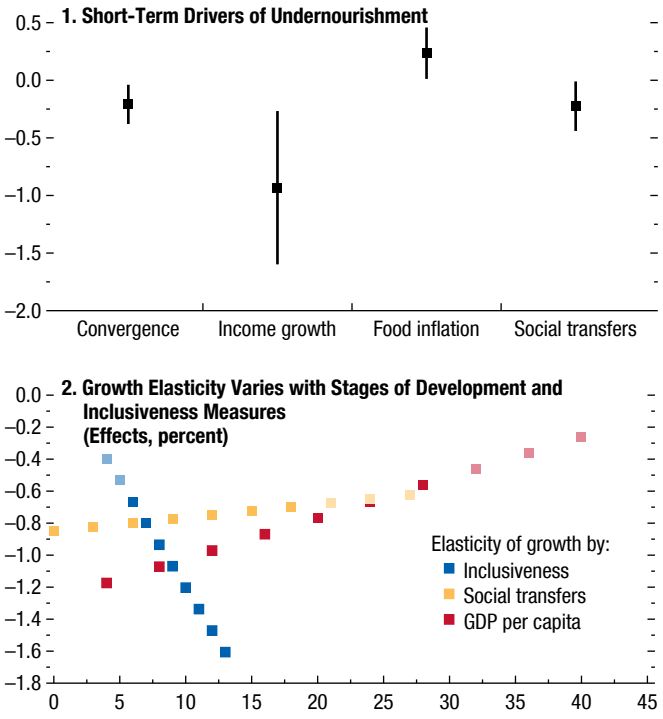
The Business Cycle Determinants of Food (In)security

Four main candidate factors have been selected to explain *changes* in the prevalence of undernourishment (Timmer 2000): (1) GDP per capita growth (to capture household income), (2) food price inflation (to capture food supply and external factors), (3) initial conditions, and (4) social transfers (government policies aimed at protecting the vulnerable segments of the population).

Results indicate that GDP growth is the most important driver of fluctuations in undernourishment (Figure 1.SF.5). A 1 percentage point increase in GDP growth drives down undernourishment by 0.95 percent. The elasticity of undernourishment to GDP growth becomes more sizable for poorer countries but vanishes for high-income countries. This happens because a bigger share of the population is closer to undernourishment in middle- and low-income countries. Higher inequality reduces the elasticity of undernourishment to GDP growth, suggesting that the same process that during good times makes growth more inclusive reverts when growth declines or the economy contracts.

Food price inflation is also relevant: a typical 2 percentage point increase in food price inflation tends to increase undernourishment by 0.24 percent.[2] Food inflation remains especially relevant for countries with per capita income between $10,000 and $20,000 (2017 purchasing-power-parity dollars) as these countries usually have a high weight of food in the consumer price index (see Online Annex 1.1, available at www.imf.org/en/Publications/WEO). Social protection is a valuable shield against income and food price shocks as it mitigates their effects for a given level of

Figure 1.SF.5. Food Insecurity and the Business Cycle



Sources: Food and Agriculture Organization; and IMF staff calculations.
Note: In panel 1, the vertical lines show the 95 percent confidence intervals. Coefficients have been adjusted for the different variability of each regressor. In panel 2, the *x*-axis includes social transfers (as percent of GDP), inclusiveness (income share to the bottom 20 percent), and GDP per capita (thousands of international dollars). Statistically significant effects are shown by darker squares.

[1]Prevalence of undernourishment is measured by the Food and Agriculture Organization and is defined as the share of the population whose habitual food consumption is insufficient to provide adequate energy levels.

[2]Food inflation and changes in social transfer are two and eight times more volatile, respectively, than GDP growth in the econometric sample.

economic development. Moreover, social transfers have a direct positive effect in reducing undernourishment (Figure 1.SF.5).[3]

Finally, diet composition matters. Before descending into undernourishment when incomes decline, households change their diet by moving to cheaper staple foods. This margin of adjustment is quantitatively relevant in the econometric results (see Online Annex 1.1). Negative GDP shocks tend to increase cereal consumption and decrease protein consumption as cereals are cheaper than animal protein. Changes in diet habits, however, are often perceived by lower-middle-income people as a descent into poverty—a major factor in raising social tension.

Determinants of Food Inflation

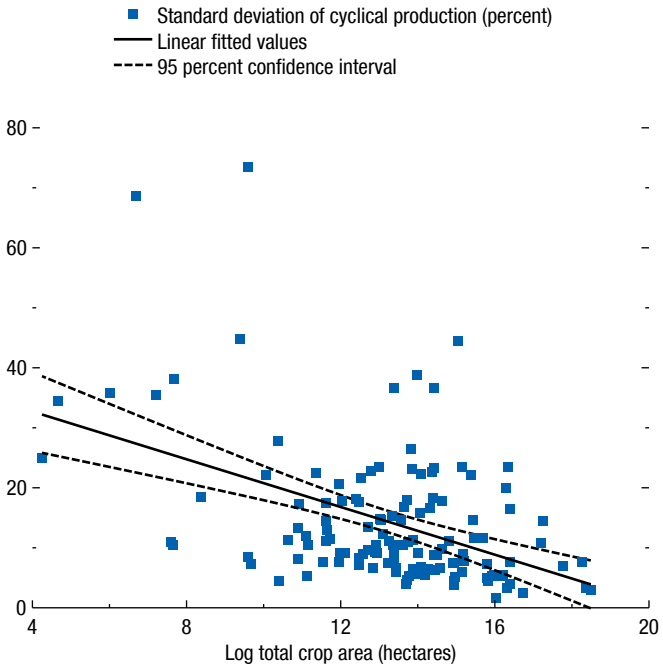
To analyze major determinants of domestic food inflation, this section uses a sample of 121 countries between 2001 and 2018, where annual food consumer price index inflation is regressed on world food price inflation, exchange rate appreciation against the US dollar, trend headline inflation (to control for monetary factors), and food supply shocks.

Econometric results show that the annual pass-through from international food prices to the domestic food consumer price index is about 0.26 for middle- and low- income countries and 0.14 for high-income countries. Not surprisingly, the pass-through is far below 1.0, given that the transmission of international price variations across borders is often limited by taxes, subsidies, price controls, weak market integration, and local distribution costs. Similarly, the exchange rate pass-through is larger for middle- and low-income countries (0.23) than for high-income countries (0.08).

Even though external factors are relevant, food production is mostly consumed domestically. In fact, domestic food price shocks are an important driver of food price inflation. Moreover, countries with a small arable area tend to experience relatively larger shocks (Figure 1.SF.6). A typical domestic food production shock increases food inflation by about 0.3 percentage point, and the same shock on a regional scale increases food inflation by 0.7 percentage point (Table 1.SF.1).

[3]In terms of how countries move together, convergence from high initial shares of undernourished is slow in absence of other improvements, about 0.4 percentage point year for a typical low-income country that starts with a 20 percent share of population undernourished.

Figure 1.SF.6. Small Crop-Area Countries Experience Larger Production Shocks



Sources: Food and Agriculture Organization; World Bank; and IMF staff calculations.

Even though heavy reliance on food imports can leave a country more affected by external factors, the increase in the pass-through is rather small and not significant in the econometric analysis. However, high dependence on food imports tends to mitigate the impact of domestic food production shocks on food prices (see Online Annex 1.1).

Additional evidence that food trade can improve welfare comes from a simple observation: domestic food production shocks have a low correlation with those in other countries and especially with global food production shocks (Table 1.SF.2). Given that a regional

Table 1.SF.1. Food Supply Shocks' Impact on Food Inflation

	Domestic	Regional	World
Food Inflation Elasticity	–0.02	–0.13	–0.15
Supply Shock	–16.34	–5.84	–2.06
Impact on Food Inflation	0.28	0.73	0.31

Sources: International Energy Agency; and IMF staff calculations.
Note: The table shows the food inflation effects of negative food supply shocks at different aggregation levels (domestic, regional, and rest of the world). The "impact" is the product of the food inflation elasticity and the supply shock.

Table 1.SF.2. Food Supply Shocks Correlations

	Domestic	Rest of the Region
Domestic	1.00	
Rest of the Region	0.20	1.00
Rest of the World	0.00	0.02

Sources: Food and Agriculture Organization; US Department of Agriculture; and IMF staff calculations.
Note: Food production is the sum of production of maize, rice, soybeans, and wheat (in calorie terms). For each country domestic shocks are calculated as deviations from its Hodrick-Prescott production trend for 1990–2018. Rest-of-the-region shocks represent the population-weighted average of the shocks of other countries in the region. Rest-of-the-world shocks are constructed analogously. Standard World Bank classification is used for the regions.

food supply shock has a larger impact than a domestic one, food trade integration should extend beyond the region.

Conclusions

Income is the most important driver of food (in)security in low-income countries and some emerging markets. The COVID-19 pandemic, therefore, risks delaying the process of bringing the number of undernourished people to zero by 2030. Absent policy interventions, the 2020 decline in income and increase in food prices would lead, respectively, to a 62 million and 4 million increase in the number of hungry people. Governments should thus strengthen safety nets for the most vulnerable and mitigate the risk of food price spikes by guaranteeing the smooth functioning of food supply chains. Smaller food producers should exploit international food markets to smooth the impact of domestic production shocks on local food prices. This is particularly relevant as climate change is increasing the volatility of those shocks. International food markets should be kept open and food exporters should avoid export restrictions that exacerbate the global price impact of food production shocks and undermine confidence in international food markets. Finally, given that trade is not a hedge against *global* food supply shocks, governments must take alternative measures that stimulate sufficient strategic food reserves at the regional level and encourage the development and adoption of more climate-resilient crops and production methods.

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	
	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
Europe	**–5.2**	**4.5**	**3.9**	**2.0**	**3.1**	**2.7**	**1.8**	**2.2**	**2.1**	**. . .**	**. . .**	**. . .**
Advanced Europe	**–6.8**	**4.5**	**4.0**	**0.4**	**1.4**	**1.3**	**2.2**	**2.5**	**2.4**	**7.1**	**8.0**	**7.8**
Euro Area[4,5]	–6.6	4.4	3.8	0.3	1.4	1.2	2.3	2.8	2.7	7.9	8.7	8.5
Germany	–4.9	3.6	3.4	0.4	2.2	1.1	7.1	7.6	7.0	4.2	4.4	3.7
France	–8.2	5.8	4.2	0.5	1.1	1.2	–2.3	–2.1	–1.8	8.2	9.1	9.2
Italy	–8.9	4.2	3.6	–0.1	0.8	0.9	3.6	3.5	3.4	9.1	10.3	11.6
Spain	–11.0	6.4	4.7	–0.3	1.0	1.3	0.7	1.0	1.9	15.5	16.8	15.8
The Netherlands	–3.8	3.5	3.0	1.1	1.4	1.5	10.0	9.0	8.9	3.8	4.9	4.7
Belgium	–6.4	4.0	3.1	0.4	1.7	1.9	–0.7	–0.9	–1.5	5.6	6.8	6.6
Austria	–6.6	3.5	4.0	1.4	1.6	1.8	2.3	2.4	2.5	5.3	5.5	5.3
Ireland	2.5	4.2	4.8	–0.5	1.6	1.9	4.6	7.0	6.9	5.6	6.8	5.7
Portugal	–7.6	3.9	4.8	–0.1	0.9	1.2	–1.2	–0.6	0.3	6.8	7.7	7.3
Greece	–8.2	3.8	5.0	–1.3	0.2	0.8	–7.4	–6.6	–3.5	16.4	16.6	15.2
Finland	–2.9	2.3	2.5	0.4	1.4	1.5	0.8	1.5	1.4	7.8	8.6	7.9
Slovak Republic	–5.2	4.7	4.4	2.0	1.2	1.9	–0.4	–1.2	–2.0	6.7	7.3	6.7
Lithuania	–0.8	3.2	3.2	1.1	1.5	1.9	7.9	6.2	4.8	8.9	8.4	7.6
Slovenia	–5.5	3.7	4.5	–0.1	0.8	1.5	7.3	6.9	6.6	5.1	5.4	5.0
Luxembourg	–1.3	4.1	3.6	0.0	0.9	1.8	4.4	4.9	4.9	6.3	6.7	6.4
Latvia	–3.6	3.9	5.2	0.1	2.1	2.2	3.0	0.5	0.2	8.2	7.2	6.7
Estonia	–2.9	3.4	4.2	–0.6	1.8	2.5	–1.0	0.4	–0.5	6.8	7.1	6.5
Cyprus	–5.1	3.0	3.9	–1.1	0.5	0.8	–10.3	–8.5	–6.1	7.6	7.5	7.0
Malta	–7.0	4.7	5.6	0.8	1.1	1.4	–0.6	0.2	1.2	4.3	4.3	4.1
United Kingdom	–9.9	5.3	5.1	0.9	1.5	1.9	–3.9	–3.9	–4.0	4.5	6.1	6.1
Switzerland	–3.0	3.5	2.8	–0.7	0.1	0.3	3.8	6.7	7.5	3.1	3.5	3.4
Sweden	–2.8	3.1	3.0	0.7	1.5	1.2	5.2	5.0	4.7	8.3	8.7	8.4
Czech Republic	–5.6	4.2	4.3	3.2	2.3	2.0	3.5	0.9	0.1	2.7	3.4	3.2
Norway	–0.8	3.9	4.0	1.3	2.2	2.0	2.5	5.4	4.8	4.6	4.3	4.0
Denmark	–3.3	2.8	2.9	0.3	1.1	1.4	7.9	8.0	7.8	5.6	5.6	5.5
Iceland	–6.6	3.7	3.6	2.9	3.2	2.5	1.0	1.0	1.7	6.4	6.0	5.0
San Marino	–9.7	4.5	3.4	0.2	0.8	0.9	1.9	1.1	1.1	7.3	6.6	6.4
Emerging and Developing Europe[6]	**–2.0**	**4.4**	**3.9**	**5.4**	**6.5**	**5.4**	**0.0**	**0.6**	**0.4**	**. . .**	**. . .**	**. . .**
Russia	–3.1	3.8	3.8	3.4	4.5	3.4	2.2	3.9	3.3	5.8	5.4	5.0
Turkey[7]	1.8	6.0	3.5	12.3	13.6	11.8	–5.1	–3.4	–2.2	13.1	12.4	11.0
Poland	–2.7	3.5	4.5	3.4	3.2	2.5	3.5	2.0	1.3	3.2	4.9	4.5
Romania	–3.9	6.0	4.8	2.6	2.8	2.1	–5.1	–5.0	–4.7	5.0	4.9	4.9
Ukraine[7]	–4.2	4.0	3.4	2.7	7.9	6.8	4.3	–2.5	–3.6	9.0	8.6	8.4
Hungary	–5.0	4.3	5.9	3.3	3.6	3.5	–0.2	–0.4	–0.3	4.1	3.8	3.5
Belarus	–0.9	–0.4	0.8	5.5	6.9	5.5	0.1	–0.3	–1.7	4.1	4.5	4.4
Bulgaria[5]	–3.8	4.4	4.4	1.2	1.0	2.0	0.1	1.4	1.2	5.2	4.8	4.4
Serbia	–1.0	5.0	4.5	1.7	2.2	2.4	–4.3	–5.7	–5.5	13.3	13.0	12.7
Croatia	–9.0	4.7	5.0	0.3	0.7	1.2	–3.5	–2.3	–1.6	9.2	9.4	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 A5 and A6 in the Statistical Appendix.

[2]Percent of GDP.

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

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

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

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

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

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

(Annual percent change, unless noted otherwise)

	Real GDP			Consumer Prices[1]			Current Account Balance[2]			Unemployment[3]		
		Projections			Projections			Projections			Projections	
	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
Asia	**–1.5**	**7.6**	**5.4**	**2.5**	**2.0**	**2.3**	**2.6**	**2.2**	**1.8**	**. . .**	**. . .**	**. . .**
Advanced Asia	**–3.1**	**4.1**	**3.0**	**0.2**	**0.7**	**1.0**	**4.6**	**4.6**	**4.3**	**3.6**	**3.7**	**3.3**
Japan	–4.8	3.3	2.5	0.0	0.1	0.7	3.3	3.6	3.2	2.8	2.8	2.4
Korea	–1.0	3.6	2.8	0.5	1.4	0.9	4.6	4.2	4.0	3.9	4.6	4.1
Australia	–2.4	4.5	2.8	0.9	1.7	1.6	2.5	2.4	1.0	6.5	6.0	5.5
Taiwan Province of China	3.1	4.7	3.0	–0.2	0.9	1.2	14.1	14.5	14.4	3.9	3.8	3.8
Singapore	–5.4	5.2	3.2	–0.2	0.2	0.8	17.6	14.6	14.4	3.1	2.8	2.5
Hong Kong SAR	–6.1	4.3	3.8	0.3	1.4	1.9	6.5	5.5	5.0	5.9	5.3	4.3
New Zealand	–3.0	4.0	3.2	1.7	1.8	1.6	–0.8	–2.1	–2.1	4.6	5.1	4.9
Macao SAR	–56.3	61.2	43.0	0.8	1.4	1.9	–34.2	7.3	29.5	2.9	2.5	2.1
Emerging and Developing Asia	**–1.0**	**8.6**	**6.0**	**3.1**	**2.3**	**2.7**	**1.7**	**1.0**	**0.7**	**. . .**	**. . .**	**. . .**
China	2.3	8.4	5.6	2.4	1.2	1.9	2.0	1.6	1.3	3.8	3.6	3.6
India[4]	–8.0	12.5	6.9	6.2	4.9	4.1	1.0	–1.2	–1.6	. . .	. . .	. . .
ASEAN-5	**–3.4**	**4.9**	**6.1**	**1.4**	**2.3**	**2.7**	**1.8**	**0.3**	**0.4**	**. . .**	**. . .**	**. . .**
Indonesia	–2.1	4.3	5.8	2.0	2.0	3.1	–0.4	–1.3	–1.4	7.1	6.5	5.8
Thailand	–6.1	2.6	5.6	–0.8	1.3	1.0	3.3	0.5	2.6	2.0	1.5	1.0
Vietnam	2.9	6.5	7.2	3.2	3.9	3.9	2.2	2.4	1.9	3.3	2.7	2.4
Philippines	–9.5	6.9	6.5	2.6	3.4	3.0	3.2	–0.4	–2.2	10.4	7.4	6.3
Malaysia	–5.6	6.5	6.0	–1.1	2.0	2.0	4.4	3.8	3.7	4.5	3.8	3.6
Other Emerging and Developing Asia[5]	**–1.1**	**4.5**	**5.7**	**5.2**	**5.0**	**5.3**	**–2.0**	**–1.5**	**–2.4**	**. . .**	**. . .**	**. . .**
Memorandum												
Emerging Asia[6]	–1.0	8.7	6.0	3.0	2.2	2.5	1.9	1.1	0.8	. . .	. . .	. . .

Source: IMF staff estimates.

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

[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A5 and A6 in the Statistical Appendix.

[2]Percent of GDP.

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

[4]See 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, Marshall Islands, Micronesia, Mongolia, Myanmar, Nauru, Nepal, Palau, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Timor-Leste, Tonga, Tuvalu, and Vanuatu.

[6]Emerging Asia comprises the ASEAN-5 economies, China, and India.

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	
	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
North America	**–4.1**	**6.1**	**3.5**	**1.4**	**2.3**	**2.4**	**–2.8**	**–3.4**	**–2.7**	**. . .**	**. . .**	**. . .**
United States	–3.5	6.4	3.5	1.2	2.3	2.4	–3.1	–3.9	–3.1	8.1	5.8	4.2
Mexico	–8.2	5.0	3.0	3.4	3.5	3.1	2.5	1.8	1.0	4.4	3.6	3.3
Canada	–5.4	5.0	4.7	0.7	1.7	2.0	–1.9	–0.8	–1.3	9.6	8.0	6.5
Puerto Rico[4]	–7.5	2.5	0.7	–1.3	2.5	1.5	. . .	. . .	. . .	8.6	9.6	9.4
South America[5]	**–6.6**	**4.4**	**2.8**	**8.1**	**9.2**	**8.4**	**–0.6**	**–0.4**	**–0.8**	**. . .**	**. . .**	**. . .**
Brazil	–4.1	3.7	2.6	3.2	4.6	4.0	–0.9	–0.6	–0.8	13.2	14.5	13.2
Argentina	–10.0	5.8	2.5	42.0	. . .	. . .	1.0	2.3	1.3	11.4	10.6	9.3
Colombia	–6.8	5.1	3.6	2.5	2.1	2.6	–3.3	–3.8	–3.9	16.1	12.8	12.3
Chile	–5.8	6.2	3.8	3.0	3.1	3.0	1.4	0.3	–0.6	10.8	9.0	8.2
Peru	–11.1	8.5	5.2	1.8	2.0	2.0	0.5	–0.4	–0.7	13.6	9.7	7.6
Ecuador	–7.5	2.5	1.3	-0.3	0.5	2.4	0.5	1.9	2.0	5.3	4.5	4.4
Venezuela	–30.0	–10.0	–5.0	2,355	5,500	5,500	–3.5	–0.8	–2.3	55.5	58.4	60.1
Bolivia	–7.7	5.5	4.2	0.9	3.9	3.7	–2.5	–3.7	–4.2	8.0	4.0	4.0
Paraguay	–0.9	4.0	4.0	1.8	2.7	3.2	1.6	0.7	0.0	6.6	6.1	5.9
Uruguay	–5.7	3.0	3.1	9.8	8.3	7.4	–1.4	–2.2	–1.5	10.4	10.3	9.1
Central America[6]	**–7.2**	**5.6**	**4.1**	**1.9**	**3.1**	**2.8**	**0.4**	**–1.6**	**–1.8**	**. . .**	**. . .**	**. . .**
Caribbean[7]	**–4.3**	**3.3**	**11.1**	**7.7**	**8.4**	**7.5**	**–4.7**	**–5.6**	**–3.2**	**. . .**	**. . .**	**. . .**
Memorandum												
Latin America and the Caribbean[8]	–7.0	4.6	3.1	6.4	7.2	6.6	0.2	0.0	–0.4	. . .	. . .	. . .
Eastern Caribbean Currency Union[9]	–16.0	–0.2	9.3	–0.6	1.6	1.7	–15.3	–21.6	–12.5	. . .	. . .	. . .

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 A5 and A6 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 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, 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 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	
	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
Middle East and Central Asia	**–2.9**	**3.7**	**3.8**	**10.2**	**11.2**	**8.1**	**–3.0**	**0.3**	**0.1**	**. . .**	**. . .**	**. . .**
Oil Exporters[4]	**–4.2**	**4.6**	**3.4**	**8.2**	**10.4**	**7.8**	**–2.7**	**2.1**	**1.7**	**. . .**	**. . .**	**. . .**
Saudi Arabia	–4.1	2.9	4.0	3.4	2.7	2.0	–2.1	2.8	1.9	. . .	. . .	. . .
Iran	1.5	2.5	2.1	36.5	39.0	27.5	–0.7	1.2	1.2	10.8	11.2	11.7
United Arab Emirates	–5.9	3.1	2.6	–2.1	2.9	1.2	3.1	7.1	6.3	. . .	. . .	. . .
Algeria	–6.0	2.9	2.7	2.4	4.9	6.0	–10.5	–7.7	–8.7	14.2	14.5	14.9
Kazakhstan	–2.6	3.2	4.0	6.8	6.4	5.0	–3.6	–1.0	–1.5	5.5	5.2	5.0
Iraq	–10.9	1.1	4.4	0.6	9.4	7.5	–14.8	0.0	–0.6	. . .	. . .	. . .
Qatar	–2.6	2.4	3.6	–2.7	2.4	2.9	–3.4	7.1	7.9	. . .	. . .	. . .
Kuwait	–8.1	0.7	3.2	2.1	2.3	2.5	0.8	8.6	8.2	. . .	. . .	. . .
Azerbaijan	–4.3	2.3	1.7	2.8	3.5	3.2	–0.9	1.1	0.5	6.5	5.8	5.7
Oman	–6.4	1.8	7.4	–0.9	3.8	2.4	–10.0	–6.4	–2.7	. . .	. . .	. . .
Turkmenistan	0.8	4.6	3.9	7.6	8.0	6.5	–0.5	0.8	–0.1	. . .	. . .	. . .
Oil Importers[5]	**–0.7**	**2.4**	**4.4**	**13.3**	**12.5**	**8.6**	**–3.8**	**–4.4**	**–4.2**	**. . .**	**. . .**	**. . .**
Egypt	3.6	2.5	5.7	5.7	4.8	7.2	–3.1	–4.0	–4.0	8.3	9.8	9.4
Pakistan	–0.4	1.5	4.0	10.7	8.7	8.0	–1.1	–1.5	–1.8	4.5	5.0	4.8
Morocco	–7.0	4.5	3.9	0.6	0.8	1.2	–2.2	–3.8	–4.0	11.9	10.5	9.7
Uzbekistan	1.6	5.0	5.3	12.9	10.3	11.2	–5.4	–6.4	–5.9	. . .	. . .	. . .
Sudan	–3.6	0.4	1.1	163.3	197.1	44.5	–17.5	–11.2	–13.5	26.8	28.4	29.7
Tunisia	–8.8	3.8	2.4	5.7	5.8	6.3	–6.8	–9.5	–9.4	. . .	. . .	. . .
Jordan	–2.0	2.0	2.7	0.4	2.3	2.0	–8.1	–8.3	–4.0	22.7	. . .	. . .
Lebanon[6]	–25.0	. . .	. . .	88.2	. . .	. . .	–14.3	. . .	. . .	. . .	. . .	. . .
Afghanistan	–5.0	4.0	4.5	5.6	5.1	4.5	10.7	10.0	8.3	. . .	. . .	. . .
Georgia	–6.1	3.5	5.8	5.2	3.8	2.7	–12.3	–11.5	–8.0	. . .	. . .	. . .
Armenia	–7.6	1.0	3.5	1.2	3.9	3.2	–4.6	–6.7	–6.6	24.2	22.8	22.7
Kyrgyz Republic	–8.0	6.0	4.6	6.3	8.6	5.4	–8.2	–8.2	–7.0	6.6	6.6	6.6
Tajikistan	4.5	5.0	4.5	8.6	8.0	6.5	–2.3	–2.2	–2.1	. . .	. . .	. . .
Memorandum												
Caucasus and Central Asia	–1.9	3.7	4.1	7.4	6.9	6.2	–3.6	–2.1	–2.3	. . .	. . .	. . .
Middle East, North Africa, Afghanistan, and Pakistan	–3.0	3.7	3.8	10.6	11.8	8.4	–3.0	0.6	0.3	. . .	. . .	. . .
Middle East and North Africa	–3.4	4.0	3.7	10.6	12.4	8.5	–3.2	0.7	0.4	. . .	. . .	. . .
Israel[7]	–2.4	5.0	4.3	–0.6	0.3	0.6	4.9	4.1	3.8	4.3	5.0	4.6
Maghreb[8]	–8.8	14.7	3.3	3.0	4.9	5.3	–7.3	–5.9	–6.5	. . .	. . .	. . .
Mashreq[9]	1.4	2.0	5.2	8.4	7.2	7.5	–4.3	–5.1	–4.4	. . .	. . .	. . .

Source: IMF staff estimates.

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

[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Tables A5 and A6 in the Statistical Appendix.

[2]Percent of GDP.

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

[4]Includes Bahrain, Libya, and Yemen.

[5]Includes Djibouti, Mauritania, Somalia, and West Bank and Gaza. Excludes Syria because of the uncertain political situation. See country-specific note for Lebanon in the "Country Notes" section of the Statistical Appendix.

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

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

[8]The Maghreb comprises Algeria, Libya, Mauritania, Morocco, and Tunisia.

[9]The Mashreq comprises Egypt, Jordan, Lebanon, and West Bank and Gaza. Syria is excluded because of the uncertain political situation.

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	
	2020	2021	2022	2020	2021	2022	2020	2021	2022	2020	2021	2022
Sub-Saharan Africa	**–1.9**	**3.4**	**4.0**	**10.8**	**9.8**	**7.8**	**–3.7**	**–3.7**	**–3.7**	**. . .**	**. . .**	**. . .**
Oil Exporters[4]	**–2.3**	**2.2**	**2.2**	**13.9**	**16.0**	**12.7**	**–3.6**	**–2.0**	**–1.6**	**. . .**	**. . .**	**. . .**
Nigeria	–1.8	2.5	2.3	13.2	16.0	13.5	–3.7	–2.2	–1.8	. . .	. . .	. . .
Angola	–4.0	0.4	2.4	22.3	22.3	13.1	–0.6	0.8	0.5	. . .	. . .	. . .
Gabon	–1.8	1.2	2.7	1.3	2.0	2.0	–5.1	–0.3	–0.2	. . .	. . .	. . .
Chad	–0.9	1.8	2.6	3.5	3.0	3.0	–8.8	–6.6	–6.3	. . .	. . .	. . .
Equatorial Guinea	–5.8	4.0	–5.9	4.8	1.5	3.1	–8.4	–3.6	–4.4	. . .	. . .	. . .
Middle-Income Countries[5]	**–4.4**	**3.8**	**3.5**	**4.5**	**4.9**	**4.7**	**–1.1**	**–2.3**	**–2.9**	**. . .**	**. . .**	**. . .**
South Africa	–7.0	3.1	2.0	3.3	4.3	4.5	2.2	–0.4	–1.5	29.2	29.7	30.8
Ghana	0.9	4.6	6.1	9.9	9.0	8.2	–3.3	–2.8	–4.9	. . .	. . .	. . .
Côte d'Ivoire	2.3	6.0	6.5	2.5	2.0	1.6	–3.6	–3.6	–3.4	. . .	. . .	. . .
Cameroon	–2.8	3.4	4.3	2.8	2.2	2.1	–5.3	–4.4	–3.2	. . .	. . .	. . .
Zambia	–3.5	0.6	1.1	16.3	17.8	14.8	1.5	6.5	5.6	. . .	. . .	. . .
Senegal	0.8	5.2	6.0	2.5	2.0	1.7	–11.0	–12.8	–11.7	. . .	. . .	. . .
Low-Income Countries[6]	**1.0**	**4.3**	**6.1**	**14.2**	**8.6**	**6.0**	**–6.8**	**–7.1**	**–7.1**	**. . .**	**. . .**	**. . .**
Ethiopia	6.1	2.0	8.7	20.4	13.1	8.0	–4.6	–3.6	–3.9	. . .	. . .	. . .
Kenya	–0.1	7.6	5.7	5.3	5.0	5.0	–4.8	–5.3	–5.4	. . .	. . .	. . .
Tanzania	1.0	2.7	4.6	3.0	3.3	3.6	–2.7	–4.3	–4.0	. . .	. . .	. . .
Uganda	–2.1	6.3	5.0	3.8	5.2	5.5	–9.1	–8.4	–5.7	. . .	. . .	. . .
Democratic Republic of the Congo	–0.1	3.8	4.9	11.3	10.9	7.5	–4.0	–3.4	–3.4	. . .	. . .	. . .
Mali	–2.0	4.0	6.0	0.6	1.7	2.0	–2.0	–4.1	–4.4	. . .	. . .	. . .
Burkina Faso	0.8	4.3	5.2	1.9	2.7	2.6	–3.7	–4.5	–4.8	. . .	. . .	. . .

Source: IMF staff estimates.

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

[1]Movements in consumer prices are shown as annual averages. Year-end to year-end changes can be found in Table A6 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 Botswana, Cabo Verde, Eswatini, Lesotho, Mauritius, Namibia, and Seychelles.

[6]Includes Benin, Burundi, Central African Republic, Comoros, Eritrea, The Gambia, Guinea, Guinea-Bissau, Liberia, Madagascar, Malawi, Mozambique, Niger, Rwanda, São Tomé and Príncipe, 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	
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
World	**2.5**	**2.0**	**2.2**	**2.1**	**2.0**	**2.5**	**2.4**	**1.6**	**–4.4**	**4.9**	**3.4**
Advanced Economies	**1.0**	**0.9**	**1.6**	**1.9**	**1.2**	**2.0**	**1.9**	**1.2**	**–5.1**	**4.8**	**3.3**
United States	1.0	1.2	1.8	2.3	1.0	1.7	2.4	1.7	–4.0	5.8	2.9
Euro Area[1]	0.5	–0.5	1.1	1.7	1.6	2.4	1.7	1.1	–6.9	4.3	3.7
Germany	1.3	0.2	1.8	0.6	1.4	2.2	1.0	0.3	–5.0	3.4	3.3
France	0.6	0.1	0.4	0.7	0.8	2.0	1.5	1.3	–8.4	5.5	3.9
Italy	–0.7	–2.4	–0.5	0.8	1.5	1.8	1.1	0.5	–8.7	4.3	3.7
Spain	–0.2	–1.1	1.7	3.9	2.9	2.8	2.0	1.1	–11.0	6.3	4.3
Japan	0.7	2.2	0.5	1.7	0.8	1.8	0.8	0.5	–4.5	3.6	2.9
United Kingdom	0.7	1.5	2.1	1.6	0.9	1.1	0.6	0.9	–10.3	4.8	4.6
Canada	0.8	1.3	1.8	–0.1	0.0	1.8	1.0	0.4	–6.5	4.2	3.5
Other Advanced Economies[2]	2.6	1.8	2.2	1.5	1.7	2.4	2.0	1.2	–2.9	3.8	2.9
Emerging Market and Developing Economies	**4.8**	**3.5**	**3.1**	**2.8**	**3.0**	**3.4**	**3.2**	**2.3**	**–3.5**	**5.3**	**3.8**
Emerging and Developing Asia	7.4	5.9	5.9	5.9	5.8	5.7	5.6	4.4	–1.9	7.7	5.2
China	10.0	7.2	6.9	6.5	6.2	6.4	6.3	5.5	2.0	8.1	5.3
India[3]	6.3	5.1	6.2	6.8	7.1	5.7	5.4	2.9	–8.7	11.5	5.9
ASEAN-5[4]	4.1	3.7	3.4	3.7	3.9	4.3	4.2	3.7	–4.6	4.0	5.1
Emerging and Developing Europe	4.5	2.8	1.5	0.5	1.6	3.9	3.3	2.3	–2.2	4.3	3.8
Russia	4.9	1.5	–1.1	–2.2	0.0	1.8	2.9	2.1	–3.1	3.8	3.8
Latin America and the Caribbean	2.6	1.7	0.1	–0.8	–1.8	0.2	0.2	–1.1	–8.1	3.7	2.3
Brazil	2.7	2.1	–0.3	–4.4	–4.1	0.5	1.0	0.6	–4.6	3.0	1.9
Mexico	0.8	0.1	1.6	2.1	1.5	1.0	1.1	–1.0	–9.1	4.0	2.1
Middle East and Central Asia	2.4	0.4	0.5	0.5	2.4	0.0	–0.2	–0.6	–5.1	1.2	1.9
Saudi Arabia	2.2	0.0	2.5	1.7	–0.6	–3.3	0.0	–1.6	–6.0	0.9	2.0
Sub-Saharan Africa	2.7	2.3	2.5	0.5	–1.2	0.4	0.5	0.5	–4.5	0.8	1.3
Nigeria	4.9	2.6	3.5	0.0	–4.2	–1.8	–0.7	–0.4	–4.3	0.0	–0.2
South Africa	2.0	0.9	0.3	–0.3	–1.1	–0.1	–0.7	–1.3	–8.3	1.6	0.4
Memorandum											
European Union	1.0	–0.2	1.5	2.1	1.9	2.8	2.1	1.5	–6.3	4.2	3.8
Middle East and North Africa	1.7	–0.5	–0.2	0.2	2.6	–1.0	–1.0	–1.3	–5.8	1.3	1.8
Emerging Market and Middle-Income Economies	5.1	3.7	3.3	3.0	3.3	3.6	3.5	2.4	–3.4	5.9	4.1
Low-Income Developing Countries	3.6	3.5	3.8	2.1	1.5	2.6	2.7	2.9	–2.2	2.0	3.0

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

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

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

[4]Indonesia, Malaysia, Philippines, Thailand, Vietnam.

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CHAPTER 2

AFTER-EFFECTS OF THE COVID-19 PANDEMIC: PROSPECTS FOR MEDIUM-TERM ECONOMIC DAMAGE

The COVID-19 pandemic has led to a severe global recession with differential impacts within and across countries. A key question facing policymakers is the extent of persistent damage (scarring) that may result from this crisis. This chapter examines the possible persistent effects of the pandemic and the channels through which they may occur. History suggests that deep recessions often leave long-lived scars, particularly to productivity. Importantly, financial instabilities—typically associated with worse scarring—have been largely avoided in the current crisis so far. The concentration of the pandemic's initial impact on more highly contact-intensive service sectors has generated lower sectoral spillovers than in most previous recessions, but its sheer size means that it still represents a large shock to the broader economy. Expected medium-term output losses from the pandemic are substantial, with output for the world in 2024 expected to be about 3 percent lower than anticipated pre-pandemic. Losses are anticipated to be lower than after the global financial crisis, assuming that the pandemic is brought under control globally by the end of 2022. The degree of expected scarring varies across countries, depending on the structure of economies and the size of the policy response. Emerging market and developing economies are expected to suffer more scarring than advanced economies. To limit scarring, policymakers should continue to provide support to the most-affected sectors and workers while the pandemic is ongoing. Remedial policies for the setback to human capital accumulation, measures to lift investment, and initiatives to support reallocation (retraining, reskilling, and insolvency procedures) will be key to address long-term GDP losses and the rise in inequality.

Introduction

A crisis like no other. The COVID-19 pandemic has led to a severe global recession that is unique in many ways. The contraction in 2020 was very sudden and deep compared with previous global crises, even as the policy response in many countries was swift and sizable. Global output declined about three times as much as during the global financial crisis in half the time. The pandemic crisis also stands out for its differential impacts across sectors and countries, complex channels of transmission, and high uncertainty about the recovery path, given that it depends on the fate of the virus itself.

An extraordinary policy response. The policy response has also been unprecedented—both in size, particularly in advanced economies, and in the use of novel "lifeline" measures akin to disaster relief, to improve health care systems and lessen the pain for households, workers, and firms.[1] About 40 percent of the fiscal response in Group of 20 (G20) advanced economies (30 percent in G20 emerging market economies) was directed to firms and initiatives to preserve employment.[2] Support in emerging markets and developing economies has been generally more limited (see the April 2021 *Fiscal Monitor*).

Exceptional uncertainty. Continued uncertainty about the duration of the health crisis affects all aspects of the recovery path. Moreover, questions about the potential permanent effects of the shock become more prominent as the pandemic persists: how much scarring (persistent damage to supply potential) could occur?[3] With COVID-19 now continuing for more than one year, some degree of supply-side scarring from decreased productive

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[1]Numerous monetary and financial sector policies were deployed to support credit provision and provide liquidity to firms (see the October 2020 *Global Financial Stability Report* (GFSR)). Fiscal measures included transfers, expanded unemployment benefits, temporary tax cuts and deferrals, wage subsidies, direct and guaranteed loans, and equity injections (see the October 2020 *Fiscal Monitor)*.

[2]Including above-the-line measures, such as grants and tax deferrals and reductions, and below-the-line equity injections and loans, but excluding government credit guarantees. The size and composition of the fiscal response varied across countries.

[3]Such supply damage could result from the loss of economic ties in production and distribution networks arising from job destruction and firm bankruptcies.

capacity and demand-side persistent preference shifts is likely. This will differ across countries, as the extent of the health crisis interacts with countries' economic structures (such as the importance of "high-contact" sectors, where people are in close proximity) and varying policy responses.

What are the main channels of scarring and implications for the medium-term outlook? The atypical features of the crisis—its severity, differential impacts, complex transmission, and high uncertainty—make assessment of the economic effects of COVID-19 challenging. To shed light on these issues, this chapter investigates the following questions:

1. What can we learn about prospects for scarring from historical experience with recessions? What are the most relevant channels in the current setting (productivity, labor, capital)?
2. How important are sectoral spillovers in propagating shocks to the broader economy? How relevant are such effects in the current crisis?
3. Given (1) and (2), what are the implications for the medium-term outlook?

The main findings of the chapter are the following:

- *The prospects for scarring from COVID-19 are substantial, even if lower than after the global financial crisis*. Severe recessions in the past, particularly deep ones, have been associated with persistent output losses. The relative financial stability following the COVID-19 shock so far is encouraging, however, as the greatest scarring in the past has occurred in recessions associated with financial crises.[4] Experience from previous recessions also suggests that the productivity channel could be particularly important, as recessions have typically been followed by persistent losses to total factor productivity (TFP).
- *Sectoral productivity shocks have persistent effects and sectoral spillovers have been an important amplification mechanism.*[5] On average, sectors have not recovered after productivity shocks in the past, demonstrating the potential for permanent declines in sectors most affected by the COVID-19 shock. Although the relative size of sectoral spillovers (compared with the effect of shocks within the same sector) is smaller for the COVID-19 shock than in past recessions (given that high-contact sectors are less central to production networks), spillovers are still sizable and are likely to have meaningfully amplified the COVID-19 shock.
- *Expected medium-term output losses from the pandemic shock are sizable, but they exhibit significant variation across economies and regions*. Despite higher-than-usual growth as the global economy recovers from the COVID-19 shock, world output is still anticipated to be about 3 percent lower in 2024 than pre-pandemic projections suggested. This expected scarring is less than what was seen following the global financial crisis, consistent with financial sector disruptions being contained in the current crisis. Unlike during the global financial crisis, when advanced economies were much more affected, emerging market and developing economies are expected to have deeper scars than advanced economies. This reflects in part their more muted policy responses, as countries with larger pandemic-related fiscal responses are projected to experience smaller losses. After accounting for income differences, economies that are more reliant on tourism, and those with larger service sectors, are projected to experience more persistent losses.

After a brief primer on the economic impacts of supply versus demand shocks in the context of the pandemic, this chapter turns to the analysis of previous recessions and channels through which scarring occurred. Then, to better understand how a large and uneven shock, such as that of the COVID-19 pandemic, can transmit through domestic and global supply chains, the section that follows examines historical sectoral shocks and their spillovers to other sectors. The next section examines the implications for the medium-term outlook. The penultimate section draws together the implications for policies to limit scarring from the crisis. The chapter concludes with a summary of the main takeaways.

[4]While the global financial system has been resilient so far during the pandemic, some stresses are emerging, with asset valuations appearing stretched, financial vulnerabilities intensifying in some sectors, and loan defaults potentially increasing in 2021 as debt service moratoriums expire. A repricing of risk in markets and resultant tightening in financial conditions could interact with such vulnerabilities, further affecting confidence and endangering macro-financial stability (see Chapters 1 and 2 of the April 2021 GFSR).

[5]The analysis considers sector level changes to TFP, which reflects technology changes as well as the efficiency of combining inputs in the production process.

Table 2.1 Differential Impact across Sectors

High-contact, affected sectors
Effectively shut down
For example, hotels, restaurants, transportation, brick-and-mortal retail
Supply and demand collapsed simultaneously.
High-contact, less-affected sectors
Essential services and outdoor activities
For example, health services, grocery stores, construction
In some, supply was constrained and demand increased.
Low-contact service sectors
Shifted quickly to online delivery
For example, professional and business services
Supply was largely unaffected, but demand decreased.
Other low-contact sectors
For example, manufacturing
Supply was constrained; demand increased or decreased depending on subsector.

Source: IMF staff compilation.

Demand and Supply in a Low-Contact Economy: A Primer on the Pandemic Shock

Given the unique nature of the crisis, a brief exploration of the supply and demand shocks at play can help outline the transmission of the pandemic's economic effects and its differential impacts across sectors and countries. Sectors can be grouped into four categories based on their contact intensity and vulnerability to disruption by the pandemic (Table 2.1). High-contact, affected sectors have been most severely impacted by lockdowns and other pandemic containment measures (Figure 2.1, panel 1), but the decline in activity was also sudden and severe in other sectors.

- *On the supply side*, lockdowns reduced effective productive capacity. Some businesses also experienced lower productivity because they had to reorganize production to increase the physical distance between workers. These initial sectoral supply shocks spilled over to affect supply in other sectors through links in production networks.[6]
- *Demand* fell due to reduced mobility and as precautionary savings rose amid heightened uncertainty. The initial supply shocks also propagated to a decline in demand.[7] This propagation was amplified in many cases by liquidity-constrained households and firms forced to cut back on outlays, leading to more layoffs and further declines in private spending.[8]

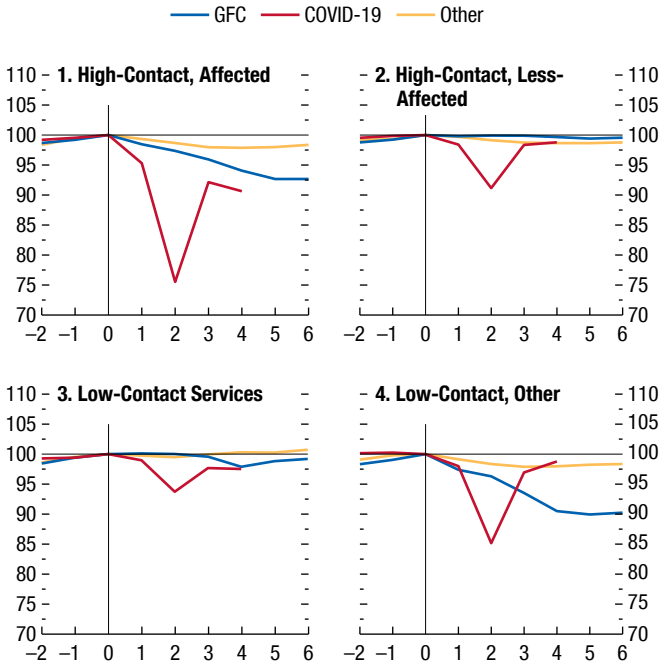
[6]See Baqaee and Farhi (2020) for an illustration.

[7]See Guerrieri and others (2020) and Baqaee and Farhi (2021) for models in which supply shocks can transform into Keynesian aggregate demand shocks.

[8]A large portion of the policy response was focused on mitigating household and firm liquidity constraints, but the number of households and firms in financial distress rose nonetheless in many countries following the COVID-19 outbreak. See Li and others (2020).

Figure 2.1. Value Added during Recessions, by Sector Group
(Index, last prerecession quarter = 100)

COVID-19 led to a sharp contraction. High-contact sectors have been most severely affected, but the contraction was also sudden and severe in other sectors.



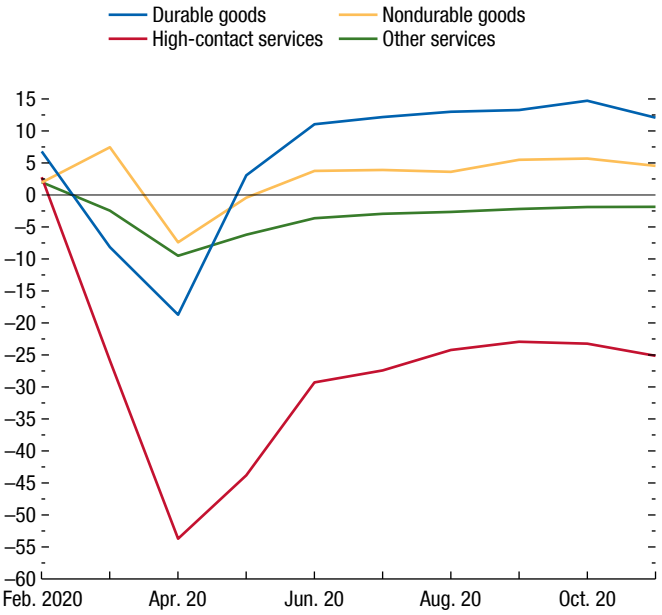
Sources: Organisation for Economic Co-operation and Development; US Bureau of Economic Analysis; and IMF staff calculations.
Note: Data are for 1990:Q1–2020:Q4 from 38 countries (the number of countries used for each recession line varies). Time since the shock (in quarters) is on the *x*-axis. Lines are averages weighted by country's purchasing-power-parity GDP, with quarter 0 as the last prerecession quarter. For the COVID-19 crisis, quarter 0 is 2019:Q4. For the global financial crisis (GFC), quarter 0 is the country-specific date of peak real GDP during 2007–08. Other recessions are country specific and identified by two consecutive quarters of negative growth during 1990–2006 and 2009–19. High-contact, affected sectors are accommodation and food services; arts, entertainment, and other service activities; wholesale and retail trade; and transportation; high-contact, less-affected sectors are construction; and public administration, education, and health care; low-contact services are information and communication; financial and insurance activities; real estate activities; and other professional and scientific activities; other low-contact sectors are agriculture; manufacturing; and mining and utilities.

Overall, the economic contraction in the first half of 2020 is best understood as a combination of a massive initial supply shock and a large decline in demand, with propagation through production networks. The swift action taken by policymakers cushioned household income and firms' cash flow, improved confidence, and prevented a rapid amplification of shocks through the financial sector and further demand channels.

Focusing on the case of the United States, for which detailed and timely data are available, a picture emerges of the relative strengths of the supply and

Figure 2.2. Consumption Patterns during COVID-19 in the United States
(Year-over-year percent change)

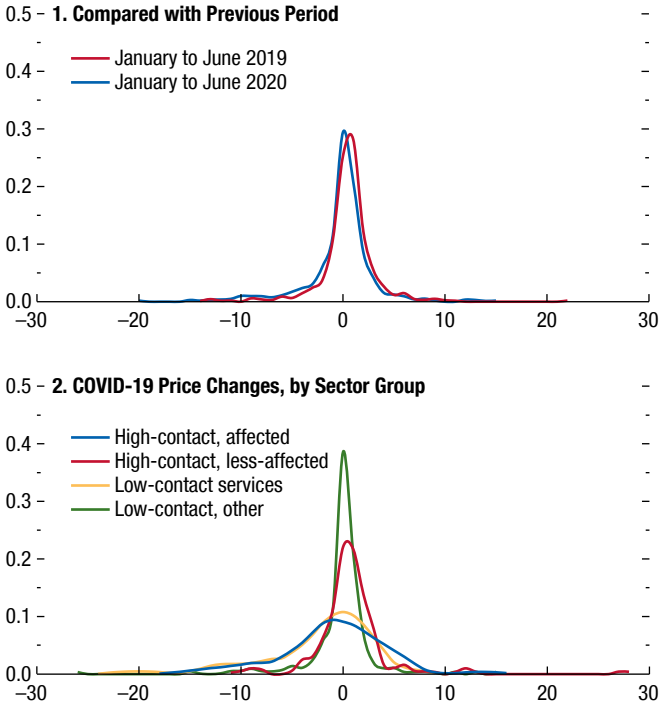
In the United States, an increase in durable goods consumption partially offset the decrease in consumption of high-contact services.



Sources: Haver Analytics; and IMF staff calculations.
Note: High-contact services are food, accommodation, recreation, and transportation services.

Figure 2.3. Sectoral Price Changes in the United States
(Kernel density)

Price movements have been muted overall, but there has been more dispersion in service sectors.



Sources: Bureau of Labor Statistics; and IMF staff calculations.
Note: Percent change in industry-level US producer prices on *x*-axis. Data are for the United States. In panel 2, price changes are from January to June 2020. See Table 2.1 for a description of the sector groups.

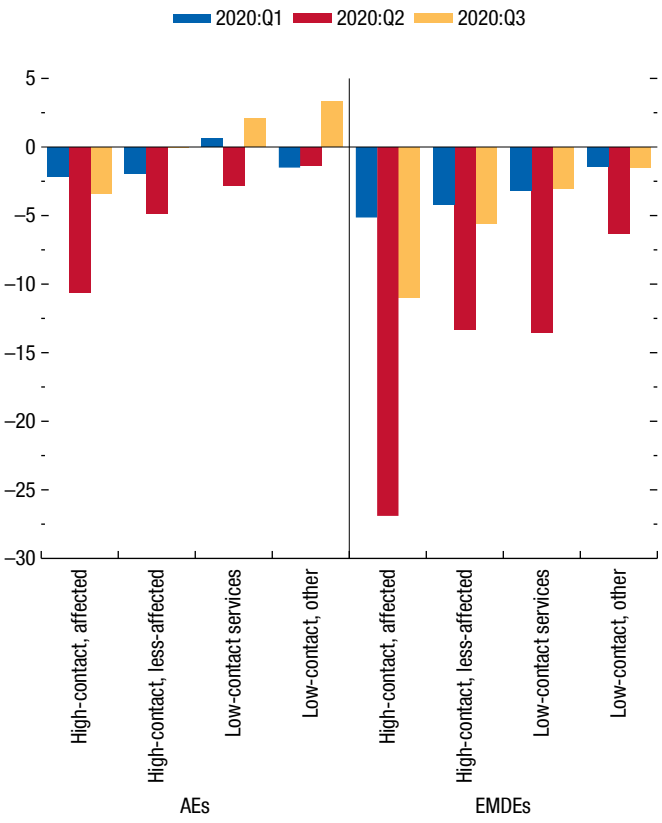
demand forces at work. While quantities purchased initially fell across the board (Figure 2.2), changes in prices have been relatively muted (Figure 2.3, panel 1). Price movements across four sector groupings point to differential impacts across sectors (Figure 2.3, panel 2). Wider dispersion in price movements is seen, for example, among the more-affected, high-contact sectors and among services more generally. Statistical decompositions of sectoral price variation suggest that supply shocks dominated, accounting for about two-thirds of the decrease in employment and output in the United States in the second quarter of 2020 (Bekaert, Engstrom, and Ermolov 2020; Brinca, Duarte, and Faria-e-Castro 2020), but with large demand shocks in the food services, accommodation, and tourism sectors (del Rio-Chanona and others 2020).

As a result of the differential impact across sectors, countries with a larger share of high-contact sectors have been more exposed to the pandemic recession and had larger contractions. Economic structure has also affected the effectiveness of the policy response; high informality in labor markets, for example, has made containment measures difficult and aggravated the crisis (see the October 2020 *Regional Economic Outlook: Western Hemisphere*). Countries dependent on tourism have been severely affected and are most vulnerable to the length of the crisis and travel-related restrictions (see Box 2.1). Within countries, the crisis has had uneven effects on workers and firms. Employment declines have been disproportionately concentrated among lower-skilled workers (see Chapter 3), while exits at small businesses appear to be increasing (Crane and others 2020; see also Figures 2.4 and 2.5).

As the pandemic has progressed, and lockdowns have been lifted and reimposed, sometimes for

Figure 2.4. Employment, by Sector Group
(Total hours worked, cumulative percent change from 2019:Q4)

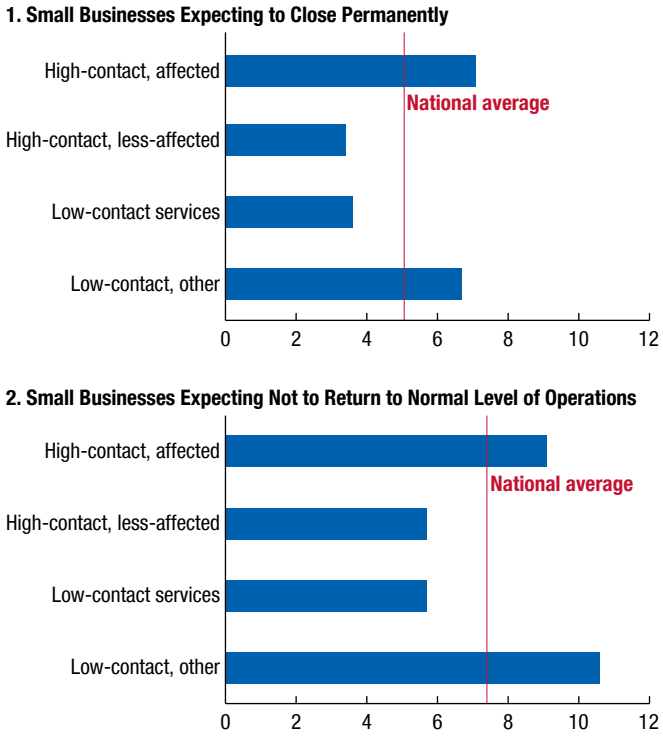
Employment fell in many economies in the first half of 2020 and has recovered less in high-contact sectors.



Sources: International Labour Organization; and IMF staff calculations.
Note: Data are from 43 economies (27 AEs, 16 EMDEs) for 2019:Q4–20:Q3.
AEs = advanced economies; EMDEs = emerging market and developing economies.

Figure 2.5. Impact on US Small Businesses
(Percent of businesses)

COVID-19 has affected small businesses in particular, with many more expecting to close or have a permanent decline in business.



Sources: US Census Bureau, Small Business Pulse Survey, January 4–10; and IMF staff calculations.
Note: The sample includes approximately 885,000 businesses from the United States. A small business is defined as a single location business with employment between 1 and 499.

narrower regions or in a less restrictive manner than in early 2020, the supply shocks have unwound to varying degrees across sectors. The effectiveness of measures taken by businesses to adapt to the lower-contact environment has also varied across sectors, leaving the remaining supply constraints highest in the high-contact sectors.

Overall, the potential for medium-term scarring from the pandemic in an economy appears related to the interplay of four elements: (1) the future path of the pandemic and associated containment measures, (2) the heavier impact of the pandemic shock on high-contact sectors, (3) the capability of businesses and workers to adapt to a lower-contact working environment and lower-contact transactions, and (4) the effectiveness of the policy response to limit economic damage. The chapter next examines the historical experience to get a better sense of the persistent effects of downturns (for typical recessions, financial crises, and pandemics), the channels—including propagation across sectors—by which they occur, and how the COVID-19 crisis may or may not be different.

Analysis of Historical Recessions

This section first looks at the aftermath of previous recessions, distinguishing between more typical downturns and those associated with financial crises and pandemics, to get a sense of how long lived their effects have tended to be and the supply-side channels

(capital, labor, and productivity) through which they manifest. It then analyzes the sectoral dimension of recessions and their propagation, focusing on how the production structure of an economy can amplify and spread an initial, more-concentrated adverse shock.

Prospects for Scarring from COVID-19 Are Substantial

Permanent damage to an economy's supply potential following a "typical" recession can occur through a number of channels.[9]

- First, unemployment may remain high even after the recession (Blanchard and Summers 1986) and could result in a smaller labor force as discouraged workers exit. Human capital accumulation and future earnings can be affected by skill deterioration during extended periods of unemployment, delayed labor market entry for young workers, and negative effects on educational achievement in the longer term.[10]
- Weak investment could result in slower physical capital accumulation and affect productivity through slower technology adoption.
- Productivity could also be permanently affected by the loss of firm-specific know-how as a result of bankruptcies and their spillovers (Bernstein and others 2019), the effects of a decline in research and development and innovation during the recession, and an increase in resource misallocation (see, for example, Furceri and others 2021).

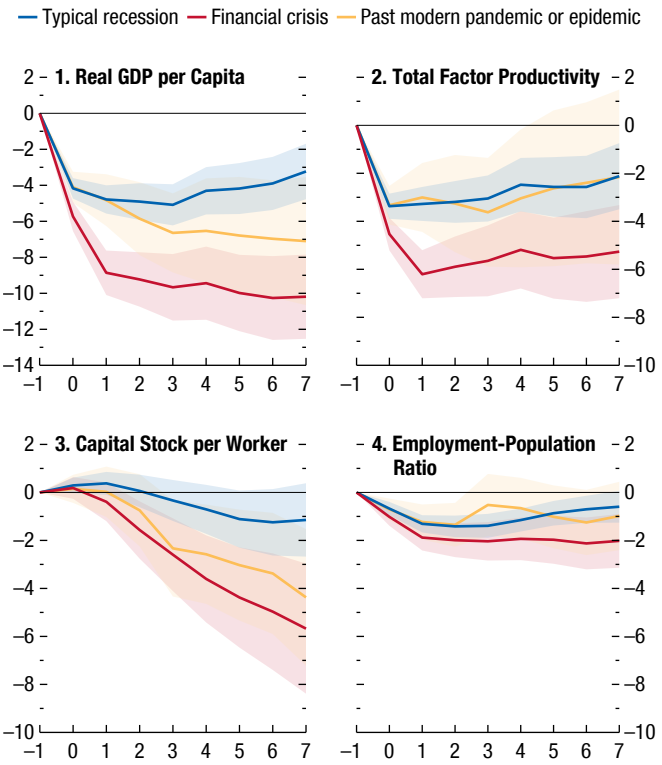
Recoveries from past recessions point to persistent effects on output paths (Figure 2.6, panel 1).[11] For typical recessions—those that do not coincide with violent conflict, a financial crisis, pandemic, or natural disaster—the depressed output path results primarily from persistently weaker productivity, while the employment rate declines somewhat in the short term before recovering.[12]

Previous epidemics and pandemics in the modern era have been followed by output losses of magnitudes larger than those following typical recessions, but smaller than those following financial crises (Figure 2.6, panel 1).[13] The COVID-19 pandemic, however, is even more widespread than past, modern-era pandemics,

Figure 2.6. Medium-Term Output Losses and Channels of Impact

(Percentage points)

For typical recessions, medium-term output losses can be attributed primarily to losses in TFP. For financial crisis recessions, TFP, capital-to-worker ratios, and employment losses all play a role.



Sources: Penn World Table 10.0; and IMF staff calculations.
Note: The solid lines represent the estimated cumulative impulse response functions and shaded areas represent 90 percent confidence intervals. Time since the shock (in years) on the *x*-axis. Past modern pandemics and epidemics include Hong Kong flu, SARS, H1N1, MERS, Ebola, and Zika. See Online Annex 2.2 for details. TFP = total factor productivity.

[9]See Cerra, Fatás, and Saxena (2020) for a review of the related literature.

[10]Parental job losses can adversely affect children's schooling and future labor market outcomes (Oreopoulos, Page, and Stevens 2008; Stuart, forthcoming). In the short-term, however, reduced labor market opportunities during recessions can lead to higher educational attainment for high school- and college-aged students.

[11]The analysis uses unbalanced panel data for 115 countries from 1957 to 2019. Recessions are divided into those associated with financial crises, previous pandemics, natural disasters, conflicts, and other "typical" recessions. See Online Annex 2.2 (all annexes are available at www.imf.org/en/Publications/WEO) for the local projection model specification. Permanent output loss following recessions has also been found in the literature (for example, Cerra and Saxena 2008; Ball 2014; and Blanchard, Cerutti, and Summers 2015).

[12]Furceri and others (2021), which uses a measure of utilization-adjusted productivity and focuses on deep recessions in advanced economies, also finds that these recessions lead to permanent losses in TFP because of an increase in resource misallocation across sectors.

[13]There are six of these in the sample: 1968 flu, SARS, H1N1, MERS, Ebola, and Zika.

and more severe, suggesting a greater potential for damage.[14] The absence of a financial crisis following COVID-19 thus far is favorable, however; the greatest scarring has occurred following recessions associated with financial crises (Figure 2.6, panel 1), with permanent deteriorations in TFP, the capital-to-worker ratio, and per capita employment.[15]

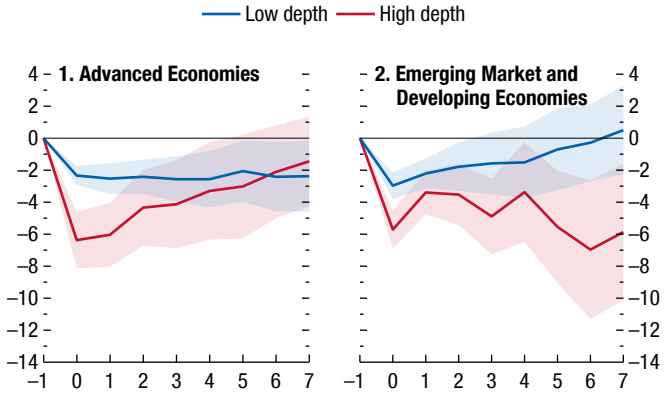
Deep recessions, comparable to the 2020 episode, have had different recoveries across country groups. In advanced economies, deep but short-lived recessions are associated with V-shaped recoveries and no permanent output loss after several years (Figure 2.7, panel 1). Emerging market and developing economies, however, experience protracted downturns and permanent losses, on average (Figure 2.7, panel 2).[16]

Scarring in the labor market may be larger with the COVID-19 shock than in past recessions, as some high-contact sectors may shrink permanently. Moreover, widespread school closures have occurred across countries, with disproportionately adverse impacts on schooling in low-income countries and those less prepared to switch to virtual learning (Box 2.2). Greater scarring through the physical capital channel could also occur as a persistent shrinkage of high-contact sectors could also result in sector-specific capital being stranded[17] and the large corporate debt buildup during the crisis (see Chapter 2 of the April 2021 GFSR) could hamstring more-leveraged firms and weaken investment.

Productivity-decreasing resource mismatches from the COVID-19 crisis, across sectors and occupations, may be larger than in previous crises, depending on how permanent the asymmetric losses are.[18] COVID-19–related disruptions to upstream and downstream suppliers in the production network could also have knock-on effects, hurting productivity in connected firms. Productivity could also be negatively affected by a decline in competition, if the market power of large companies increases due to small business closures in high-contact sectors and even more

Figure 2.7. Recovery Paths following Deep and Shallow Recessions
(Percentage points)

A larger bounce-back occurs after deeper recessions, but permanent real GDP losses still result in emerging market and developing economies.



Sources: Penn World Table 10.0; and IMF staff calculations.
Note: The solid lines represent the estimated cumulative impulse response functions; the shaded areas represent 90 percent confidence intervals. Time since the shock (in years) is on the *x*-axis. High- and low-depth recessions are split, based on the median per capita output loss. The figure includes only recessions that last one year and does not include recessions related to financial crises, past modern pandemics and epidemics, disasters, or conflicts. See Online Annex 2.2 for details.

[14]The Spanish flu of 1918–20 was a global and severe pandemic, comparable to COVID-19 from an epidemiological perspective, but less so from an economic perspective because it broke out in the last year of World War I. US GDP, for example, grew by 9 percent in 1918, even as the pandemic killed an estimated 40–50 million people worldwide. See Barro, Ursúa, and Weng (2020), which attempts to disentangle the effects of the flu and war deaths. Other recent studies of the economic effects of epidemics and pandemics include Jordà, Singh, and Taylor (2020) and Ma, Rogers, and Zhou (2020).

[15]Larger output losses following financial crises have occurred in both advanced economies and emerging market and developing economies (Online Annex 2.2). Chapter 4 of the October 2009 WEO and Chapter 2 of the October 2018 WEO also document larger output losses following banking crises, stemming from lasting declines in capital per worker, TFP, and employment. Adler and others (2017) analyzes the widespread decline in TFP growth following the global financial crisis.

[16]Chapter 2 of the October 2012 WEO shows that economic performance in many emerging market and developing economies improved substantially over the preceding two decades, after relatively deep and protracted downturns in the 1970s and 1980s. The chapter finds that the improvement is due largely to greater policy space and improved policy frameworks, with inflation targeting and a countercyclical fiscal policy significantly increasing both the length of expansions and speed of recoveries after recessions.

[17]Chapter 3 of the April 2021 GFSR discusses the implication of structural shifts in the demand for commercial real estate properties after COVID-19. Vacancy rates in the retail segment could increase significantly, as demand for traditional brick-and-mortar retail erodes further.

[18]Productivity could improve, however, if reallocation forces shift resources from unviable businesses in lower-productivity, high-contact sectors toward higher-productivity service sectors and industries. Bloom and others (2020) finds that, in the United Kingdom, this positive between-firm reallocation effect is likely to only partially offset the negative within-firm effects. The study estimates private sector TFP to be 5 percent lower at the end of 2020 than it would have been, and likely to remain 1 percent lower in the medium term.

broadly.[19] At the same time, the pandemic has spurred increased digitalization and innovation in production and delivery processes, likely helping to offset the adverse productivity shock in some countries, as others lack the prerequisite widespread and reliable connectivity (Njoroge and Pazarbasioglu 2020).

Taken together, these factors suggest that the prospects for scarring differ across countries, depending on their exposure to the COVID-19 shock. This is partly related to the specific production structure of the economy and how it transmits the COVID-19 shock, which are considered in the next subsection.

Recessions Typically Feature Shock Amplification via Sectoral Spillovers

Digging deeper into how shocks transmit, this section draws implications for the COVID-19 crisis on sectoral spillovers from the hard-hit, high-contact sectors. It highlights the importance of productivity shocks in explaining both sectoral and aggregate outcomes through their persistence and amplification in supply chains, and illustrates an important channel through which productivity losses can lead to medium-term scarring as discussed in the previous section.

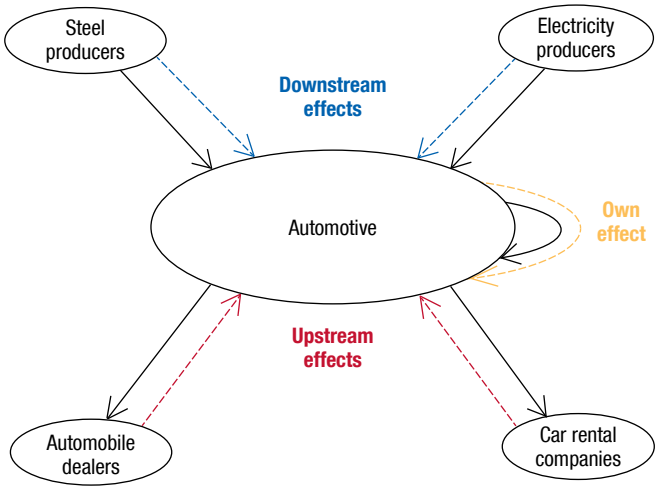
While the high-contact sectors, such as restaurants and retail trade, are less central to production networks than, say, the energy sector or financial intermediation, and supply disruptions turned out to be shorter lived than initially feared, the analysis indicates large spillovers by historical standards due to the size of the COVID-19 disruption. These spillovers considerably amplified the initial shocks to the locked-down sectors and may cause persistent aggregate output losses. Specifically, the analysis shows that losses are not limited to the high-contact sectors themselves but can be greatly amplified through production networks.

The sector-level analysis measures the size and persistence of sectoral spillovers in the past and makes use of intercountry input-output tables to map links across sectors.[20] For each sector, the exercise estimates the effects of shocks in the same sector (*own effect*) and from other sectors (*spillover effects*) on the cumulative change in real gross value added.

- *Spillover sources.* Shocks from other sectors are grouped into upstream and downstream, based on their origin: downstream effects are those stemming from shocks traveling downstream from suppliers to the focal sector of interest, while upstream effects are those traveling upstream from customers to the focal sector (Figure 2.8). For example, a productivity shock to the steel industry is likely to affect the downstream automotive industry, while a decrease in government purchases of cars will reverberate upstream to the steel industry. Upstream and downstream shocks are further divided into domestic and foreign sources. Overall, there are four types of shocks examined, based on their position in the production network: upstream domestic, upstream foreign, downstream domestic, and downstream foreign.
- *Supply and demand shocks.* The transmission of two types of sector-level shocks is analyzed: a supply

Figure 2.8. Own and Spillover Effects

A stylized version of the production network for the automotive sector illustrates own, downstream, and upstream effects. Own effects result from shocks originated in the same sector. Downstream and upstream effects result from shocks originated in supplier and customer sectors, respectively.



Source: IMF staff.
Note: Solid, black arrows correspond to (net) trade flows. Dashed, colored arrows correspond to shocks and their resultant effects on the focal sector (automotive).

[19]See Bernstein, Townsend, and Xu (2020), for example, which documents this "flight to safety" of consumers and job-seekers toward known brands and large companies in the US labor market. At the same time, new business formation in the United States reached a record high in the third quarter of 2020 (Brown 2020).

[20]Online Annex 2.3 provides additional details on the empirical specification, which builds upon Acemoglu, Akcigit, and Kerr (2016) and Acemoglu and others (2016).

shock, proxied by changes in sectoral TFP; and a demand shock, captured by changes in sectoral government spending.[21]

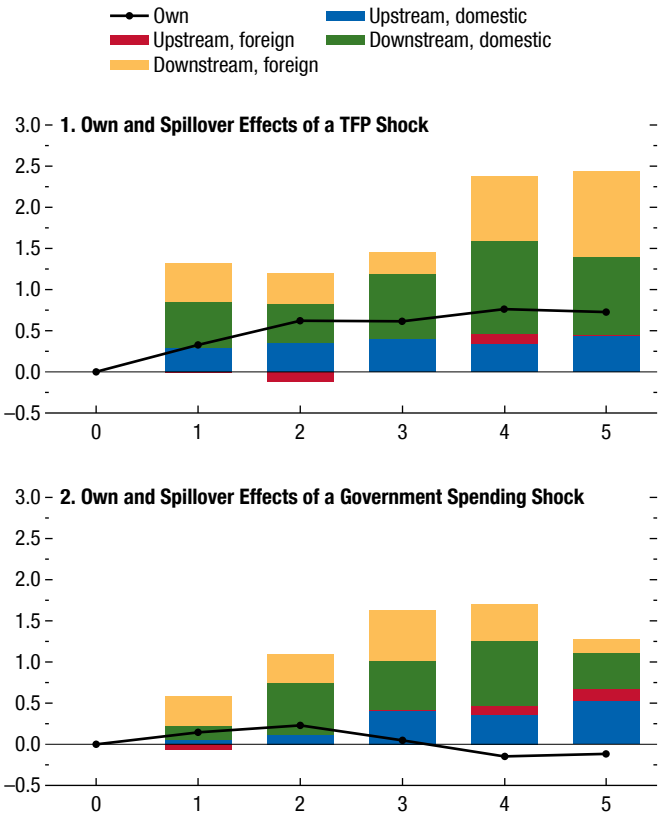
Spillover effects are large compared with the "own" effect for both types of shocks. For a productivity shock, total spillover effects are almost two times larger than the own effects, on average (Figure 2.9, panel 1).[22] For the government spending shock, spillover effects are broadly the same size as for the supply shock, while own effects are smaller (Figure 2.9, panel 2). As a result, the relative size of the spillover effects, compared with the own effect, is about seven times larger for the government spending shock than for the productivity shock. Spillover effects are persistent for both types of shocks, remaining sizable up to five years after the shock hits, although even more so for productivity shocks.[23] This means that the pandemic not only reduced activity in sectors directly exposed to the COVID-19 shock, but was amplified through spillovers to connected sectors. This has important implications, in particular for countries where high-contact sectors are a large part of the total economy, as discussed in the following section and in Box 2.1.

Productivity shocks also tend to have much larger estimated downstream effects, consistent with earlier literature, which also finds large downstream effects, as shocks to the productivity of suppliers leads to price changes that in turn affect quantities in the focal sector downstream (Acemoglu, Akcigit, and Kerr 2016).[24]

Shock amplification through the sectoral structure of production—including for negative shocks, as occurs in recessions—can be substantial. The importance of negative sectoral productivity shocks to potential scarring is apparent from the next set of findings shown here. On average, a sector does not recover from a typical adverse productivity shock in its own sector, with the sector's share of total gross value added remaining 5 percent lower up to five years after the shock (Figure 2.10, panel 1). Government spending shocks and shocks originating in other sectors, however, do not statistically significantly affect a sector's share in total gross value added, although there are signs that productivity shocks elsewhere may have longer-lived effects (Figure 2.10,

Figure 2.9. Own and Spillover Effects from Sectoral Shocks
(Cumulative change in GVA, percentage points)

Supply (TFP) and demand (government spending) shocks have led to large and persistent spillovers in the past.



Sources: World Input-Output Database; and IMF staff calculations.
Note: Bars and dots represent the estimated coefficients of the cumulative impulse response function for sectoral GVA from a one-standard-deviation increase in each shock type. See Online Annex Tables 2.3.1 and 2.3.2 for the significance of each individual coefficient. Total spillover effects (encompassing all four network shocks) from TFP shocks (reported in Online Annex Table 2.3.1, panel B) are statistically significant at the 1 percent level at horizons 1 to 5; total spillover effects from government spending shocks (reported in Online Annex Table 2.3.2, panel B) are statistically significant at the 5 percent level at horizons 2 to 4. The sample covers up to 31 advanced and 12 emerging market economies over 1995–2014. Own effects result from shocks originated in the same sector. Downstream domestic/foreign and upstream domestic/foreign effects result from shocks originated in domestic/foreign supplier and customer sectors, respectively. See Online Annex 2.3 for further methodological details. GVA = gross value added; TFP = total factor productivity.

[21]For each sector, TFP changes are calculated as the change in real gross value added minus total hours worked, weighted by the sectoral labor share, and the real fixed capital stock, weighted by the capital share. Changes in sectoral government spending are calculated as the share of country-level government spending directed to each sector according to input-output links.

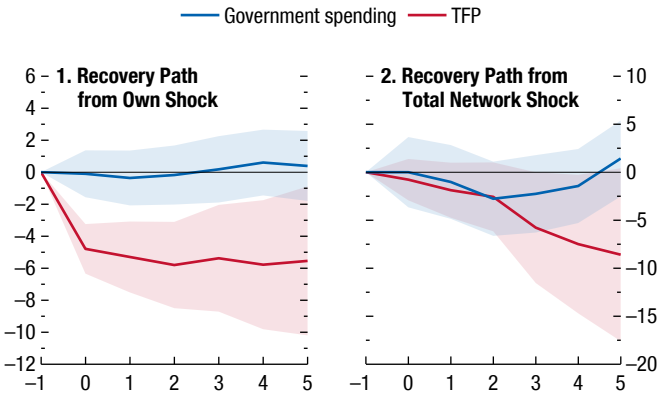
[22]The standardization of the effects reported in Figure 2.9 implies that the total network effect is different from the sum of the four network effects. Online Annex 2.3 describes the methodology adopted to derive the total network effect.

[23]Total spillover effects from TFP shocks are statistically significant from horizons one to five years after the shock, while total spillover effects from government spending shocks remain statistically significant up to four years after the shock. See Online Annex Tables 2.3.1 and 2.3.2.

[24]The result of a dominant role for upstream effects in response to demand shocks found in previous studies focusing on domestic spillovers in the United States is, however, not confirmed in the broader sample analyzed in this chapter.

Figure 2.10. Recovery from Negative Sectoral Shocks
(Cumulative change of sectoral share in GVA, percentage points)

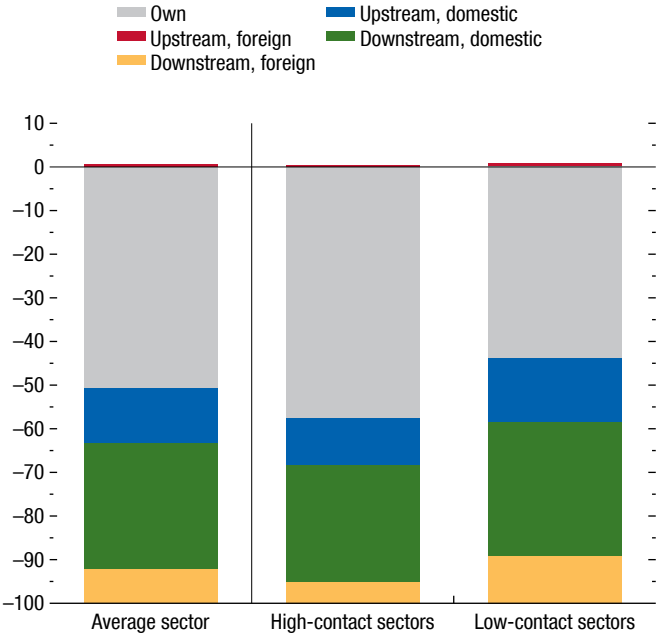
Sectors shrink permanently after a TFP shock originating in its own sector, on average. Neither government spending shocks nor network shocks have significant effects on sector size.



Sources: World Input-Output Database; and IMF staff calculations.
Note: The solid lines represent the estimated coefficients of the cumulative impulse response function for the sectoral share in GVA from a one-standard-deviation decrease in own shock (panel 1) and of total network shocks (panel 2). Shaded areas are 95 percent confidence intervals, with standard errors clustered at the country-sector level. Time since the shock (in years) on the *x*-axis. The sample covers up to 43 economies (31 advanced and 12 emerging market economies) over 1995–2014. See Online Annex 2.3 for further details.
GVA = gross value added; TFP = total factor productivity.

Figure 2.11. Relative Own and Spillover Effects from the COVID-19 Shock
(Percent contribution to the 2020 GVA decline)

There were significant spillovers from the COVID-19 shock, relatively larger for low-contact sectors.



Sources: World Input-Output Database; OECD Quarterly National Accounts; International Labour Organization; and IMF staff calculations.
Note: The relative effects can be interpreted as those occurring in the aftermath of the initial shock in 2020. High-contact sectors are wholesale and retail trade, hotels and restaurants, entertainment and personal services, transportation, education, health care, and construction. Low-contact sectors are all the others. Effects are reported with the reverse sign. Sample covers up to 34 countries (24 advanced and 10 emerging markets) over 1995–2014. See Online Annex 2.3 for details. GVA = gross value added.

panels 1 and 2). The COVID-19 demand shocks are likely to have larger and more persistent effects than the typical past spending shock, however, as they may induce permanent shifts in consumer preferences. Taken together, these results illustrate the importance of sectoral exposure to the COVID-19 shock and spillovers based on economic structure in shaping medium-term losses.

Sectoral Propagation in the COVID-19 Crisis

To understand the importance of sectoral spillovers in the current crisis, a back-of-the envelope exercise is considered, which combines the historical coefficients presented in the previous subsection, the sectoral changes to employment and productivity in 2020, and the pre-pandemic network structure from input-output tables. This exercise indicates that sectoral spillovers have also been significant in the current crisis (Figure 2.11). Downstream effects—from suppliers to final demand—are again dominant, which highlights the importance of supply shocks in this crisis and, in particular, of the productivity channel. Foreign spillovers appear to have a more limited role, consistent with recent studies of the transmission of the COVID-19 shock through global value chains (Bonadio and others 2020; Cerdeiro and Komaromi 2020).[25]

The "own effect" is larger for high-contact sectors while the relative importance of spillovers is larger for low-contact sectors (Figure 2.11). The absolute size of the spillovers in low-contact sectors remains relatively modest, however, as the contraction in gross value added is less severe (see Figure 2.1). Moreover, while still sizable, the relative size of sectoral spillovers compared with own effects in the COVID-19 crisis is smaller than historical spillovers from productivity and government spending shocks. The difference

[25]Bonadio and others (2020) finds that one-quarter of the average real GDP downturn caused by the COVID-19 shock was due to transmission through global supply chains, while Cerdeiro and Komaromi (2020) shows that lockdowns in early 2020 resulted in strong but short-lived trade spillovers.

results from the current shock's concentration in sectors that are more peripheral to production networks (predominantly services), unlike in previous downturn episodes. However, the magnitude of the COVID-19 shock, especially for countries with large sectoral exposure, means that the current crisis could still result in substantial scarring, as shown in the following section.

Moreover, the longer the crisis continues—and if the number of small business failures climbs—the greater the likelihood the shock will spread widely across economies. From closed restaurants and bars, to farms and wineries shutting down, to lower demand for tractors and other agricultural equipment, damage to high-contact sectors will continue to spread to other sectors. Drawing on the transmission and scarring channels identified here, the next section discusses implications of the COVID-19 shock for the medium-term outlook, including the role of sectoral composition of economies.

Implications for the Medium Term: How Persistent Are Output Damages from COVID-19 Likely to Be?

A Unique Crisis with a Wide Range of Possible Medium-Term Outcomes

As discussed in the previous section, the historical record suggests that most recessions leave persistent scars—largely through lower productivity growth and (in the case of pandemic recessions and financial crises) slower capital accumulation. Moreover, adverse productivity shocks concentrated in some sectors can propagate, spilling over to other sectors and contributing to a broader downturn. Because the sectoral propagation is different from the past—with more peripheral sectors (high-contact sectors) worse affected this time—the overall scarring for the (average) economy may therefore be less severe than in previous episodes, even if the effects for the hardest-hit sectors end up larger than in the past. Nevertheless, differences in sectoral composition across countries could bring about differences in the magnitude of medium-term output losses.

In addition, the unprecedented policy response has helped preserve economic relationships, cushioned household income and firms' cash flow, and prevented amplification of the shock through the financial sector. These actions helped maintain a foundation from which activity has been able to recover quickly (Chapter 1). Moreover, large household savings accumulated during the pandemic (for instance, in advanced economies) point to the possible release of pent-up demand and boost to growth once the health crisis comes to an end and restrictions are durably lifted. These factors suggest that medium-term damages following the extreme contraction of 2020 could be less severe than the depth of that collapse would suggest, based on past patterns.

However, as noted in Chapter 1, there is high uncertainty around the outlook, over both the short and medium term. The extent of scarring also depends on factors unique to a pandemic-driven downturn and inherently hard to predict: the path of the pandemic (whether transmission of new variants outpaces vaccinations and makes COVID-19 an endemic disease of as yet-unknown severity) and the scale of activity disruptions from restrictions needed to lower transmission before vaccinations start to deliver society-wide protection. Other factors also remain uncertain, including the effectiveness of the evolving policy response; possible amplification through the financial system; and global spillover channels, such as portfolio flows and remittances.

Expected Medium-Term Losses Are Sizable, but Typically Smaller than during the Global Financial Crisis

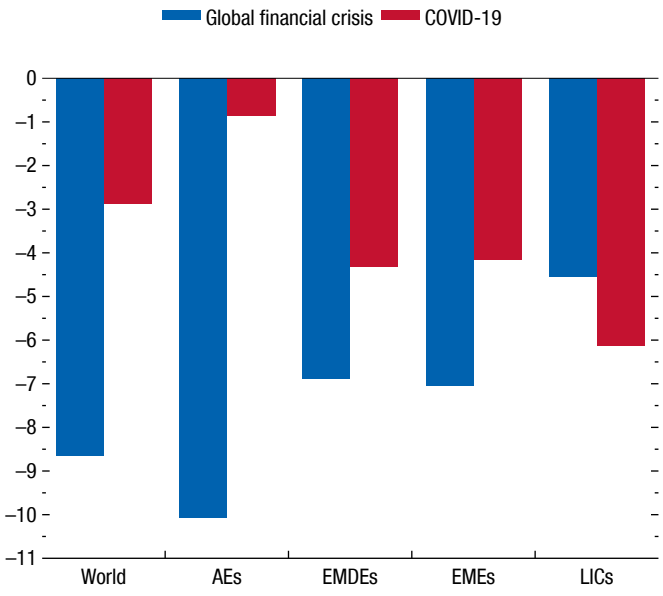
Taking into account this uncertainty, the medium-term (five-year horizon) outlook in the current forecast envisions output losses, relative to pre-pandemic projections, of about 3 percent for the world economy (Figure 2.12). By comparison, the lasting damages over a comparable period from the global financial crisis were larger, at almost 10 percent for the world as a whole.[26]

The smaller global losses currently expected from COVID-19, compared with the global financial crisis, reflect less severe impacts on advanced and, to a lesser extent, emerging market economies. In contrast, lower-income countries are expected to do worse, on average, than they did following the global financial crisis. These patterns are consistent with the baseline assumption of a sustained recovery from the current crisis in which financial stability risks remain contained,

[26]Figure 2.12 shows the expected medium-term output losses from COVID-19 and realized medium-term output losses following the global financial crisis. Forecasts for medium-term output losses one year into the global financial crisis show the same pattern. That is, expected medium-term output losses following the global financial crisis were considerably larger than is now expected for COVID-19, with larger losses expected in advanced and emerging market economies than in low-income countries.

Figure 2.12. Medium-Term Output Losses
(Percent difference from precrisis forecast)

Scars from the COVID-19 pandemic recession are expected to be less than those from the global financial crisis, but with emerging market and developing economies hurt more than advanced economies on average.



Source: IMF staff estimates.
Note: Bars show the percent difference in real GDP four years after the crisis and anticipated GDP for the same period prior to the crisis for the indicated group. For the COVID-19 crisis, it compares the current WEO vintage forecast for 2024 versus that from the January 2020 vintage (prior to the pandemic). For the global financial crisis, it compares the April 2013 vintage for 2012 versus the October 2007 vintage (prior to the start of the US recession at the end of 2007). Economy weights are fixed using April 2013 vintage year 2007 for the global financial crisis, and the current vintage year 2019 for the COVID-19 crisis. Sample consists of 178 economies. AEs = advanced economies; EMDEs = emerging market and developing economies; EMEs = emerging market economies; LICs = low-income countries; WEO = *World Economic Outlook*.

unlike what happened with the global financial crisis.[27] Moreover, advanced economy losses are expected to be much lower than in emerging market and developing economies, likely reflecting their larger policy support and anticipated faster access to vaccines and therapies.[28] Losses are expected to be largest among low-income countries, consistent with their more limited room to provide policy support. These differences in expected losses underscore the importance of universal vaccine access for both health and economic outcomes.

[27]The protracted period of financial stress in the global economy started with the subprime mortgage crisis in the United States in 2007 and continued through the euro area sovereign debt crisis, which peaked in 2012.

[28]The pandemic has exacerbated inequalities in both advanced and emerging market and developing economies, however. See Chapter 2 of the April 2021 *Fiscal Monitor*.

Expected Scarring Varies with Economic Structure and Size of Policy Response

A simple regression analysis of the correlates of news about expected medium-term output losses (as captured by forecast revisions) aligns with this story, suggesting that the average income level, the sectoral structure of the economy (its precrisis dependence on tourism and its precrisis services share), and the size of the fiscal policy response in 2020 help explain the variation across economies. The exercise examines revisions to output forecasts across economies, focusing on the outer years of the forecast horizon (2022–24).[29]

The largest impacts of the crisis are on the most tourism-dependent economies, with a one-standard-deviation increase in tourism and travel share of GDP associated with a 2.5 percent reduction in expected output in 2022 (Figure 2.13, panel 1). The exposure through tourism is expected to fade somewhat over time but remains close to 2 percent in 2024. Economies with larger service sectors are also likely to experience larger output losses, with a ½ percent reduction in expected output in 2022.[30] Policy support also plays an important role. Countries with larger pandemic-related above-the-line fiscal measures are projected to experience smaller losses, all else equal (see also Chapter 1 of the April 2021 *Fiscal Monitor*).

Uncertainty High and Dependent on the Pandemic Path

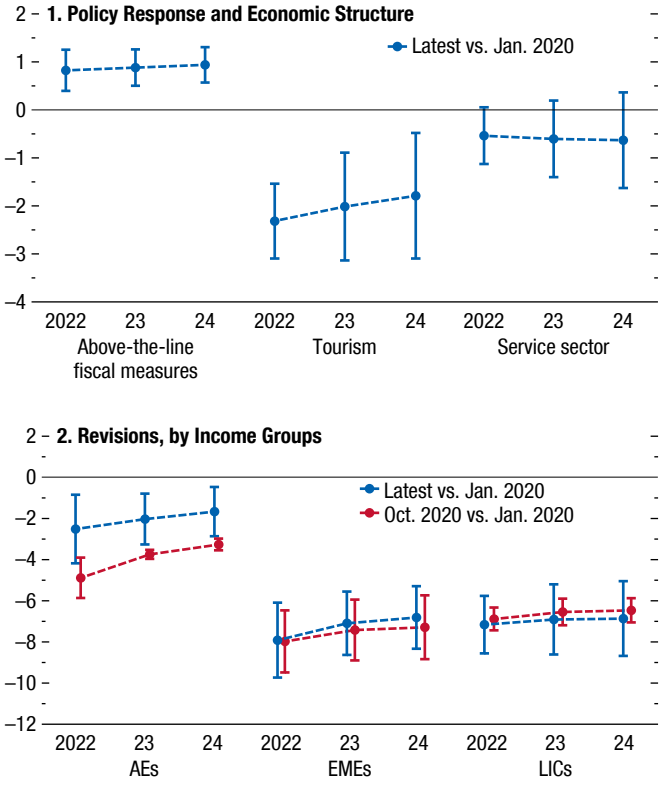
The uncertainty surrounding these projections (and the extent to which incoming news affects views on the outlook) can be seen by examining changes in expectations of medium-term losses between the October 2020 *World Economic Outlook* (WEO) and the current forecast (Figure 2.13, panel 2). Recent favorable news

[29]The regressions also include dummy variables for country income groups and regions. For ease of comparison of effects across explanatory variables, each regressor is standardized to mean-zero and a standard deviation of one. Importantly, the current severity of the pandemic affects the forecast revision in the near term but is not a significant explanatory factor further out in the forecast horizon once other variables (most notably, income classification) are considered. These results are robust to including additional variables that capture the severity of the pandemic, health care capacity, and the level of government debt. See Online Annex 2.4.

[30]The relationship between services share and output losses will depend on the composition of services, as low-contact services, such as information and communication, financial, and professional and business services, have been less affected (see Figure 2.1) by the pandemic. The results are robust to using a measure of the precrisis high-contact services share of the economy rather than the services share.

Figure 2.13. Expected Medium-Term Output Losses: Explanatory Factors and Revisions
(Percentage points)

Economies more exposed to demand for tourism and services have been hit hardest, but pandemic-related fiscal measures have mitigated losses. Medium-term losses are larger and more persistent in emerging market economies; prospects for advanced economies have improved in recent months.



Sources: World Bank, World Development Indicators; World Travel and Tourism Council; and IMF staff calculations.
Note: *X*-axis units are different forecast horizons. Above-the-line fiscal measures refer to additional spending and forgone revenue in response to COVID-19. Both the tourism and service sectors are in share of GDP. Chart shows point estimate and two standard error ranges for coefficients of a cross-sectional, cross-country regression (unweighted) of forecast revisions on explanatory variables. Panel 2 shows the estimated coefficient on the economy group indicator. Explanatory variables are standardized to have zero mean and unit standard deviation. Units of the *y*-axis are therefore percent change in output per one-standard-deviation increase across countries. Regression specification also includes dummies for region and income group (not shown). Standard errors are clustered by region. AEs = advanced economies; EMEs = emerging market economies; LICs = low-income countries.

with regard to vaccines and a stronger-than-expected second half of 2020 had a larger impact on advanced economy projections. The losses currently projected (blue lines) are notably smaller than those foreseen in the October 2020 WEO (red lines) for the advanced economy group, but broadly similar for the other income groups.

It is important to remember that the assessment described here is based on the current understanding of the path of the pandemic. As the changes from the October 2020 WEO demonstrate, the prospects for medium-term scarring and the associated medium-term forecast will evolve, based on incoming news about vaccines, new virus mutations, disruptions to activity, and the policy response.

Policies to Limit Persistent Damage

Experience from past recessions underscores the importance of avoiding financial distress as the COVID-19 policy response evolves. To prevent scarring that could result from future financial instability, measures that support credit provision should be maintained while ensuring balance sheet resilience and adequate buffers (see Chapter 1 and the April 2021 GFSR).

As vaccine coverage improves and supply constraints ease, countries will need to tailor their policy response to the different stages of the pandemic. Targeted fiscal support that addresses the disparate sectoral effects of the crisis may be most effective while supply constraints remain in place, whereas public investment can help boost both supply and demand as these constraints ease. Where fiscal space permits, policymakers should deploy a combined package of better-targeted support for affected households and firms and public investments aimed at the following:

- *Reversing setbacks to human capital accumulation and encouraging employment.* Ensuring adequate resources for health care, early childhood development programs, and education will help mitigate long-term individual earnings losses and damages to aggregate productivity (see Chapter 1 of the October 2020 WEO and Chapter 2 of the October 2020 *Fiscal Monitor*). Worker retraining and investment in digital literacy would broaden access to emerging job opportunities and avoid further economic divergence. Expanding social safety nets and support for displaced workers through what could be a long adjustment period will be key in addressing the rise in inequality that is likely to result from the pandemic (see Chapter 3).
- *Supporting productivity.* In addition to allowing for the exit of nonviable firms, active labor

market policies[31] and other policies to facilitate resource reallocation—such as structural reforms to improve labor mobility and reduce product market rigidities—can help prevent persistent misallocation. Policies to promote competition, innovation, and technology adoption would also lift productivity growth.

- *Boosting investment.* Public investment in infrastructure, particularly a green infrastructure push, can help crowd-in private investment (see the October 2020 WEO and Chapter 2 of the April 2021 *Fiscal Monitor*). Corporate balance sheet repair would reduce debt overhang and promote investment (see Chapter 1 of the October 2020 WEO). Improved bankruptcy and debt restructuring mechanisms would help reallocate productive capital (see the April 2021 GFSR; and Bauer and others 2021).

In countries with a larger share of high-contact, affected sectors, more reallocation will likely be needed. Here, lifeline policies for firms and employment preservation that gradually unwind, coupled with policies to facilitate reallocation, will be particularly important. Supporting growth opportunities related to the accelerated shift to e-commerce and increasing digitalization of the economy will have positive spillovers and thus help transition away from shrinking sectors. Last, but not least, multilateral cooperation is critical to prevent further economic divergence, as discussed in Chapter 1.

Conclusions

Recoveries after past recessions suggest that prospects for scarring are considerable, particularly given the depth of the COVID-19 shock. Analysis of historical sector-level shocks shows that sectoral spillovers from both supply and demand shocks have been large and persistent. Sectoral productivity shocks, in particular, have persistent effects, leading to long-lasting declines, on average, in the sectors they have struck. Nonetheless, this crisis is different from past recessions in many ways, and high uncertainty surrounds the outlook.

Medium-term output losses following the pandemic are currently expected to be large but exhibit significant variation across economies and regions. Despite higher-than-usual growth as the global economy recovers from the COVID-19 shock, world output is still anticipated to be about 3 percent lower in 2024 than pre-pandemic projections suggested. These expected losses are lower than what was seen during the global financial crisis, consistent with the swift policy response that supported incomes and helped contain financial sector disruptions. However, emerging market and developing economies, in particular, are expected to have deeper scars than advanced economies, partly reflecting their greater sectoral exposure to the pandemic shock and more muted policy response.

The picture of divergent recoveries that is emerging, with a larger likelihood and extent of scarring in many of the same countries that have limited fiscal space, suggests a challenging path ahead. Ensuring effective policy support until the recovery is firmly under way will help limit persistent damage. Avoiding financial distress as the COVID-19 policy response evolves is important, given that the greatest scarring in the past has occurred in recessions associated with financial crises. To maximize the use of limited fiscal space, policymakers should tailor their responses, targeting support to the most-affected sectors and firms. Policies that reverse the setback to human capital accumulation, boost job creation, and facilitate worker reallocation will be key to addressing long-term GDP losses and the rise in inequality. Finally, multilateral cooperation on vaccines to ensure adequate production and timely universal distribution will be crucial to prevent even worse scarring in developing economies.

[31]Active labor market policies, which help workers transition between jobs, include worker retraining, public employment services, public work schemes, wage subsidies to support job creation, and support for self-employment/micro-entrepreneurs.

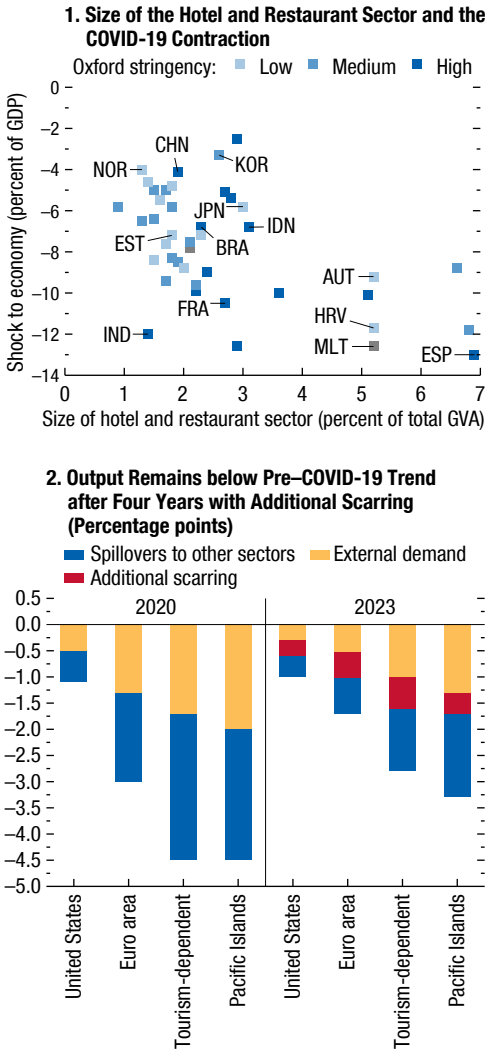
Box 2.1. A Perfect Storm Hits the Hotel and Restaurant Sector

The hotel and restaurant sector has suffered large employment and production losses from COVID-19. While international supply-side spillovers from the sector are smaller than from an average sector, the propagation to other sectors within the economy is important. The sector's recovery will depend critically on how quickly the pandemic is contained, with larger scarring the longer it takes for demand to recover.

Hotels and restaurants have been particularly hard hit by the COVID-19 crisis. In the United States, for example, employment in the sector fell by almost 40 percent from February to May 2020, compared with 13 percent overall. Data up to the third quarter of 2020 suggest that countries more reliant on the hotel and restaurant sector suffered considerably from the pandemic (Figure 2.1.1, panel 1), even where lockdowns were less stringent.[1] This illustrates the importance of sectoral composition in determining the aggregate impact of COVID-19 as shocks to this and other high-contact sectors propagate to the rest of the economy. One important feature of this sector is that it is more connected to other sectors in the local economy than the median industry. Thus, spillovers to other sectors can be sizable.[2]

In the medium term, scarring in tourism-dependent economies is expected to be larger than in other countries. GDP is estimated to be 2.2 percent below the pre–COVID-19 trend by 2023 from just the shock to the hotel and restaurant sector itself (Figure 2.1.1, panel 2).[3] The Pacific Islands are most affected by this shock, with GDP estimated to be about 3 percent below trend in 2023, of which 0.4 percentage point is estimated to be due to additional scarring from the shock. As other sectors were also affected in all economies, the overall negative effect on medium-term output from COVID-19 is likely to be even larger.

Figure 2.1.1. COVID-19 Damage to the Hotel and Restaurant Sector



Sources: UNCTAD-Eora Global Value Chain database; and IMF staff calculations and estimates.
Note: Shock to the economy is measured as the percent deviation from the pre–COVID-19 *World Economic Outlook* forecast for 2020 GDP growth. The size of the hotel and restaurant sector is measured as its value added as a percentage of total value added. The Oxford stringency index records the strictness of "lockdown-style" policies that primarily restrict people's behavior. GVA = gross value added.

The author of this box is Allan Dizioli.

[1]The size of the shock to the hotel and restaurant sector is inferred using disaggregated data from the United Kingdom, the value-added weights of different sectors in each country's GDP, and other aggregated sectoral data, taking differences in containment measures across countries into account. For countries where no recent disaggregated sectoral information is available, air traffic data are used. The average shock is 25 percent of the pre–COVID-19 value added in the sector and is heterogenous across countries—at less than 10 percent in Turkey and as high as 60 percent in Samoa.

[2]Using input-output data for about 170 countries. The data are from the Eora database, which is a set of global harmonized input-output matrices covering 26 sectors and final uses. See Lenzen and others (2013) for a detailed description of the database.

[3]Two complementary methods—partial equilibrium and dynamic stochastic general equilibrium—are used to estimate the amplification effects and country spillovers from COVID-19 and assess its possible long-term impacts. The first method, developed by Bems, Johnson, and Yi (2011), uses world input-output table links and assumes no substitutability between sources of inputs and no price changes. The second method uses the IMF's G20 Model, which is a general equilibrium model with substitutability between goods, but is less rich in modeling the sectoral links. Both approaches yield very similar results.

Box 2.2. Education Losses during the Pandemic and the Role of Infrastructure

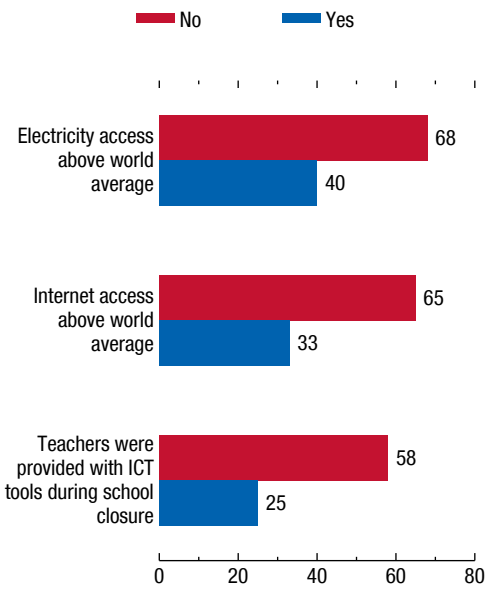
School closures and other pandemic-related disruptions pose a serious risk to human capital accumulation across the world. Early evidence shows that education losses were larger in economies with preexisting gaps in infrastructure (such as access to electricity and internet), which constrained their ability to effectively implement remote learning programs. Remedial measures are essential to prevent the scarring effect on human capital stock, which would lead to further economic divergence. This calls for urgent policy action as well as international support for low-income countries and many emerging market economies with limited infrastructure and inadequate educational funding.

Global education losses due to the COVID-19 pandemic pose significant challenges to human capital accumulation. School closures affected 1.6 billion students in 180 countries at the peak of the pandemic (World Bank 2020b). In 2020 countries reported an average of 49 missed days of instruction, equivalent to about one-quarter of an academic year.[1] Education losses were more severe in low-income developing countries, where students missed an average of 69 days of instruction in 2020, compared with 46 days in emerging market economies and 15 days in advanced economies. Educational disruptions will likely cause losses in learning and impair human capital accumulation.[2] In addition, girls and students from low-income households face disproportionately greater risk of learning losses.[3]

COVID-19 can exacerbate existing disparities in education across countries. Despite significant global convergence in primary school enrollment rates, average years of schooling among adults in low-income developing countries (five years) were less than half that in advanced economies (12 years) in 2018 (UNESCO Institute for Statistics).[4] Furthermore, gender parity in enrollment across all education levels is yet to be achieved in many developing economies (World Bank 2018).

Pandemic-induced disruptions in educational systems are especially large in countries with limited infrastructure (Figure 2.2.1). The global shift to remote learning

Figure 2.2.1. Where Are Education Losses Larger?
(Average number of missed days of instruction)



Sources: UNESCO-UNICEF-World Bank Survey on National Education Responses to COVID-19 School Closures; World Bank, World Development Indicators; and IMF staff calculations.
Note: Each bar corresponds to the average number of missed days of instruction across countries with a given infrastructure characteristic. The differences are statistically significant at the 5 percent level. ICT = information and communication technology.

The authors of this box are Mariya Brussevich, Marina Conesa Martinez, and Futoshi Narita. This box is part of a research project on macroeconomic policy in low-income countries supported by the United Kingdom's Foreign, Commonwealth and Development Office (FCDO). The views expressed here do not necessarily represent the views of the FCDO.

[1]We use the second wave of the *Survey on National Education Responses to COVID-19 School Closures* designed for Ministries of Education and conducted by the United Nations Educational, Scientific, and Cultural Organization (UNESCO), the United Nations Children's Fund, and the World Bank between July and October 2020 (UNESCO, UNICEF, and the World Bank 2020). For each education level (pre-primary, primary, lower secondary, upper secondary), 80 economies (27 low-income developing countries, 41 emerging market economies, 12 advanced economies) answered this question: "How many days of instruction have been missed or projected to be missed (taking into account school breaks, and so on) for the academic year impacted by the COVID-19?" We use the average of missed days of instruction across education levels.

[2]"Missed days of instruction" are likely to exclude remote learning days. This conjecture is based on the comparison with an indicator of "school closing" under the Oxford COVID-19 Government Response Tracker (Hale and others 2020). Learning losses are likely to be greater than suggested by missed days of instruction considering the potentially lower effectiveness of remote schooling than in-person schooling. See Chapter 2 of the April 2021 *Fiscal Monitor* for more discussion and estimates of learning losses using the data from the Oxford COVID-19 Government Response Tracker.

[3]Refer to CGD (2020) for discussion on gender differences and to Agostinelli and others (2020), Azevedo and others (2020), and Engzell and others (2020) for discussion on household income differences.

[4]In 2008 the gap in primary school enrollment rates between advanced economies and low-income developing countries was closed (World Bank, World Development Indicators database).

Box 2.2 *(continued)*

has limited education losses, but its uptake and effectiveness have been uneven across countries. Education losses are 70 percent higher in economies ranking below the world average in access to electricity—90 percent of the population in 2018—compared with those above the world average. In economies where less than half of the population had internet access (world average in 2018), students missed 65 days of instruction—double the average in the economies with higher connectivity rates. In addition, governments that did not provide information and communication technology tools or free connectivity to support teachers' transition to remote learning during the pandemic reported almost double the number of missed days compared with the governments that provided such support. Online platforms for remote learning are available only in three-quarters of low-income developing countries. Most of these countries resorted to radio and television for broadcasting educational content, but almost one-quarter of these countries reported that these tools were not effective for remote learning.

Many economies risk significant education losses during the pandemic, with corresponding long-term income loss.[5] These call for mitigating policy action. Although online learning is likely to play a larger role in the delivery of education in the future, infrastructure gaps and inadequate educational funding in low-income countries and many emerging market economies can pose significant obstacles. To avoid further economic divergence, modernizing educational systems, investing in necessary infrastructure, and ensuring equitable school funding are urgent. Remedial policies also include teacher training to alleviate education losses, financial support to accommodate schooling demands, adjustments to the length of the school year, and complementary tutoring programs for those severely affected during the closures (World Bank 2020a). The international community should support such efforts with increased development assistance for education and digital infrastructure, which could be financed by multilateral development banks, nontraditional partnerships through philanthropic organizations and corporate social responsibility initiatives, or with resources freed up by the debt relief initiatives (World Bank 2020c).

[5]While the exact learning and associated income losses are not yet known, the estimates of long-term income drop per lost year of schooling span a range of 9–12 percent (Psacharopoulos and Patrinos 2018; Kattan and others 2021). Azevedo and others (2020) estimates the lifetime loss in labor earnings for the affected cohort at $10 trillion—or 8 percent of global GDP in 2017—without remedial measures. Hanushek and Woessmann (2020) estimates that learning losses equivalent to a half academic year loss translate to 2.2 percent lower annual GDP for the remainder of the century. For the United States, Jang and Yum (2020) and Fernald and others (2021) show milder impacts of 0.25 percent and less than 0.1 percent, respectively.

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CHAPTER 3

RECESSIONS AND RECOVERIES IN LABOR MARKETS: PATTERNS, POLICIES, AND RESPONSES TO THE COVID-19 SHOCK

Despite remarkable adaptation and extraordinary policy support in many economies, economic turmoil and labor market dislocations from the COVID-19 pandemic shock continue, with highly unequal effects across workers. Youth and the lower-skilled are among the most heavily impacted, with sharp rises in unemployment rates, which already tend to be at higher levels. Some of these effects reflect the asymmetric, sectoral, and occupational nature of the COVID-19 shock, with less-skill-intensive sectors tending to be hit harder. The shock is also accelerating preexisting employment trends, hastening a shift away from sectors that are more vulnerable to automation. Worker reallocation across sectors and occupations is more likely after an unemployment spell, but it comes at a high cost, as average earnings fall for those who switch. Job retention policies—those aimed at maintaining existing employment matches—can help reduce job separations, particularly for the lower-skilled, while measures to support worker reallocation can boost job finding prospects. A new, model-based analysis shows how job retention policies are extremely powerful at reducing scarring and mitigating the unequal impacts of a pandemic shock across workers, while reallocation policies supporting job creation can help ease the adjustment to the more permanent effects of the COVID-19 shock on the labor market. Retention measures are best while the shock is acute and social distancing high to preserve ultimately viable job matches, with support relying more on reallocation measures as the pandemic subsides. Careful monitoring of the intensity of the pandemic (including cases and deaths, the extent of social distancing, and rollout of vaccines) is needed to gauge when the economy can cope with the reduction of job retention support and switch toward greater reliance on reallocation.

The authors of this chapter are John Bluedorn (lead), Francesca Caselli, Wenjie Chen, Niels-Jakob Hansen, Jorge Mondragon, Ippei Shibata, and Marina M. Tavares, with support from Youyou Huang, Christopher Johns, and Cynthia Nyakeri. Yi Ji also provided data support. The chapter benefited from discussions with Tito Boeri and from comments by internal seminar participants and reviewers.

Introduction

Over a year since its onset, the COVID-19 pandemic continues to generate widespread economic disruptions and worker dislocations. Even with the extraordinary policy support already deployed (outlined in Chapter 1 of the April 2021 *World Economic Outlook* (WEO) and of the April 2021 *Fiscal Monitor*), average unemployment rates are up and labor force participation down compared with their pre-pandemic averages in both advanced and emerging market and developing economies, according to the latest data (Figures 3.1 and 3.2, panels 1 and 2).

The employment impacts from the pandemic have been highly unequal across groups of workers (Figures 3.1 and 3.2, panels 3–8). In particular, youth and the lower-skilled have been hit harder in the average advanced and emerging market and developing economies, with larger rises in unemployment rates and declines in labor force participation. Women in emerging market and developing economies have seen a slightly higher rise in unemployment and larger drop in participation than men, on average, while in advanced economies there is little difference in average unemployment across genders.[1] These movements in unemployment and labor force participation rates imply that average employment rates have declined across groups.

In the near term, the consequences for these more vulnerable demographic groups are potentially dire, as they face earnings losses and difficult searches for job opportunities after unemployment spells. Even after the pandemic abates, some of the effects on the structure of employment may be persistent, with some sectors and occupations (job types) permanently shrinking and others growing.[2] For these persistent effects, the speed

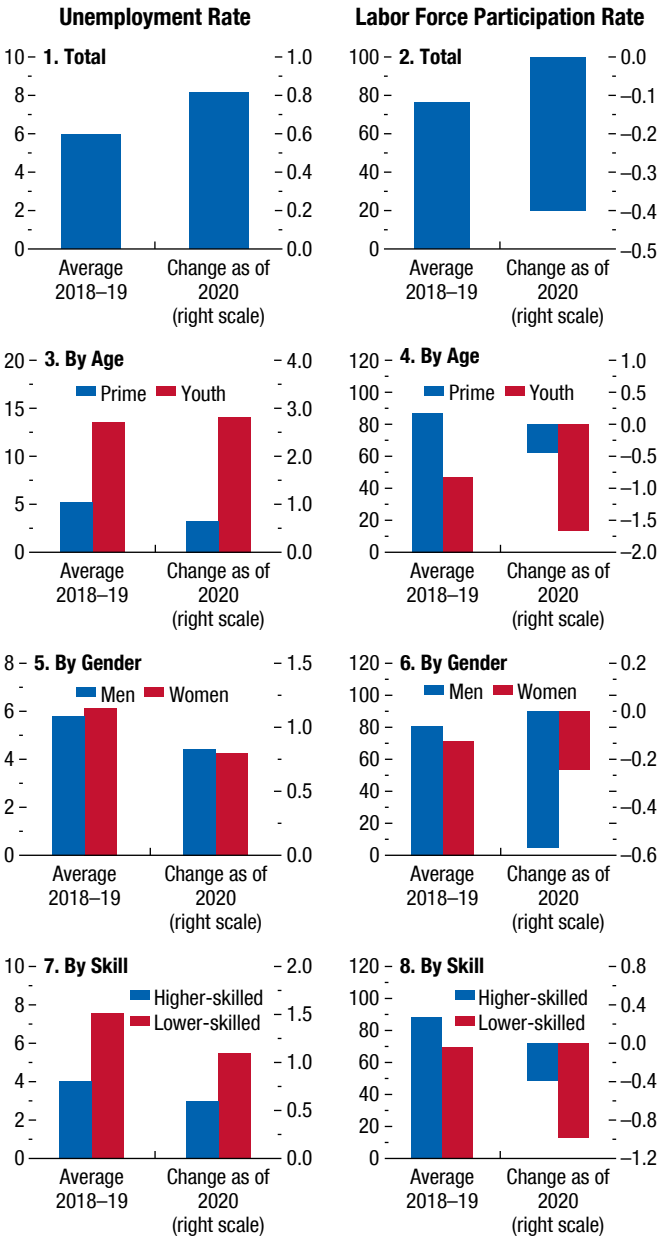
[1]Early in the crisis, studies indicated that women's employment was impacted more than men's in some advanced economies, unlike most previous downturns (Alon and others 2020). However, with some recovery as the year proceeded, the average differences have diminished. See Bluedorn and others (2021) for a more in-depth exploration of the phenomenon.

[2]Barrero, Bloom, and Davis (2020) focuses on the experience of the United States and argues that 32 percent to 42 percent of layoffs from the COVID-19 pandemic shock are likely to be permanent.

Figure 3.1. Labor Market Conditions in Advanced Economies

(Percentage points)

The COVID-19 pandemic has caused large worker dislocations in advanced economies, with highly unequal impacts across workers, on average, hitting youth and the lower-skilled harder.

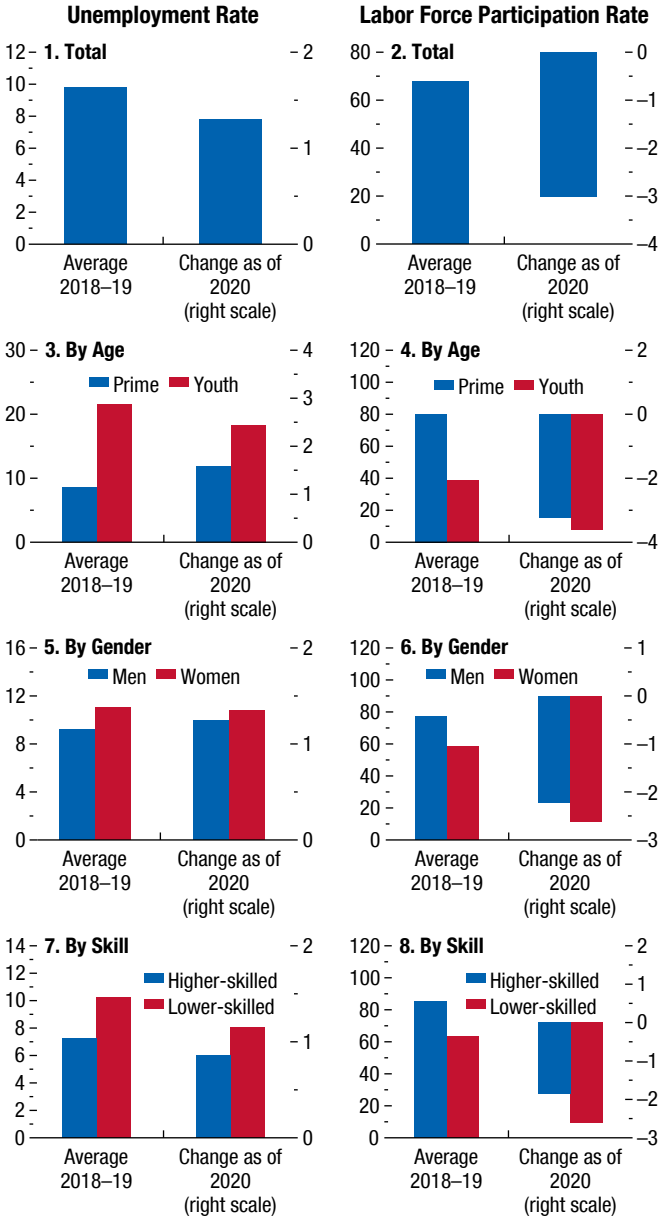


Sources: International Labour Organization; Organisation for Economic Co-operation and Development; and IMF staff calculations.
Note: "Change" is the average change in the indicated variable across countries in the group, calculated relative to its average value over 2018–19.
Higher-skilled = tertiary education and above; Lower-skilled = above secondary and nontertiary education and below. Prime age = 25 to 54 years old; Youth = 15 to 24 years old. To account for sample coverage changes, the average within the group over time is calculated from the normalized time fixed effects from a regression of the indicated variable on country and time fixed effects (Karabarbounis and Neiman 2014). See Online Annex 3.1 for further details.

Figure 3.2. Labor Market Conditions in Emerging Market and Developing Economies

(Percentage points)

The COVID-19 shock has led to sharp deteriorations in labor markets in emerging market and developing economies, hurting youth, women, and the lower-skilled worse, on average.



Sources: International Labour Organization; Organisation for Economic Co-operation and Development; and IMF staff calculations.
Note: "Change" is the average change in the indicated variable across countries in the group, calculated relative to its average value over 2018–19.
Higher-skilled = tertiary education and above; Lower-skilled = above secondary and nontertiary education and below. Prime age = 25 to 54 years old; Youth = 15 to 24 years old. To account for sample coverage changes, the average within the group over time is calculated from the normalized time fixed effects from a regression of the indicated variable on country and time fixed effects (Karabarbounis and Neiman 2014). See Online Annex 3.1 for further details.

with which economies can reemploy and reallocate workers across sectors and occupations will determine how long lived the effects on employment are.

With an eye to understanding the potential aftermath of the COVID-19 shock, this chapter studies unemployment, labor market transitions (job findings, separations, and employment changes across sectors and occupations), and earnings over the business cycle and across demographic groups. It investigates how policies—specifically those supporting job retention (preserving and maintaining existing employment matches) and worker reallocation (fostering new matches, assisting job search, and helping workers obtain useful new skills)—can mitigate the damage done by the shock. Given that the ultimate effects of the pandemic on the economy's structure remain highly uncertain and may vary across countries, the chapter uses a newly developed labor market model to examine how policies and the shock's persistence interact. Drawing on empirical and model-based analyses, the chapter investigates the following key questions:

- What is the sectoral character of the COVID-19 pandemic recession so far and how does it compare with past recessions?
- How have labor market inflows and outflows across sectors behaved in recessions and recoveries? Do recessions tend to amplify sectoral employment trends (in vulnerability to automation)?
- How do individual-level labor market outcomes (including sectoral and occupational employment transitions and associated earnings gains/losses) behave and differ across demographic groups (such as age, gender, and skill) and the business cycle?
- How effective are labor market policies encouraging job retention versus worker reallocation against the adverse effects from asymmetric shocks across sectors and occupations? Does the persistence of the shock matter?

Importantly, the chapter reflects on what the findings imply for the labor market during and after the COVID-19 pandemic recession and the role of policies. Due to data availability constraints, much of the historical empirical analysis is based on a sample of largely advanced economies over the past 30 years. As such, the patterns in labor markets identified and assessments of policy effectiveness and options may be less applicable to economies where large shares of employment are informal (as in some emerging market and developing economies).

The main findings of the chapter are:

- *The COVID-19 pandemic shock is accelerating preexisting employment trends with uneven impacts across demographic groups*. The shock has hit sectors that are more vulnerable to automation harder. Around the world, youth and the lower-skilled are more heavily impacted, on average, partly reflecting differences in workforce composition across sectors. In emerging market and developing economies, women's unemployment has risen more than men's, on average, while in advanced economies there is not much difference.
- *The pandemic recession is likely to inflict sizable costs on unemployed workers, particularly the lower-skilled.* While it is not uncommon for workers to reallocate across sectors and occupations after spells of unemployment, such reallocation is costly. On average, workers finding reemployment in an occupation different from their previous job experience an average earnings penalty of about 15 percent, pointing to large costs—both personal and social—from reallocation via unemployment.[3] Lower-skilled workers experience a triple whammy: they are more likely to be employed in sectors more negatively impacted by the pandemic; are more likely to become unemployed in downturns; and, those who are able to find a new job, are more likely to need to switch occupations and suffer an earnings fall.
- *Both retention and reallocation policies can help mitigate the impact on workers.* The persistence and asymmetry of the pandemic shock are crucial for the choice between retention and reallocation. Job retention policies—such as wage subsidies and short-term work schemes—are effective in lowering separations, while worker reallocation policies—such as hiring incentives, job search-and-matching assistance, and retraining programs—boost job finding and on-the-job occupational switches by those still in employment. Historically, the lower-skilled have tended to benefit more from job retention policies, while worker reallocation policies have bolstered women's and youth's prospects more.
  - For a transitory and asymmetric shock (such as a lockdown or sharp rise in social distancing affecting sectors differently), job retention policies are extremely powerful in reducing unemployment and providing near-term income insurance.

[3]See Helliwell and Huang (2014) and Reichert and Tauchmann (2017) for evidence on the large social costs of unemployment arising from spillovers across individuals to the larger labor market and increasing perceptions of job insecurity.

- For a permanent shock (such as a permanent shift in demand across sectors or drop in productivity in some sectors), worker reallocation policies that foster job creation perform better in the long term and hasten adjustment toward the new equilibrium.
- Where the shock is a mix of transitory and permanent components, a policy package that favors job retention while social distancing is pervasive, and then reallocation once it lifts, better mitigates unemployment dynamics.

Taken together, the findings suggest that countries with fiscal space should maintain support for job retention until the pandemic abates markedly, helping to avoid socially costly unemployment spells and to dampen the effects on more disadvantaged worker groups. In particular, the findings suggest that the use of retention policies could be linked to the duration and intensity of the pandemic. Uncertainties about the pandemic and its path mean that the phaseout of such measures is more complicated in practice; it requires careful monitoring of the pandemic (including rollout of vaccines) and judgment of the economy's ability to weather a reduction in support. Although the model-based analysis is unable to take account of tight fiscal space constraints, the powerful effects of job retention policies in avoiding deeper and more protracted employment deterioration from the pandemic suggest that such measures should be prioritized.

Policies could also be designed to target more-affected worker groups—for example, increasing wage subsidies for youth or lower-skilled workers—to discourage firms from letting these workers go and reduce the unequal impact of the shock. As a recovery gets under way, a more vigorous deployment of worker reallocation support can hasten labor market adjustment. However, it is important to be realistic about how quickly progress in reallocation—particularly the long-term shifting of workers from occupations more- to less-vulnerable to automation—can be achieved given skill mismatches. Human capital investments to help workers reskill for new occupations will take time.[4]

[4]See World Bank (2018, 2019) for how policymakers can adjust policies and improve education and lifetime learning systems to help workers adapt to the changing nature of work as technology advances. See also Edelberg and Shevlin (2021) for a discussion of how policies to boost workforce training may help ease the employment recovery from the pandemic in the United States.

There are some important caveats to the findings. First, country and time coverage vary across empirical exercises because of differences in data availability and are typically more representative of advanced economies' experiences. Recent studies of emerging market and developing economies suggest that economies with larger shares of informal employment are suffering initially sharper declines in employment from the pandemic, but that they may also be poised to experience faster labor market recoveries after the shock passes as informal jobs can be (re)created more quickly.[5] The lack of channels to provide job retention support to informally employed workers may also mean that greater reliance on policies such as cash transfers may be needed to provide income insurance.[6] Second, given that national policies and individual labor market outcomes may be affected by many different variables for which the analysis is unable to fully account, the estimated effects of national-level job retention and worker reallocation policies on individual-level labor market transition probabilities should be interpreted as associational rather than causal. Third, the model-based analysis should be considered illustrative, highlighting key considerations relevant to the choice between job retention and worker reallocation support. Uncertainties about the size and structure of permanent effects from the COVID-19 shock are large, and past recoveries may not be fully representative. Policymakers may need to be nimble in their responses (see also Chapter 2).

This chapter begins with a look at differences in the labor market impact of the COVID-19 pandemic recession across sectors; how past downturns compare; and the relationship between sectoral reallocation and the business cycle through the lens of worker flows, focusing on vulnerability to automation. It then turns to individual-level labor market transitions, earnings changes, and differences across demographic groups. It also estimates how these have varied across past business cycles and what these patterns may imply for the COVID-19 shock. The penultimate section presents empirical estimates of the associations of job retention

[5]For in-depth looks at specific emerging market and developing economies and how informality in employment may affect the impact of the COVID-19 shock, see Alfaro, Becerra, and Eslava (2020); Balde, Boly, and Avenyo (2020); Kesar and others (2020); and Levya and Urrutia (2020), among others. Historically, greater informality has been associated with a lower cyclical sensitivity of employment (Ahn and others 2019).

[6]See Díez and others (2020) for a discussion of delivery modalities for support to informal workers during the pandemic.

and worker reallocation policies with labor market transitions and the findings from a model-based analysis illustrating the effectiveness of these policies in responding to a lockdown or social-distancing shock. The chapter concludes with a summary of the main takeaways and policy implications.

Sectoral Shocks, Trends in Reallocation, and the Business Cycle

Reflecting the larger direct impact of the pandemic on more contact-intensive work and sectors, the COVID-19 shock has been highly asymmetric in its employment effects across sectors (Figure 3.3, panel 1; see also Chapter 2).

The COVID-19 Shock's Impacts Differ across Sectors

In advanced economies, the sharpest drops in employment were in the wholesale and retail trade, transportation, accommodation and food service, and arts and entertainment sectors, unlike during previous recessions over the past 50 years, when the manufacturing and construction sectors were typically the most negatively impacted (Figure 3.3, panel 2). Some sectors, such as information and communication and finance and insurance, have even experienced employment growth during the pandemic, further highlighting divergent fortunes. Interestingly, the broad sectoral pattern is similar to that observed in previous recessions, which seem to accelerate preexisting structural trends hastening a shift in employment away from sectors more vulnerable to automation (Figure 3.3, panel 3).[7]

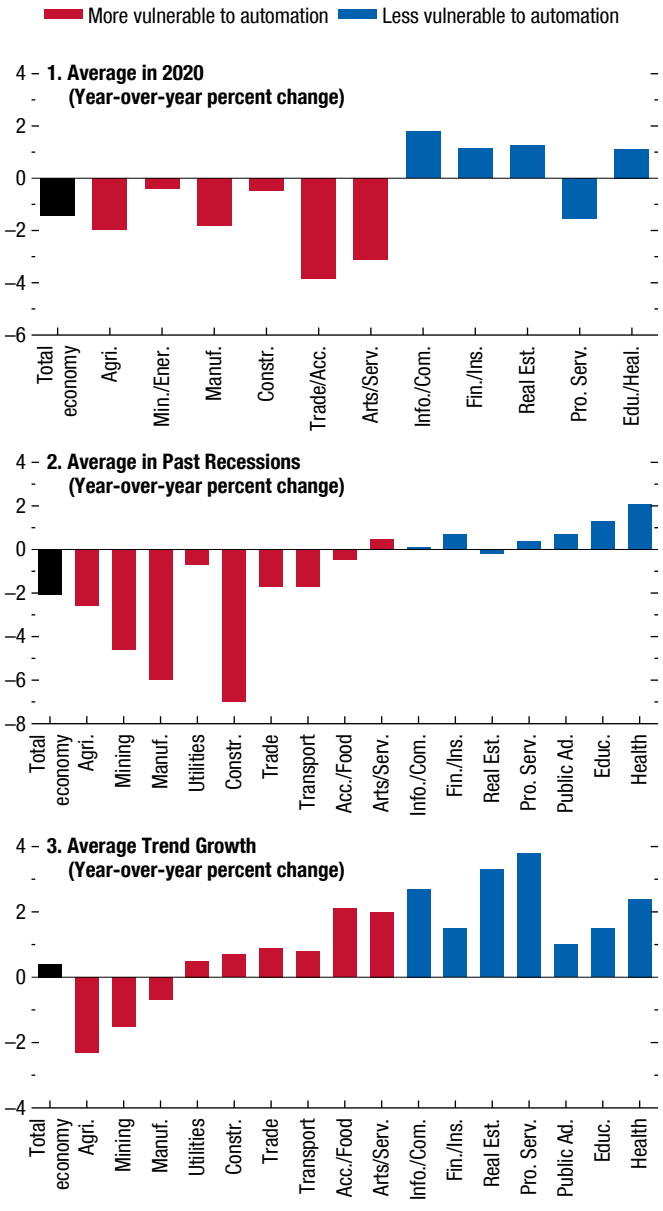
The Shock Hits Workers Unequally, with Youth and the Lower-Skilled More Affected

Inequalities in the labor market impacts of the pandemic across demographic groups highlighted in the introduction may in part reflect these asymmetric sectoral impacts of the COVID-19 shock.

[7]Some recent studies have also classified jobs according to their "teleworkability" (for example, Dingel and Neiman 2020). Most teleworkable jobs are found in sectors that are classified as less vulnerable to automation, meaning there is also a trend toward greater teleworkability in employment. However, there are some differences. Sectors that are less vulnerable to automation but not teleworkable include utilities and arts and entertainment, while sectors that are teleworkable but more vulnerable to automation include administrative services. See Online Annex 3.1 for a tabulation.

Figure 3.3. Sectoral Employment Growth and the Business Cycle

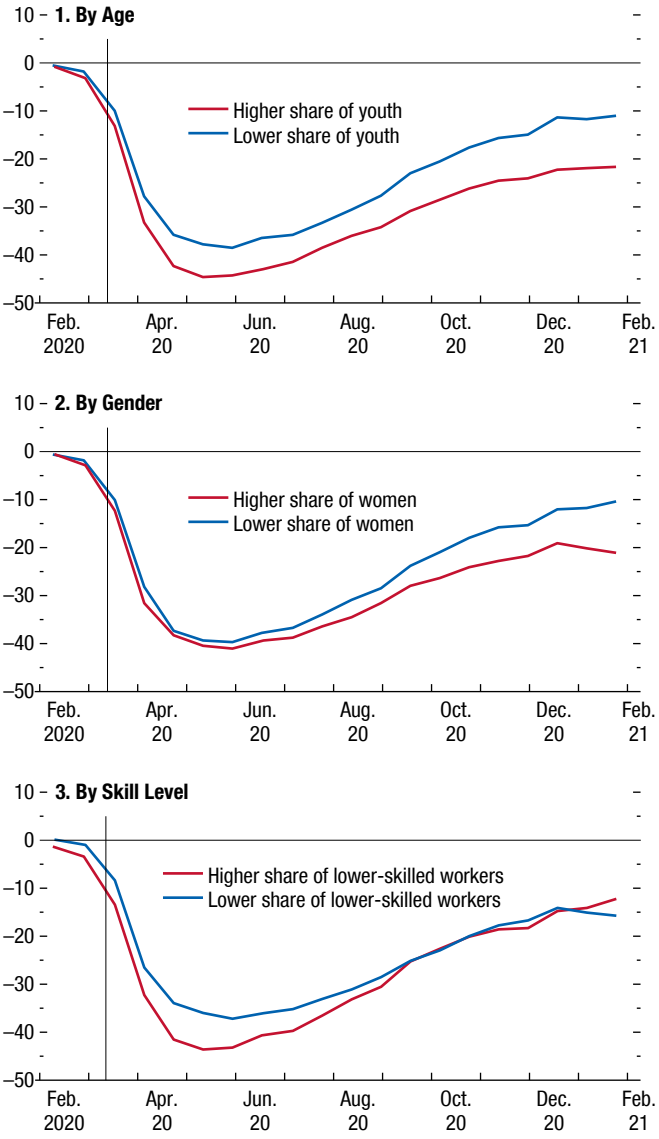
COVID-19 has hit sectors unevenly, with the most-impacted different than in past recessions, but still hastening an uptick in automation trends.



Sources: Choi and others (2018); EU KLEMS; International Labour Organization; Organisation for Economic Co-operation and Development; Statistics Canada; US Bureau of Economic Analysis; World KLEMS; and IMF staff calculations.
Note: Sector groupings in panel 1 are slightly different from those in panels 2 and 3 due to reporting differences in the quarterly sectoral national data. Total economy indicates employment for the economy as a whole. Sectors are classified according to ISIC Revision 4. Sectors are classified as more (less) vulnerable to automation if more (less) than half their share of employment is in occupations classified as highly exposed to routinization (Carrillo-Tudela and others 2016). Underlying data for panel 1 cover 2019:Q1–2020:Q4 and for panels 2 and 3 span 1970–2019, as available. Patterns in average trend growth are similar over the shorter period, 2010–19. See Online Annex 3.1 for further details, including the list of abbreviations.

Figure 3.4. Changes in Sectoral Online Job Posting Trends
(Percent; gap in trend from a year ago, indexed to February 1, 2020)

Sectoral workforce composition accounts for some of COVID-19's unequal impact across groups of workers.



Sources: EU Labour Force Survey; Indeed; Integrated Public Use Microdata Series, Current Population Survey; and IMF staff calculations.
Note: Data are as of February 16, 2021. Higher (lower) demographic representation in employment by sector is defined as whether the share of young or lower-skilled workers is above (below) the economy-wide average or whether the share of women employed is above (below) 50 percent in a sector. The sample includes a mix of advanced and emerging market economies. Vertical line = March 10, 2020 (Italy enters country-wide lockdown). See Online Annex 3.1 for further details, available at www.imf.org/en/Publications/WEO.

When split according to the proportion of these demographic groups represented in a given sector, the latest high-frequency data on trends in online job postings suggest that sectors that tend to have more youth, women, or lower-skilled workers are likely to have underperformed more than other sectors (Figure 3.4). In other words, demographic differences in employment across sectors and occupations—such as a concentration of workers from disadvantaged groups—are likely contributing to differences in outcomes across groups in the current crisis.[8]

Past Recessions Suggest COVID-19 Shock Requires Worker Reallocation

Based on past shocks, it seems likely that some of this uneven sectoral impact from the COVID-19 pandemic shock reflects a longer-lived labor reallocation shock that is contributing to the unemployment rise.

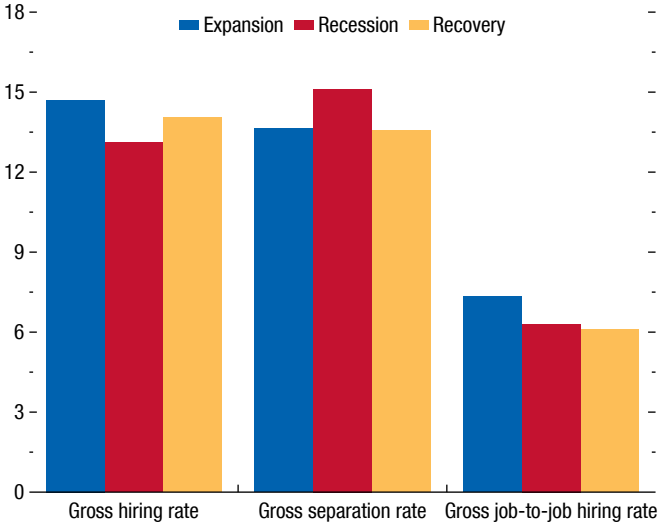
As seen in the behavior of gross worker flows, built up to the country level from microdata on workers, recessions are typically characterized by declines in gross hiring rates (hires into new or existing jobs as a share of employment) and rises in gross separations (job terminations, whether voluntary or involuntary, as a share of employment), consistent with a rise in unemployment during downturns (Figure 3.5).[9]

[8]See Cajner and others (2020) on how the sectoral nature of the COVID-19 shock may drive much of the disparity in effects across worker groups. Dam and others (2021) and Klein and Smith's (2021) early analysis of the COVID-19 pandemic's impact in the United States indicate that workers from ethnic minorities (African American and Hispanic) have been disproportionately hurt. Previous research has also pointed out the unequal effects of downturns, with historically more disadvantaged groups (youth and ethnic minorities, among others) more likely to experience protracted unemployment and income losses (Altonji and Blank 2004; Raaum and Røed 2006; Oreopoulos, von Wachter, and Heisz 2012; among others). Earlier work has also suggested that composition of employment across sectors and occupations, and hence unequal exposure to shocks, may account for some differences (Davis and von Wachter 2011; Peiró, Belaire-Franch, and Gonzalo 2012; Albanesi and Şahin 2018). Beyond differences in the sectoral or occupational exposure to the shock, other features that could be associated with sector of employment and occupation may contribute to inequalities across worker groups (for example, the prevalence of temporary versus permanent employment contracts, strength of worker bargaining power). See Kikuchi, Kitao, and Mikoshiba (2020), which finds that more employment on temporary contracts may account for the large impact of the COVID-19 shock on women in Japan in the early phase of the pandemic.

[9]Recessions are years of negative real GDP growth. Recoveries are years after a recession when output remains below its previous historical maximum. See Online Annex 3.1, available at www.imf.org/en/Publications/WEO, for a description of the business cycle dating algorithm used to identify phases.

Figure 3.5. Labor Market Turnover across Business Cycles
(Percent)

Hiring falls and separations rise in recessions compared with expansions, reversing somewhat in recoveries.



Sources: EU Labour Force Survey; Integrated Public Use Microdata Series, Current Population Survey; and IMF staff calculations.
Note: Hiring and separation rates and their components are calculated as annual hires/separations divided by average employment over the current and previous years. All rates are statistically significantly different, except those for job-to-job hiring rates for recession and recovery and those for separation rates for recovery and expansion. See Online Annex 3.1 for further details about the data and business cycle dating.

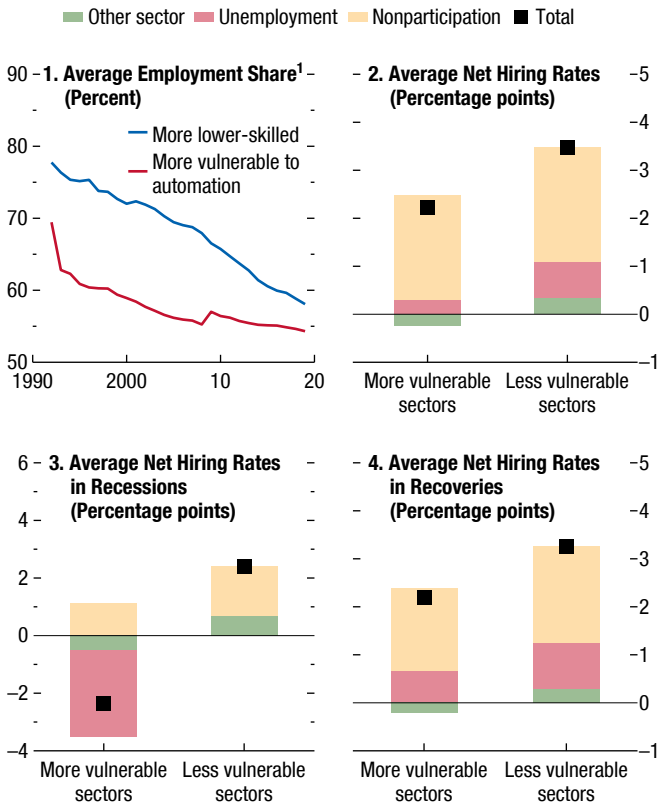
The job-to-job hiring rate (hires from the employed as a share of employment) also tends to drop, suggesting that reallocation through job-to-job changes is inhibited during downturns. Within the job-to-job flows, about two-thirds of all flows are within the same sector. All of these mechanisms are likely to be operating during the COVID-19 pandemic recession.

Sectors More Vulnerable to Automation Are Harder Hit, Similar to Past Recessions

Over time, employment has been shifting away from sectors that are more vulnerable to automation, and the share of employed workers with lower skills has fallen (Figure 3.6, panel 1). The shift reflects in part direct movement of workers from more vulnerable to less vulnerable sectors, but more often it results from net hiring of workers from unemployment and nonparticipation (Figure 3.6, panel 2). This suggests that sectoral reallocations often happen after a spell of nonemployment. Because reallocation

Figure 3.6. Sectoral Employment, by Vulnerability to Automation, Skill Level, and Business Cycle

Employment trends favoring higher-skilled sectors that are less vulnerable to automation occur more as a result of joblessness spells than on-the-job sectoral changes, accelerating during recessions.



Sources: EU Labour Force Survey; Integrated Public Use Microdata Series, Current Population Survey; and IMF staff calculations.
Note: Sectors are classified as more vulnerable to automation if more than half their share of employment is in occupations classified as highly exposed to routinization (Carrillo-Tudela and others 2016). Sectors are classified as more lower-skilled if the sectoral share of lower-skilled employment is greater than the economy-wide average. Net hiring rates are calculated as the difference between annual hires and separations, divided by the average employment over the current and previous year. See Online Annex 3.1 for further details.
[1]To account for sample coverage changes, the average share of employment in working-age population across selected economies over time is calculated according to the normalized time fixed effects from a regression of the indicated variable on country and time fixed effects (Karabarbounis and Neiman 2014).

tends to work more through joblessness, its social costs can be high, particularly during recessions when sectors that are more vulnerable to automation exhibit large outflows into unemployment, as is likely with the COVID-19 shock (Figure 3.6, panel 3). Indeed, as remarked above, employment in sectors that are more vulnerable to automation has declined more steeply during the COVID-19 pandemic, similarly to earlier recessions.

In sum, the COVID-19 pandemic shock has been highly asymmetric in its employment impacts across sectors and demographic groups. Moreover, if the past is any guide, these effects may have a long half-life and entail the need for some reallocation. In particular, the shock is accelerating preexisting automation trends, leading more vulnerable sectors to shrink, and encouraging employment growth in expanding sectors. Differences in workforce composition across sectors imply that some worker groups—particularly the lower-skilled—face more tenuous job prospects.

Labor Market Transitions, Inequality, and Recessions

An alternative perspective to aggregate worker flows emerges from an examination of individual-level labor market transitions—such as an unemployed person finding a job, an employed person losing or separating from a job, and sectoral and occupational changes in employment (either on the job or after an unemployment spell)—which allows for demographic differences in prospects to be identified. As shown here, lower-skilled workers are likely to be particularly hurt by the COVID-19 pandemic recession.

Job Finding Is Lower and Job Separation Higher in Recessions than in Expansions

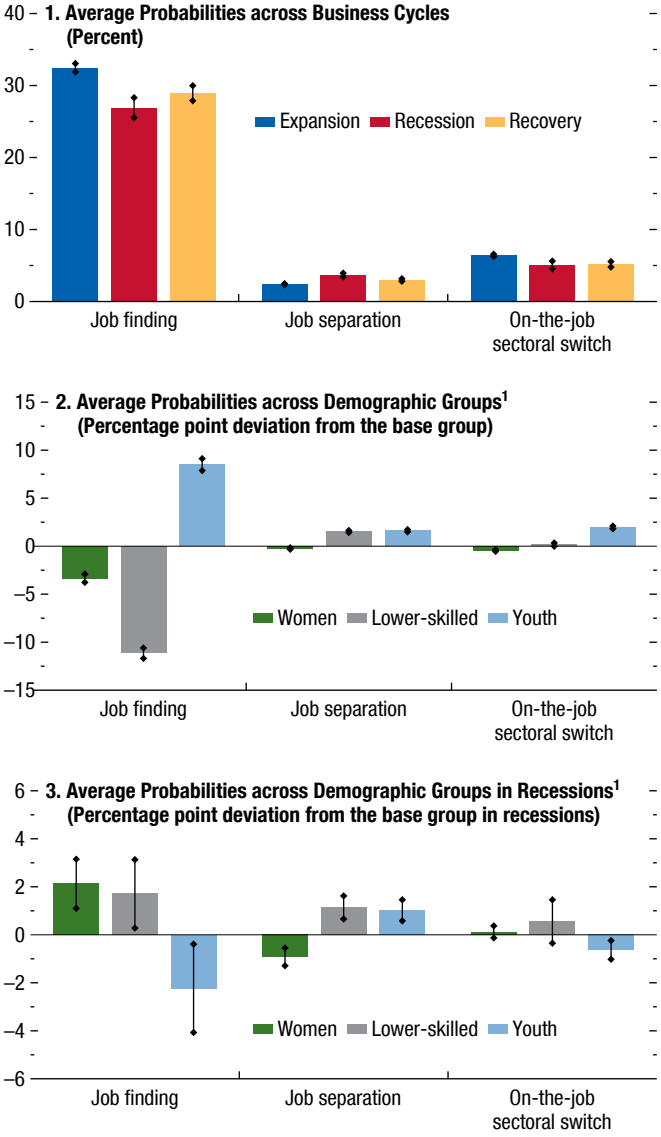
The probability of finding a job is lower in recessions and recoveries than in expansions, while the reverse is true for job separations (Figure 3.7, panel 1). The likelihood of switching the sector of employment while on the job also tends to follow the cycle—rising in expansions and falling in recessions—although the estimated difference across business cycle phases is not statistically significant.[10]

These average labor market transition likelihoods mask systematic differences across demographic groups. Using a linear probability model augmented with individual-level characteristics, the average effects of these characteristics on labor market transitions are estimated. The results suggest that finding a job is easier for young than prime-age workers while, on average, it is more difficult for women than men and the lower-skilled than the higher-skilled (Figure 3.7, panel 2). Losing a job tends to be more likely for the young or lower-skilled,

[10]The procyclicality of sectoral switches in employment is also found in the literature (Carrillo-Tudela, Hobijn, and Visschers 2014; Carrillo-Tudela and Visschers 2014; and Carrillo-Tudela and others 2016).

Figure 3.7. Labor Market Transition Probabilities across Business Cycles and Demographic Groups

Individual labor market transitions exhibit business cycle patterns similar to those of worker flows, but there is significant variation in prospects across demographic groups, with youth and the lower-skilled at particular disadvantage in the labor market.



Sources: EU Labour Force Survey; Integrated Public Use Microdata Series, Current Population Survey; and IMF staff calculations.
Note: Job finding calculations comprise individuals who were unemployed in the previous year and are employed in the current year. Job separation calculations comprise individuals who were employed in the previous year and are unemployed in the current year. On-the-job sectoral switches comprise individuals who are employed in the previous and current years and changed their sector of occupation. The whiskers indicate the 95 percent confidence band. See Online Annex 3.1 for further details.
[1]Base group is prime-age and higher-skilled men.

while the separation likelihood for women appears about the same as that of men. At the same time, youth are also more likely than prime-age individuals to change jobs across sectors while employed.

Youth and the Lower-Skilled Were Also Most Affected in Past Recessions

Zooming in on transitions during past recessions, systematic differences across groups are also evident (Figure 3.7, panel 3). Youth tend to be particularly disadvantaged in finding a job and more likely to lose one than prime-age workers in a downturn. Historically, women have seen smaller drops in job finding and rises in separations than men during a recession. The story for the lower-skilled is more complex, with both a higher likelihood of finding a job than the higher-skilled, but also of losing it in a recession. However, the separation effect likely dominates, leading the lower-skilled to be more prone to end up unemployed in a recession than the higher-skilled. On-the-job sectoral switches in employment show no clear pattern.

These findings suggest that past recessions showed many similar features to the current crisis, with youth and the lower-skilled particularly disadvantaged in the labor market. The earlier signs that women in advanced economies were also hurt more on average by the COVID-19 shock—different from the typical patterns of previous recessions—appear to be fading.

Switches in Occupations Are More Frequent after Unemployment Spells and Inflict Earnings Penalties

Beyond shifts in sectoral employment, labor market adjustment may also reflect workers changing not only jobs, but occupations.[11] This dimension has become particularly relevant with the COVID-19 shock, given the premium placed on occupations that allow individuals to work from home.[12] However, occupational switches by workers and their associated earnings changes do not occur in a vacuum; they likely depend on a worker's employment history.

Based on a panel data set of individuals from a sample of European economies, the probability of an occupational switch and earnings change reflect this dependence. Among those who are "on the job" (continuously employed over the past two years), occupational switch incidence is only about 10 percent; for a worker reemployed after a one-year unemployment spell ("via unemployment"), it is nearly five times higher, at almost 50 percent (Figure 3.8, panel 1).[13] In other words, workers appear to generally prefer sticking with their current occupation, unless circumstances—such as prolonged unemployment—force them to switch.

These worker preferences are also evident in the earnings changes associated with occupational switches when comparing those who switched with those who stayed in their original occupations (Figure 3.8, panel 2). Among the employed, those who switched occupations saw an average earnings gain of about 2 percent, suggesting that they changed occupations because it was advantageous. In contrast, among unemployed workers who successfully found new employment, those who switched occupations saw an average earnings penalty of about 15 percent, indicating that they may have had to take a less desirable job.[14]

The state of the business cycle does not appear to significantly impact the occupational switch probabilities and the associated earnings changes.[15] Even so, the fact that unemployment rises in a recession and that the incidence of occupational switches is larger after unemployment spells, indicates that mechanically there are likely to be more occupational switches and more workers suffering earnings penalties on reemployment after recessions, including the COVID-19 pandemic recession.

[11]For the analysis here, these are classified into broad categories, such as managers, clerical support workers, craftspeople, and plant and machine operators, as per the International Standard Classification of Occupations 2008 major groups occupational classification. See Online Annex 3.1 for more details.

[12]For instance, Hensvik, Le Barbanchon, and Rathelot (2021) finds that job seekers tend to redirect their search toward less severely hit occupations, beyond what is predicted by the drop in vacancies during the COVID-19 pandemic. See also Shibata (forthcoming), which finds that more teleworkable jobs are more insulated from the business cycle, including the pandemic recession, in the United States.

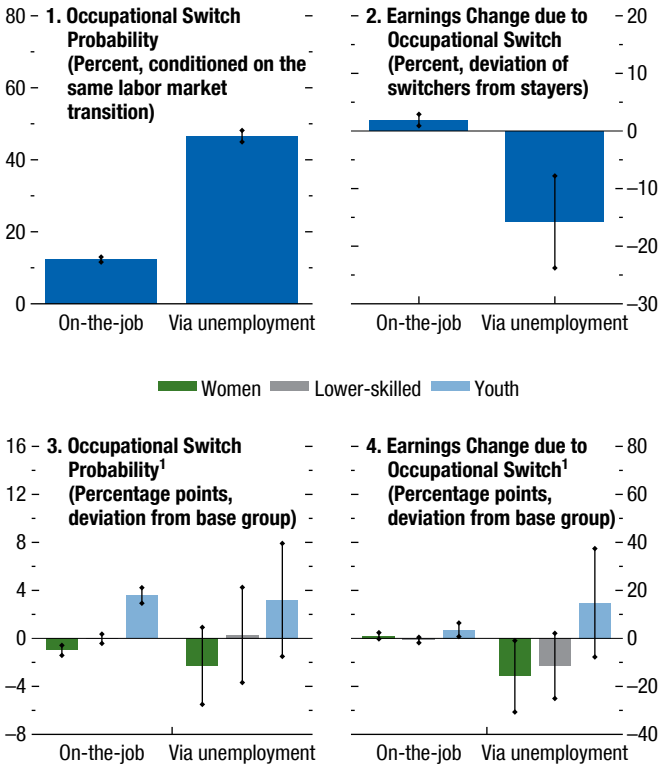
[13]The probability of an occupational switch via nonparticipation is similar to the probability via unemployment.

[14]Although it is not possible to precisely compare the magnitudes of this measure in the literature because of differences in the sample of countries and level of disaggregation of occupation categories, these results are broadly in line with previous studies—see Huckfeldt (2018) and Gertler, Huckfeldt, and Trigari (2020). The stylized facts are also consistent with theories of sequential bargaining in which a worker's bargaining position is affected by their recent employment history (see, for example, Postel-Vinay and Robin 2002; Cahuc, Postel-Vinay, and Robin 2006; and Jarosch 2015). An earnings penalty with an occupational switch after an unemployment spell also arises in a model of selective hiring (Huckfeldt 2018). Furthermore, the earnings change is due mainly to changes in the hourly wage change and not changes in hours worked.

[15]The one exception is the earnings change associated with an on-the-job occupational switch, which is smaller during a recession.

Figure 3.8. Occupational Switches

Occupational switches after periods of unemployment are common but costly in earnings.



Sources: EU Statistics on Income and Living Conditions; and IMF staff calculations.
Note: Occupational switches on-the-job are calculated from individuals who are employed in the current and previous year and switched occupations. Occupational switches via unemployment are calculated from individuals who are employed in the current year and were unemployed last year and switched occupations (based on their occupation of record two years before when last employed). The whiskers indicate the 95 percent confidence band. See Online Annex 3.1 for further details.
[1]Base group is prime-age and higher-skilled men.

When comparing the incidence and earnings consequences of occupational switches across demographic groups, some notable differences are apparent. Women are less likely than men to switch occupations, either while on the job or after a period of unemployment. However, once women switch occupations, the associated earnings change (whether gain or penalty) tends to be larger than it is for men.[16] Youth are much more likely than prime-age individuals to switch occupations, either on the job or via unemployment (although the difference via unemployment is not statistically significant). Youth also see larger earnings gains from on-the-job occupational switches. Comparing the lower-skilled to the higher-skilled, there are no statistically significant differences in occupational switch incidence nor their associated earnings changes, although there are some signs that the lower-skilled may experience a larger earnings penalty after an occupational switch via unemployment.

These findings on occupational switches and their associated earnings changes across demographic groups do not differ much between expansion and recession periods. However, among lower-skilled workers able to find reemployment, the likelihood of switching occupations via unemployment increases during a recession.[17] This is particularly worrisome in light of the COVID-19 pandemic recession, given that it suggests that the lower-skilled are likely being hit with a triple whammy: they are more likely to be employed in sectors more negatively impacted by the pandemic; are more likely to become unemployed in downturns; and those who find a new job are also more likely to have had to switch occupations and suffer an associated earnings penalty.

Policy Responses to the COVID-19 Shock: Job Retention versus Worker Reallocation

As the previous sections have shown, labor market transitions tend to track the business cycle, with the probabilities of job separation rising and job finding falling with adverse shocks, and youth and the lower-skilled tending to be hurt even more, on average. Can policies help mitigate these effects while also easing any needed labor market adjustment?

The COVID-19 pandemic has prompted extraordinary policy support in many countries, devoted largely to preserving employment relationships and providing workers with income insurance (often through expanded eligibility for and generosity of unemployment benefits; Figure 3.9).[18] As the pandemic continues, discussion focuses more and

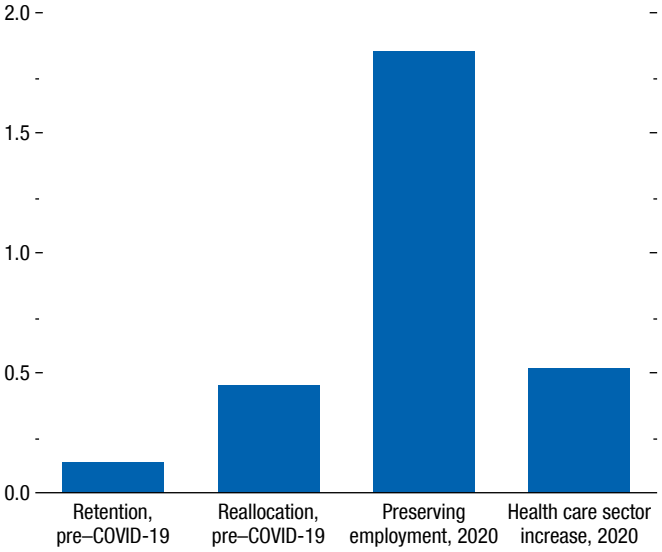
[16]See Montenovo and others (2020) and Shibata (forthcoming) for related evidence on the distributional impacts of COVID-19 in the US labor market.

[17]It is important to emphasize that the results shown here on occupational switch probabilities and associated earnings changes for the lower-skilled already select for lower-skilled workers who found a job after a period of unemployment and exclude lower-skilled workers who could not find a job.

[18]See the IMF's COVID-19 Policy Tracker for details on specific measures. Importantly, any disincentives for reemployment from extensions to unemployment benefit schemes—key insurance for those who have lost jobs—appear to be markedly reduced during recessions (Schmieder, von Wachter, and Bender 2012).

Figure 3.9. Public Spending on Retention and Reallocation Policies: Before COVID-19 and Response to COVID-19
(Percent of GDP)

Average public spending to preserve employment after the COVID-19 shock is dramatically larger than job retention spending in the past. The rise in health sector spending alone is on par with average spending on reallocation in the past.



Sources: IMF, COVID-19 Policy Tracker; Organisation for Economic Co-operation and Development; and IMF staff calculations.
Note: Bars show the average public spending on the indicated area as a share of GDP. See Online Annex 3.1 for further details.

more on the roles of two broad sets of policies and when to use them: those aimed at job retention (maintaining existing matches between workers and employers) and those aimed at worker reallocation (creating new jobs and facilitating workers' shift away from shrinking and toward growing sectors and occupations).[19]

To make some headway on this question, this section first provides an empirical assessment of the effects of country-level public spending in the broad areas of job retention and worker reallocation policies on individual-level labor market transitions. However, recognizing that these estimates should be interpreted as associational rather than causal, and that the pandemic shock possesses features not seen in recent history, it then presents a newly developed search-and-matching model to study the choice between retention and reallocation policies in responding to an adverse lockdown or social-distancing shock. The laboratory of the model enables key features of the pandemic shock—such as its asymmetric impacts across occupations—and policies to be considered.

[19]Specifically, policy tools to encourage job retention include wage subsidies, short-term work schemes, and partial unemployment benefits, while those that foster worker reallocation include hiring and start-up incentives, job search-and-matching assistance, and retraining programs.

Empirical Estimates of Labor Market Policy Effectiveness

Building on the analysis of individual-level labor market transitions, variables capturing spending as a share of average income per unemployed person on labor market policies aimed at job retention and worker reallocation are included in the linear probability model. Although this model incorporates fixed effects (country and time) and macroeconomic controls (such as the output gap), omitted variables correlated with the labor market policy variables remain a concern, such that the results should be interpreted as associational rather than causal.[20]

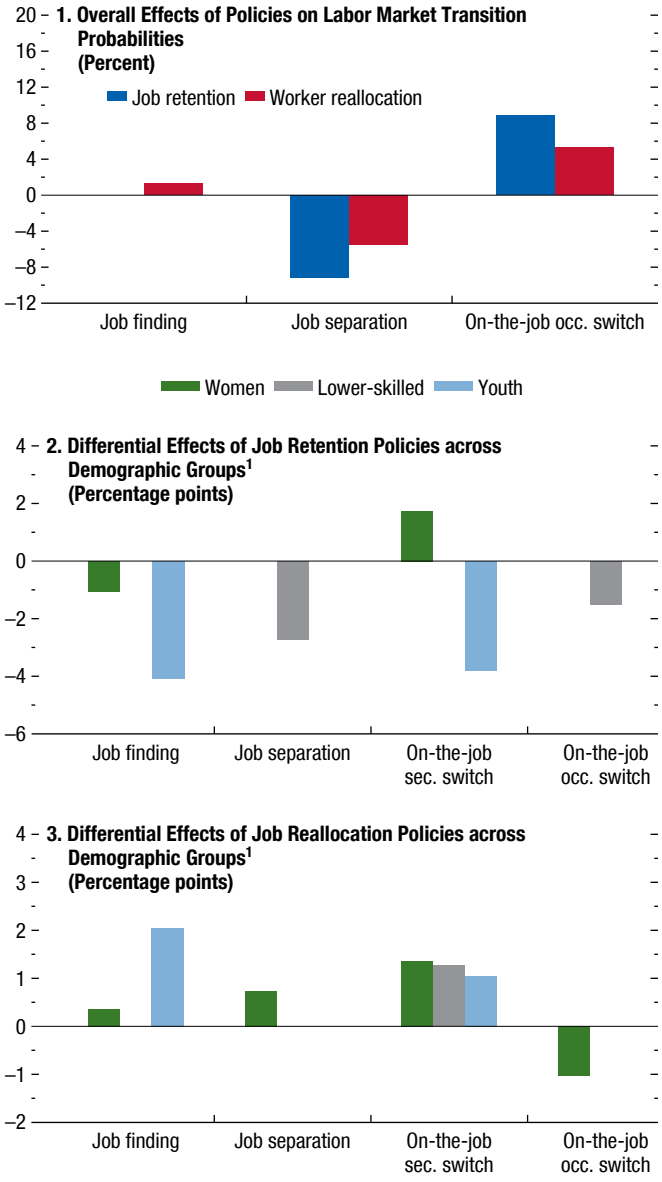
Focusing only on relationships that were estimated to be statistically significant, job retention policies are found to lower job separation probabilities, on average, while worker reallocation policies raise the likelihood of job finding and on-the-job occupational switches, consistent with what many models of such policies suggest (Figure 3.10, panel 1).[21] At the same time, retention policies also appear to be associated with a higher overall likelihood of on-the-job occupational switches and reallocation policies with a lower separation probability, which are more puzzling. These results may reflect imperfect measurement of job retention and worker reallocation policies as aggregates of spending to improve labor market functioning. These include spending on training programs—delivered either on the job in the case of retention, or outside of work where reallocation is the aim. To the extent that such programs increase a worker's productivity, they may also raise their value to their employers

[20]Although the fixed effects do effectively capture the average impacts of country-specific characteristics (such as the stringency of labor market regulations and the structure of labor market institutions) on the outcomes, the impacts of these characteristics on the effectiveness of the policy interventions explored here cannot be independently assessed. The policy effects shown represent the average policy effect.

[21]In a canonical Diamond-Mortensen-Pissarides search-and-matching model of the labor market, layoff taxes (a kind of job retention policy) reduce job destruction while having an ambiguous effect on job creation (Pissarides 2000). In contrast, hiring subsidies (a kind of worker reallocation policy) in the model increase both job creation and job destruction.

Figure 3.10. Effects of Job Retention and Worker Reallocation Policies

Job retention and worker reallocation policies can help mitigate adverse shocks and improve labor market functioning.



Sources: EU Labour Force Survey; EU Statistics on Income and Living Conditions; Integrated Public Use Microdata Series, Current Population Survey; and IMF staff calculations.
Note: Panel 1 shows the percent change in the indicated transition probability (relative to its average value) associated with a 1-percentage-point increase in the indicated policy spending as a share of average income per unemployed person. Panels 2 and 3 show the percentage points of the indicated transition probability as deviations from the base group. Only estimated effects that are statistically significant at the 95 percent level are shown. See Online Annex 3.1 for further details, including for the specific means of the labor market transition probabilities. occ. = occupational; sec. = sectoral.
[1]Base group is prime-age and higher-skilled men.

(reducing separations) as well as their interest in and capability of switching occupations while on the job.

Retention and reallocation policies may also have different impacts across demographic groups, potentially reflecting demographic differences in employment in sectors and occupations benefiting from these policies as well as direct targeting of specific groups.[22] The empirical results suggest that job retention policies have tended to lower job separation probabilities more for the lower-skilled than the higher-skilled, while worker reallocation policies have tended to boost job finding chances for youth and women more than for prime-age individuals and men (Figure 3.10, panels 2 and 3). The results are consistent with a greater risk of layoff for the lower-skilled after an adverse shock and, thus, their greater benefit from retention policies. In the case of youth, the results may reflect a greater capability to benefit from reallocation spending related to training. Women's typically weaker labor force attachment may also translate into a greater sensitivity to reallocation policies that enhance job finding.

Economic Policy Responses to a Pandemic: Model-Based Analysis of Job Retention and Worker Reallocation

The preceding empirical analysis suggests that retention and reallocation policies can be effective tools to respond to the labor market deterioration caused by the COVID-19 pandemic recession. As remarked earlier, to address concerns that the empirical estimates are associational and better disentangle the effects of policies, this chapter also presents a newly-developed labor market search-and-matching model to study the roles of job retention versus worker reallocation policies in responding to the COVID-19 shock.[23]

The model incorporates several features that are essential to a better understanding of labor market support measures at this juncture. There are two occupations in the economy, which differ in their contact intensity (and exposure to the pandemic shock). Workers in the two occupations differ in their productivities. Firms enter and exit freely in the model, paying a cost to post a vacancy (create a job). Firms also make different employment offers, depending on workers'

[22]These estimated differential effects are likely better identified than those for the overall policy effects, given that they are adjusted for the impact of any omitted variables by country-year that could be confounded with labor market policies.

[23]The model calibration is partially informed by the empirical results. See Online Annex 3.1 for further details.

productivity.[24] As in the empirical results, workers in the model who switch occupations while on the job experience a modest earnings gain, whereas workers who switch after an unemployment spell see a marked drop in earnings. An unemployment benefit system operates in the background, offering some insurance to unemployed workers.

The COVID-19 shock is modeled as an adverse "lockdown" shock associated with an increase in social distancing that hurts one of the two occupations more than the other. The shock is set to replicate the initial increase in unemployment observed in the United States and is presumed to last for four periods (quarters). Given uncertainties about the persistence of the shock, two cases are considered: (1) a transitory shock, where productivities return to their initial levels after the shock abates; and (2) a more likely hybrid shock, which is largely transitory but with some permanent component (specifically, half of the shock to the more-impacted occupation is permanent).

Three policy scenarios are considered and compared against a no-policy intervention benchmark: (1) job retention support, in which the government provides transfer payments to firms to support a portion of their wage bill when the match between a firm and worker becomes unprofitable; (2) worker reallocation support, in which the government offers a subsidy to firms to reduce their vacancy cost and stimulate job creation; and (3) a package, which first provides job retention support and then worker reallocation support.[25] In the first two scenarios, support is coincident with the transitory component of the shock (for four quarters), while in the package, worker reallocation support is offered after the transitory component has passed but the permanent effects are still unfolding.

To get a sense of what the persistence of the lockdown shock means for the economy, consider the no-policy intervention benchmarks under the transitory and hybrid shocks (Figure 3.11, panels 1 and 2). When the shock hits the economy, it reduces the output produced by firms and workers, making some job matches unprofitable and leading to job losses and a sharp rise in unemployment. Given that a firm's profitability increases with worker productivity, lower-skilled

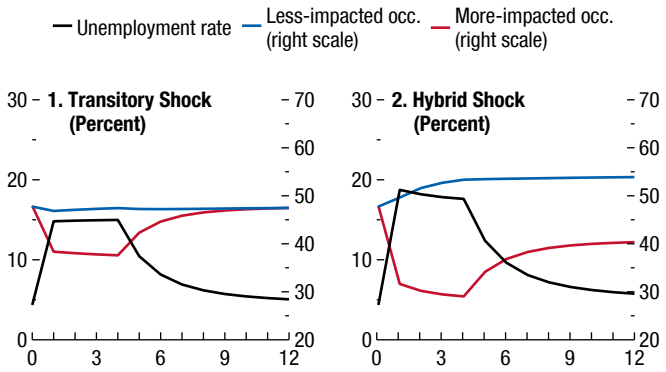
[24]Wages are fixed for the duration of the job match once the firm and the worker agree.

[25]Government transfers for job retention have an upper limit calibrated to replicate public expenditure on job retention policies observed in the data. Policies are financed using public debt in the short term, which the government pays back over time.

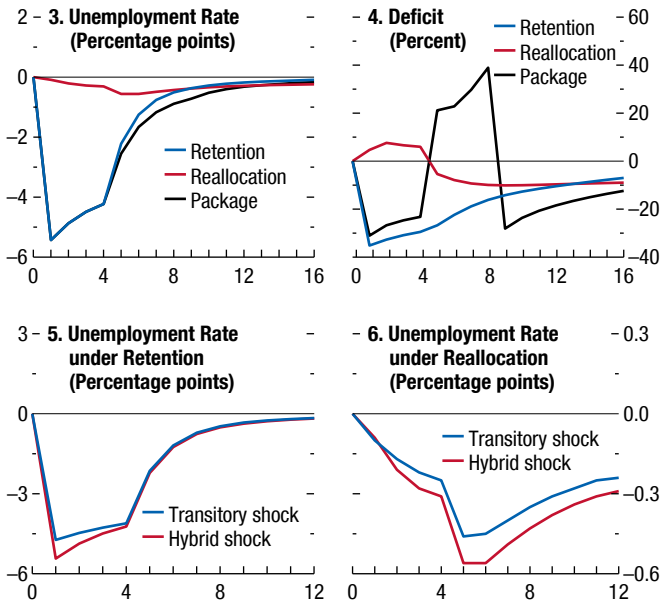
Figure 3.11. Model Simulations with Lockdown Shocks and Labor Market Policies

The unemployment rise is larger for the same-size lockdown shock when part of the shock is permanent. Retention policies are powerful in reducing unemployment over the short term, while reallocation policies work better over the long term and after a permanent shock.

Unemployment Rate and Distribution of Workers, by Occupation (No-policy scenario)



Effect and Cost of Labor Market Policies during Different Shocks (Deviation from no-policy scenario)



Source: IMF staff calculations.
Note: The *x*-axis indicates the number of quarters after the shock starts. Package comprises a sequence of retention and reallocation policies. Panels 3 and 4 show responses to the hybrid shock. See Online Annex 3.1 for the definition of different shocks and policy measures. occ. = occupation.

workers are particularly affected and account for a large share of the drop in employment from the more-impacted occupation. In contrast, despite the adverse shock, employment in the less-impacted occupation is essentially unchanged because some workers opt to switch occupations.

Comparing the two shocks, it is clear that the unemployment path is worse with the hybrid shock, even though the initial size of the shock is the same as in the transitory shock case. This happens because firms anticipate that matches on the more-impacted occupation will become less profitable in the future as a result of the shock's permanent effects and, so, they go ahead and lay off workers. Over the long term, employment in the more-impacted occupation never fully recovers, unlike in the transitory shock case.

Focusing on the hybrid shock case, policy support through job retention measures is the most effective option for tamping down the rise in unemployment over the near term from the lockdown shock (Figure 3.11, panel 3). Note that the unemployment rate rises across all of the policy scenarios, but it rises less with policy support: about 4½ percentage points less with job retention measures and about ¼ percentage point less with worker reallocation measures. As the economy recovers over the longer term, worker reallocation support has a slight advantage over job retention measures in reducing unemployment by easing the adjustment to the permanent component of the shock. The policy package, which sequences job retention measures during the lockdown shock and then worker reallocation measures afterward to help address the permanent effects, provides the best of both worlds—a lower near-term unemployment rise and a faster decline in unemployment compared with the no-policy benchmark.

Moreover, by stemming the rise in unemployment, job retention measures could actually reduce the increase in government deficits compared with the no-policy scenario, largely through savings from lower unemployment benefit payouts (Figure 3.11, panel 4). In contrast, worker reallocation measures lead deficits to increase further because they incur some costs with the creation of new jobs and are not as effective at stemming the increase in unemployment. The policy package generates a more volatile deficit path, as spending on worker reallocation measures ramps up after the lockdown is lifted. However, it also does better over the longer term, given that the improvement in unemployment from enhanced reallocation ends up lowering spending more than in the other scenarios (by enabling reductions in spending on unemployment benefits).

The effectiveness of the labor market measures varies with the persistence of the shock (Figure 3.11, panels 5 and 6). Job retention measures show very little difference between the transitory and hybrid shocks, once the initial lockdown passes. In contrast, worker reallocation measures are more effective than the no-policy benchmark in reducing unemployment durably in response to the hybrid shock. Intuitively, worker reallocation measures are more helpful the more permanent the shock.

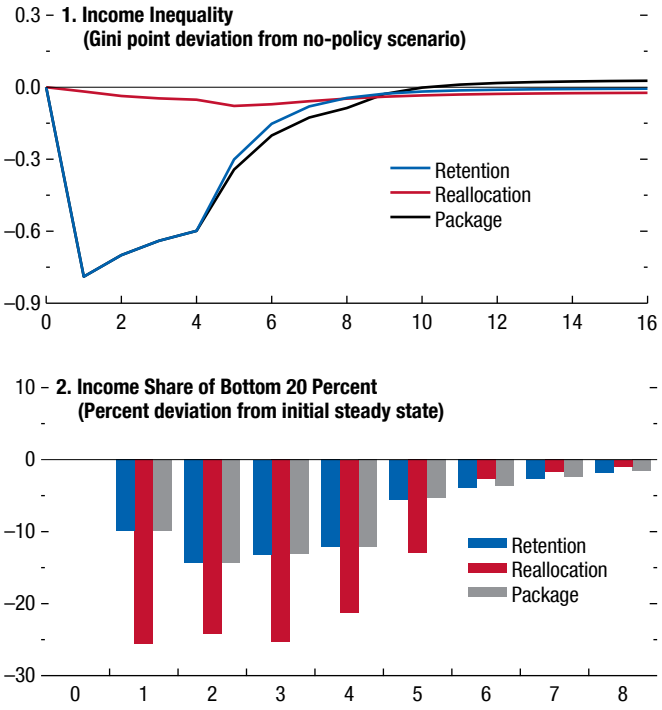
The choice of policy responses can also have distributional consequences for incomes. Job retention support is the most powerful in reducing inequality over the short term, compared with a no-policy benchmark in which inequality rises sharply (Figure 3.12, panel 1). Retention policies work to reduce the inequality impact because they preserve job matches and prevent workers from falling into unemployment, which can be costly and have long-lasting impacts (as the empirical analysis indicates).

Focusing on the poorest workers in the bottom quintile of the initial income distribution, it is clear that they benefit most from job retention support, particularly over the short term (Figure 3.12, panel 2). The policy package even does a bit better for them over the medium term, given that unemployment comes down faster when reallocation support is deployed to ameliorate the permanent component of the shock. The model results also indicate that higher-skilled workers are less impacted by the shock initially and see their prospects as a group recover faster. Because they are also more likely to find productive job matches, they tend to benefit more from worker reallocation measures (which generate more new jobs) than from job retention measures.

The overall picture from the model results indicates that the better response to the COVID-19 pandemic recession would be a policy package that combines retention and reallocation measures to respond to the mix of transitory and permanent components. The illustrative package shown here uses retention measures to dampen the rise in unemployment during the acute pandemic or lockdown phase, followed by reallocation measures during the recovery to facilitate workers' shift toward less-impacted sectors through faster job creation. The model results suggest that the use of retention policies should be linked to the duration and intensity

Figure 3.12. Impact of Policies on Income Inequality

Retention policies lower inequality in the short term, while reallocation policies lower inequality in the long term. Lower-skilled workers benefit more from retention policies in the short term while reallocation helps more in the long term.



Source: IMF staff calculations.
Note: The *x*-axis indicates the number of quarters after the hybrid shock starts. Package comprises a sequence of retention and reallocation policies. See Online Annex 3.1 for the definition of different shocks and policy measures.

of the transitory shock. In practice though, uncertainties about the pandemic shock mean that the phaseout of such measures is likely to be more complex and may need to balance fiscal space considerations alongside impacts on output and employment dynamics. Careful monitoring of COVID-19 cases and deaths, the extent of social distancing, and other key measures of the intensity of the pandemic (including the rollout of vaccines) will be required to gauge whether the economy can withstand the step-down in job retention policies and a switch in emphasis toward easing reallocation.

Conclusions

The COVID-19 pandemic and its consequences continue to unfold, with profound effects already visible in labor markets around the world, despite extraordinary policy support. The shock has been highly asymmetric in its effects across sectors and occupations, contributing to inequality across workers. Large uncertainties about the ultimate persistence of the shock and the potential need for structural transformation in its wake remain. Against this backdrop, this chapter attempts to shed light on the labor market effects of the COVID-19 pandemic recession so far, how it compares with past downturns, and how policies—particularly job retention and worker reallocation measures—may improve unemployment dynamics after such an adverse and asymmetric shock.

There are signs that the COVID-19 shock is accelerating preexisting trends, with employment shifting away from sectors and occupations that are more vulnerable to automation. These broad effects were also visible in movements in worker flows during past recessions, although the specific sectors that are most hurt—such as wholesale and retail trade and accommodation and food—differ with the pandemic shock. Around the world, youth and the lower-skilled have been more heavily affected, on average, a pattern also evident in past downturns. Women's unemployment has risen more than men's, on average, in emerging market and developing economies. These unequal effects across demographic groups appear in part to reflect differences in workforce composition across sectors.

Historically, sectoral labor reallocation picks up during recessions, which seems to be the case for the COVID-19 pandemic recession. Moreover, worker reallocation across sectors tends to occur more from hiring out of joblessness than from job-to-job hires. Relatedly, at the individual level, a worker's likelihood of switching occupations is greater after an unemployment spell than it is while they are still employed. But occupational switches via unemployment are costly, with workers typically incurring a large earnings penalty compared with similar workers who find reemployment without having to change occupations. Together, these point to the potential for large and uneven losses across workers from the COVID-19 shock—with youth and the lower-skilled hurt most—and a tough climb back as the economy recovers.

Measures that support job retention can be powerful tools to mitigate the damage from an adverse labor market shock such as the COVID-19 pandemic, according to the model-based analysis. The deployment of such measures while the shock is ongoing has been essential in keeping unemployment from rising even further and helping shield more-affected groups of workers, such as the lower-skilled. Examples of

such measures include the extensive activations of the *Kurzarbeit* scheme in Germany and the *Expediente de Regulación Temporal de Empleo* program in Spain, revisions to increase eligibility for wage subsidies provided through the *Cassa Integrazione Guadagni* program in Italy, and the more limited wage subsidy program through the US Paycheck Protection Program and the Employee Retention Tax Credit.[26] In general, job retention policies are the best option to address the temporary (but sometimes lengthy) disruption caused by an adverse pandemic shock, helping to maintain job matches and prevent sharper rises in unemployment while the shock is occurring. Worker reallocation policies that boost job creation can then help ease the labor market adjustment to the permanent changes in the economy's structure wrought by the pandemic shock, particularly after the shock passes and the economy enters a more normal recovery.

Looking ahead, although there are many uncertainties, it seems likely the COVID-19 shock will have some permanent effects, hastening a move away from employment that is more vulnerable to automation and less teleworkable. In this case, a policy package, with strong use of job retention measures during the shock and then support for worker reallocation measures when it lifts, performs better than either job retention or worker reallocation measures alone. The disproportionate, negative impact on lower-skilled workers is also reduced with the policy package: retention support helps to preserve more marginal but ultimately viable job matches, while the reallocation support after the acute pandemic shock helps the unemployed find new jobs more quickly over the medium term. Other policy support measures may also be considered. For example, although not incorporated into the model used here, (re)training and more general human capital investments that boost worker productivity could be deployed. These have the potential to make existing job matches more profitable (and hence more resilient) and also help workers become more able to switch occupations. However, as with most investments, these may take time for their returns to manifest; they are not suited to dealing with the near-term fallout from a negative shock.

Beyond the broad contours for the policy choice presented in this chapter, specific design elements of job retention and worker reallocation policies and their interaction with country-specific characteristics can matter for their effectiveness.[27] For example, the literature suggests that job retention measures, such as wage subsidies and short-term work schemes, can be highly successful in safeguarding employment but must take into account country-specific circumstances and be calibrated to the nature of the shock.[28] Similarly, the success of (re)training programs depends heavily on the specific content and program delivery details.[29] Finally, there is an opportunity to broaden the response to the COVID-19 pandemic to structurally improve the economy's resilience and growth prospects. For example, reallocation measures could be designed to favor the creation of more green jobs, helping to tackle climate change challenges (see Chapter 3 of the October 2020 WEO for a discussion of some options). In parallel, greater support for workers to successfully acquire the skills needed for these jobs will be essential, including through revamping educational systems and improving learning opportunities more generally.[30]

[26]See OECD (2020) for further details on these and other job-retention policies implemented across countries to respond to the COVID-19 shock. Program design specifics can differ markedly across countries, depending on their country-specific circumstances and previous experience with such policies. Countries with preexisting short-term work schemes (such as Germany, Italy, and Spain) have expanded eligibility, while those without broad availability of such measures have had to resort to more ad hoc approaches to provide support (for example, the United States).

[27]Among others, see Kluve (2010) and Card, Kluve, and Weber (2018) for summaries of the evidence gleaned from program evaluations for various labor market policies, including wage subsidies, shared work schemes, and training programs, and how they may differ in their effects across different demographic groups. In some cases, policies have been designed to boost employment opportunities for disadvantaged demographic groups. For example, see Ahn and others (2019) for an overview of policies that can be targeted to improve youth's labor market prospects. There has been much more limited experience with sector-specific targeting in the design of labor market policies (OECD 2018). In general, policy support provided to more adversely impacted firms and workers will in effect end up funneled toward firms and workers in more-affected sectors without explicit sectoral targeting. Moreover, sectoral targeting independent of individual firm or worker circumstances raises risks of misallocation, given that less-impacted firms and workers within a recipient sector could receive resources. See OECD (2018) for a fuller discussion of considerations in designing more targeted policy support.

[28]Regarding job retention policies, Boeri and Bruecker (2011) credits European short-term work schemes activated during the Great Recession with helping prevent job losses, but they note that these schemes tend to be most useful in countries with strict employment protections and/or centralized bargaining, which can otherwise limit wage and hours flexibility. In the current context, Basso and others (2020) advocates that these schemes should transform as much as possible into wage insurance schemes, which would allow for worker-initiated job changes, while also providing incentives to maintain existing job matches.

[29]See Kluve and Schmidt (2002), among others.

[30]See World Bank (2018, 2019) for a discussion of such options.

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CHAPTER 4

SHIFTING GEARS: MONETARY POLICY SPILLOVERS DURING THE RECOVERY FROM COVID-19

Advanced economies are expected to recover from the COVID-19 crisis faster than most emerging market economies, reflecting their earlier access to vaccinations and greater room to maintain supportive macroeconomic policies. Divergent economic recoveries could complicate the task of emerging market central banks should interest rates in advanced economies begin to rise when conditions in emerging market economies continue to warrant a loose monetary policy stance. The findings in this chapter confirm that monetary policy in advanced economies—especially in the United States—still has a large impact on financial conditions in emerging market economies. Aggressive policy easing by advanced economy central banks early in the pandemic thus provided much relief to financial markets in emerging market economies. Looking ahead to the recovery, clear guidance from advanced economy central banks on future scenarios for policy will be key to avoiding financial disruption to emerging markets. The analysis of the chapter suggests that, whereas a monetary policy tightening resulting from a stronger-than-expected US economy tends to be relatively benign for most economies, a surprise tightening, which could reflect a change in the US Federal Reserve's expected reaction function, tends to curb global investor risk appetite and trigger capital outflows from emerging markets. The chapter's analysis also suggests that emerging market economies with lower fiscal vulnerability are more insulated from external financial shocks than others, and countries with more transparent and rules-based monetary and fiscal frameworks enjoy greater monetary policy autonomy.

Introduction

At the end of February 2020, news of the global spread of COVID-19 hit financial markets with devastating force. One month later, global risk aversion had reached an intensity not observed since the peak of the global financial crisis, while capital flows began to cascade out of emerging market and developing economies (Figure 4.1).

Emerging market economies mounted a strongly countercyclical monetary policy response, on the heels of central banks in advanced economies, that cut policy rates wherever possible and introduced an array of asset purchase programs (APPs) to support credit markets (Figures 4.2 and 4.3).[1] The set of policy tools employed by central banks in emerging markets was notably broad—including not only conventional policy rate cuts, but also APPs in several economies (Figures 4.4 and 4.5).[2] Soon after these strong measures, sovereign default risk premiums in emerging markets began to recede.

Since the announcement of several successful COVID-19 vaccine trials in late 2020, the global economic outlook has improved, but remains vastly differentiated. Given a more backloaded access to vaccinations and less policy space to provide lifelines and support economic activity, many emerging market and developing economies are projected to have a more protracted recovery than major advanced economies. This scenario raises the possibility that policymakers in emerging markets might face different challenges than during the recovery from the global financial crisis, when their countries enjoyed relatively strong growth.

During a multispeed economic recovery, many emerging markets might struggle to provide sizable fiscal policy support for a prolonged period, given their more constrained policy space (Végh and Vuletin 2012)—and even more so following last year's sharp

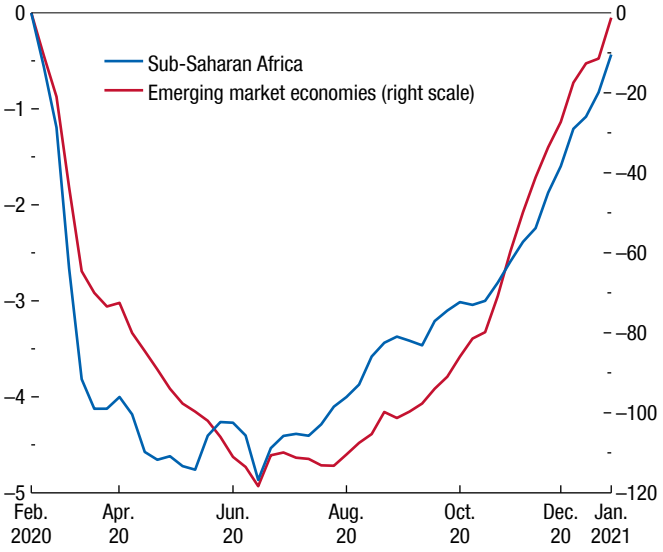
The authors of this chapter are Philipp Engler, Roberto Piazza (team leader), and Galen Sher, with contributions from Chiara Fratto, Brendan Harnoys Vannier, Borislava Mircheva, David de Padua, and Hélène Poirson, and support from Eric Bang, Ananta Dua, Chanpheng Fizzarotti, Ilse Peirtsegaele, and Daniela Rojas Fernandez. The chapter benefited from insightful comments by Christopher Erceg and internal seminar participants. Refet Gürkaynak was a consultant for the project.

[1]This chapter largely focuses on financial conditions in emerging markets, defined as the *World Economic Outlook* (WEO) emerging market and developing economy group, excluding countries in the low-income and developing economy group. Only a limited number of countries in the latter group displays significant integration with global financial markets.

[2]Fiscal expansions were also instrumental in containing the fallout from the crisis, but they are not examined here. While focused on monetary policy, this chapter explores various instances where fiscal policy matters for a country's sensitivity to international monetary policy spillovers and for the domestic monetary policy response to the pandemic.

Figure 4.1. Cumulative Portfolio Flows

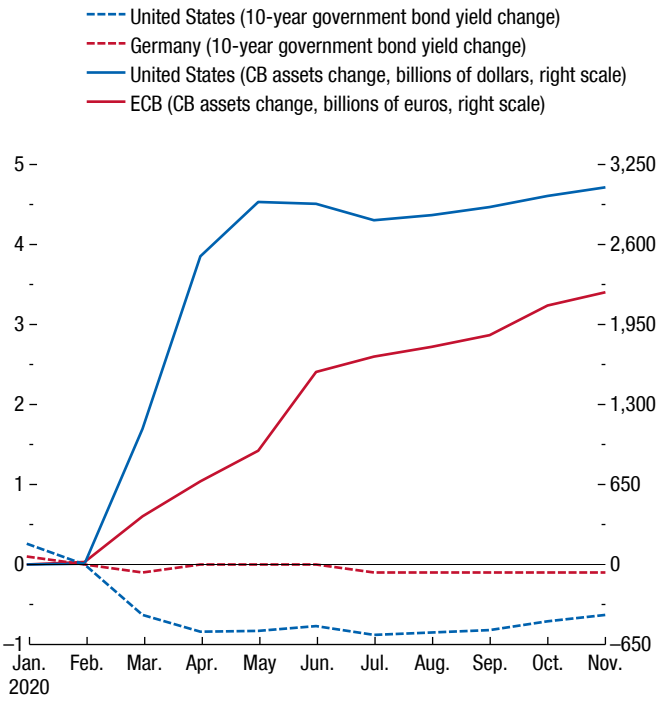
(Billions of dollars)



Sources: Bloomberg Finance L.P.; and EPFR Global.
Note: Cumulative EPFR fund flows for sub-Saharan Africa comprise those for Côte d'Ivoire, Ghana, Kenya, Namibia, Nigeria, Rwanda, South Africa, and Zambia.

Figure 4.2. Monetary Policy in Advanced Economies

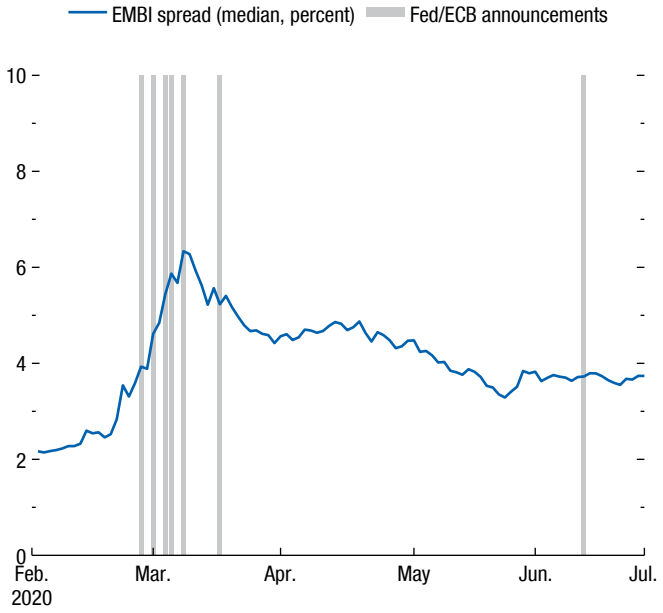
(Percentage points, unless noted otherwise)



Sources: Federal Reserve Bank of St. Louis; and Haver Analytics.
Note: Ten-year government bond yields are in changes from the Feb. 2020 levels. Central bank assets are in changes from their Jan. 2020 levels. CB = central bank; ECB = European Central Bank.

Figure 4.3. Credit Risk Premiums in Emerging Market Economies

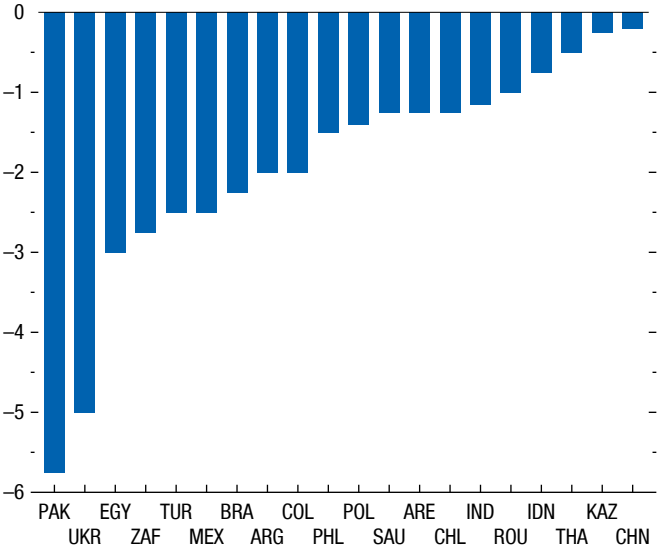
(Median, percent)



Source: Bloomberg Finance L.P.
Note: ECB = European Central Bank; EMBI = J.P. Morgan Emerging Market Bond Index; Fed = Federal Reserve.

Figure 4.4. Policy Rate Cuts in Emerging Market Economies between March and August 2020

(Percent)



Source: IMF staff calculations.
Note: Data labels use International Organization for Standardization (ISO) country codes.

Figure 4.5. Asset Purchase Program Announcement Dates in Emerging Market Economies and the VIX
(Index)

Sources: Haver Analytics; and IMF staff calculations.
Note: VIX = Chicago Board Options Exchange Volatility Index. Data labels use International Organization for Standardization (ISO) country codes.

increase in public debt. Constrained fiscal policy, in turn, would heighten the role of monetary policy. This prompts the question of how much autonomy policymakers in emerging markets would have in keeping monetary policy rates low at a time when improved economic conditions may lead central banks in advanced economies to begin increasing interest rates. On this point, a commonly held view is that, even with a flexible exchange rate, emerging markets have little monetary policy autonomy against a powerful global financial cycle that is strongly influenced by monetary policy in advanced economies (Rey 2015).[3]

Several arguments temper the concerns about monetary policy in emerging markets during the global economic recovery. First, flexible exchange rates offer imperfect but still significant insulation from the global financial cycle (Obstfeld, Ostry, and Qureshi 2019), whose impact on capital flows may not be so dramatic after all (Cerutti, Claessens, and Rose 2019). Second, the commitment of central banks in advanced economies to maintain ample monetary accommodation until the recovery is well under way reduces the possibility of an early tightening in global financial conditions.[4] The commitment is exemplified in the United States by the Federal Reserve Board's new flexible inflation targeting framework. Third, aggressive monetary policy easing by emerging markets during the COVID-19 pandemic may indicate that these countries have gained further autonomy in setting their policies in line with domestic needs.

To provide a framework for thinking about the monetary policy challenges confronting emerging markets during the recovery, this chapter addresses the following questions:

- How do *monetary policy surprises* in advanced economies shape *financial conditions* in emerging markets? How has this influence changed over time, and how does it vary across countries?
- How does *economic news* in advanced economies affect *financial conditions* in emerging markets?
- Which *characteristics* of emerging markets are associated with greater ability to ease monetary policy at the onset of the pandemic? Are APPs *effective* in easing financial conditions in emerging markets?

The chapter includes two key streams of analysis. The first is a set of event studies that examines how monetary policy shifts in advanced economies affect financial conditions in emerging market and developing economies, leveraging two types of situations: (1) when a monetary policy announcement in advanced economies surprises markets because it does not appear directly attributed to observed changes in economic conditions—these surprises include a change in how central banks interpret data or react to it; and (2) when new information on the state of advanced economies changes market expectations of future monetary policy. The second stream of analysis looks at factors that could predict which emerging markets were able to provide greater monetary policy easing during the pandemic, focusing on both conventional

[3]One consideration that can stop central banks in emerging markets from countering the global financial cycle is a "fear of floating" (Calvo and Reinhart 2002). In addition, financial frictions in emerging markets may limit the pass-through of monetary policy to domestic financial conditions (Kalemli-Özcan 2019).

[4]The main measures of financial conditions in emerging markets presented in the chapter include yields on sovereign bonds denominated in local currency, spreads on dollar-denominated sovereign bonds, nominal exchange rates vis-à-vis the dollar, and investment fund inflows.

policy rate cuts and APPs. The main findings of the chapter are as follows:

- Monetary policy actions by the Federal Reserve have a significant influence on financial conditions in emerging markets, whereas spillovers from policies of the European Central Bank (ECB) are smaller and regional. As observed in the 2013 "taper tantrum" episode, signals of *unexpected* policy tightening in the United States raise emerging market yields, cause portfolio outflows, and depreciate emerging market currencies. The intensity of these effects is heterogenous over time and across countries: it seems to be stronger now than before the global financial crisis, and stronger for countries that are seen as riskier investments. This suggests that perceptions of risk (*risk channel*) are important in the transmission of the spillover. Notably, the change in domestic yields comes almost entirely from a change in the term premium, with an only marginal contribution from revised expectations of policy rates in emerging markets. Monetary easing by the Federal Reserve helped reduce yields in emerging markets by more than 100 basis points during the pandemic, and the announcement of central bank US dollar swap lines was effective in calming markets.
- The release of good news about the US economy, even as it is accompanied by expectations of tighter US monetary policy, is relatively benign for financial conditions in emerging markets. Following positive news about US employment, capital appears to flow into emerging markets, the Chicago Board Options Exchange Volatility Index (VIX) and risk premiums on emerging market dollar-denominated bonds fall, while yields on emerging market domestic bonds tend to rise. This could be attributed in part to a positive *risk channel* (greater global risk appetite) and in part to a positive *trade channel*, where positive growth news in the United States is also associated with improved growth prospects in emerging markets, leading to higher expected monetary policy rates in emerging markets. Surprise increases in US inflation also lead to an increase in US nominal yields, but do not seem to impact financial conditions in emerging markets. Finally, positive news about the development of vaccines against COVID-19 in advanced economies has been particularly beneficial for emerging markets as their domestic yields did not increase, nor did their currencies depreciate.
- Domestic monetary and fiscal frameworks help predict the extent to which emerging markets were able to provide more monetary policy accommodation during the pandemic. Countries with more flexible exchange rates, more transparent central banks, and rules-based fiscal and monetary policy frameworks cut their policy rates by more and were also more likely to announce an APP—controlling for the state of the economy. Countries with the most constrained fiscal position had instead a smaller likelihood of an APP. In general, APPs appear to have been effective in calming domestic financial conditions.

Given the uniqueness of the current episode, any attempt to use past experience to extrapolate lessons for the future must be made with caution. With this warning in mind, the findings of the chapter suggest that a multispeed global recovery, with growth picking up earlier in advanced economies, may not on its own lead to a premature tightening of global financial conditions in emerging markets. Assuming that inflation does not rise above target in a sustained manner, a quicker-than-expected resolution of the pandemic in advanced economies may drive strong capital inflows to emerging markets and frontier economies, especially if interest rates in advanced economies remain low. In this event, emerging markets could employ a variety of policy tools to curb the buildup of domestic financial risks (IMF 2020).

If, with the recovery taking hold, central banks in advanced economies were instead to suddenly signal greater concern for inflation risks, then a surprise tightening of global financial conditions similar to the 2013 taper tantrum might occur. To reduce this risk, central banks in advanced economies need to continue providing markets with clear communication and guidance about their policies, including on new policy frameworks. In emerging markets, actions to improve confidence about the sustainability of medium-term debt can help reduce the sensitivity of domestic financial conditions to spillovers. Strengthening fiscal and monetary frameworks would also help create room for a more forceful countercyclical monetary policy.

Spillovers on Emerging Market Financial Conditions

This section uses event studies to answer two questions: How do financial conditions in emerging markets change following a *surprise monetary policy*

announcement in advanced economies? How do financial conditions in emerging markets change following *surprises about the state of the economy* in advanced economies?[5] The two questions are complementary. The first considers changes in financial conditions that can be entirely traced to the spillover effect of an *unexpected* monetary policy announcement by central banks in advanced economies. The second considers changes in financial conditions that instead can be entirely attributed to news about economic conditions in advanced economies and to the attending implications for, among others, the *expected* reaction of monetary policy in advanced economies. This would be the case, for instance, of positive news about payrolls or the development of COVID-19 vaccines.

Regardless of the type of shock considered, spillovers from advanced economies on financial conditions in emerging markets operate through a variety of channels. The chapter gives prominence to two. The first is a "risk channel," where surprise monetary policy changes in advanced economies affect perceptions of risk and thus financial conditions in emerging markets. The second is a "trade channel," where economic news in advanced economies changes economic conditions and investment opportunities in emerging markets. Monetary policy in emerging markets reacts to both types of changes, as discussed in the next section.

Spillovers from Monetary Policy Surprises in Advanced Economies

Analytical Framework

Monetary policy surprises in the United States and the euro area are defined as changes in the respective two-year government bond yields in a window of time around each monetary policy announcement. The choice of the two-year maturity follows Gertler and Karadi (2015) and Hanson and Stein (2015) and allows to capture the effects of forward guidance and asset purchases.[6] For the euro area, the two-year yield is constructed as a weighted average of the corresponding yields for Germany, France, Italy, and Spain. In the case of the Federal Reserve, the window covers the full announcement day, while for the ECB, it covers two hours around the ECB Governing Council's press releases and press conferences.[7] Spillovers from Federal Reserve or ECB monetary policy announcements on emerging markets are measured as changes in various emerging market asset prices and financial indicators during the two-day windows around monetary policy announcements, which allows for differences in time zones.

Impact on Emerging Markets

US monetary policy spills over strongly to domestic government bond yields in emerging markets, at all maturities (Figure 4.6). A surprise tightening of 100 basis points by the Federal Reserve translates into a 47-basis-point increase in two-year government bond yields in emerging markets.[8] Euro area monetary policy surprises have smaller effects, which are statistically significant only at intermediate maturities or for emerging markets more economically integrated with the euro area.[9]

US monetary policy surprises also have significant effects on exchange rates and capital flows to emerging markets, but the evidence does not show systematic effects on emerging market stock prices or benchmark Emerging Market Bond Index spreads (Figure 4.7). Every 100-basis-point tightening of US monetary policy leads to an immediate 1 percentage point depreciation of emerging market currencies vis-à-vis the US dollar and portfolio outflows from

[5]In both exercises, the sample covers 60 emerging market economies, but country coverage is smaller for some indicators. For example, only 21 emerging market economies have data on government bond yields. The sample of low-income countries contains exchange rate data for 23 economies, but government bond yields for only five of them.

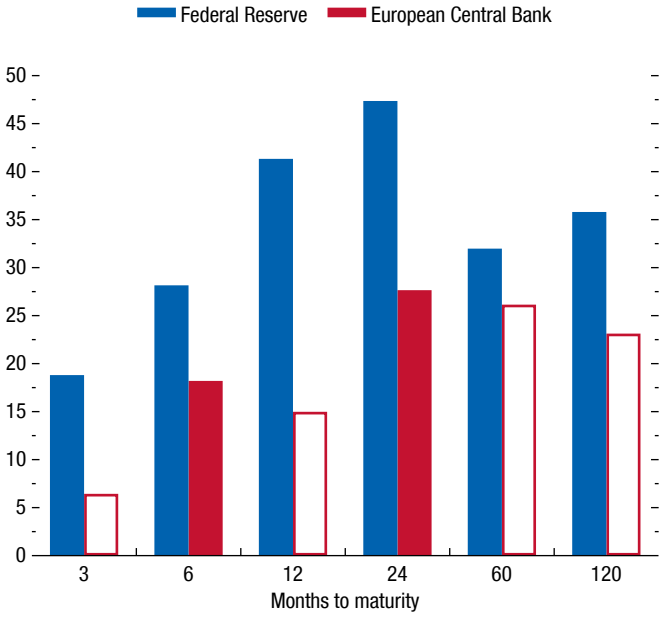
[6]For robustness to using yields of different maturity during zero lower bound periods, see Online Annex 4.1. All annexes are available at www.imf.org/en/Publications/WEO.

[7]For the United States, dates of official monetary policy statements were provided directly by the Federal Reserve Board. For the ECB, the intraday monetary policy surprises were taken from the online data set of Altavilla and others (2019) until April 2020, and merged with daily changes in yields for the remaining announcements in 2020. This produces 176 and 217 monetary policy surprises by the Federal Reserve and ECB, respectively, between 2000 and 2020. For more details on the econometric specification, see Online Annex 4.1.

[8]These estimates are consistent with those of Bowman, Londono, and Sapriza (2015); Curcuru and others (2018); Albagli and others (2019); Caballero and Kamber (2019); and Hoek, Kamin, and Yoldas (2020). A separate analysis indicates that US surprise monetary policy easings and tightenings have symmetric effects on emerging markets.

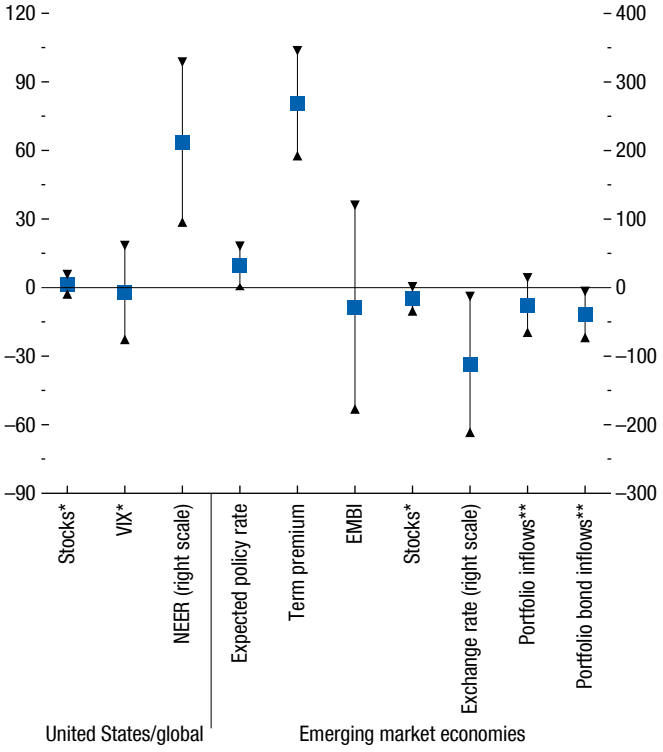
[9]For example, emerging markets with deeper trade links to the euro area experience stronger responses of three-month, six-month, and 10-year yields than other emerging markets. This suggests that financial conditions in central and eastern European economies are more affected by ECB monetary policy.

Figure 4.6. Change in Emerging Market Government Bond Yield Curves in Response to Monetary Policy Surprises
(Basis points)



Source: IMF staff calculations.
Note: The figure shows the two-day changes in emerging market local currency government bond yield curves in response to a 100-basis-point surprise tightening of the United States or euro area monetary policy. Solid bars show maturities that are statistically significant; hollow bars show those that are not.

Figure 4.7. Effects of US Monetary Policy Surprises on Selected Variables
*(Basis points; * = percentage points; ** = basis points of annual GDP)*



Source: IMF staff calculations.
Note: The squares show the response of each variable to a 100-basis-point surprise monetary policy tightening in the United States. The whiskers show 90 percent confidence intervals. An increase in the nominal effective exchange rate (NEER) for the United States, or in the nominal exchange rate vis-à-vis the United States for the emerging market economies, denotes appreciation. EMBI = J.P. Morgan Emerging Bond Index; VIX = Chicago Board Options Exchange Volatility Index.

emerging markets of 7 basis points of annual GDP.[10] While (trade-weighted) emerging market currencies do depreciate after tightening in the euro area, ECB monetary policy surprises do not seem to affect term premiums, expected future short-term interest rates, stock prices, portfolio flows, or bond spreads in the average emerging market. Given the relatively small spillovers from the ECB, the rest of the chapter focuses on spillovers from US monetary policy.

Looking over time, monetary policy spillovers from the United States were especially strong during the period that included the global financial crisis, the euro area crisis, and the 2013 taper tantrum (Figure 4.8). Although the sensitivity of emerging market yields fell from 2014 onward, it seems to have remained higher than it was before the global financial crisis.[11]

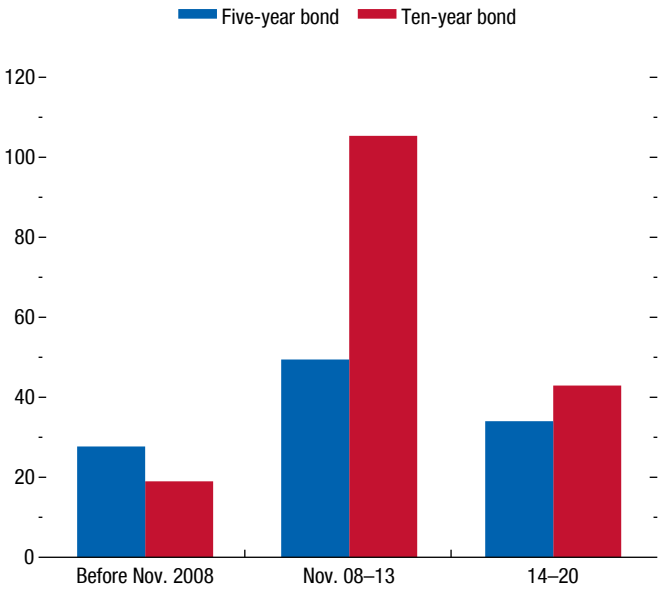
The "Risk Channel"

It is important to bear in mind that, beyond the average effects discussed above, there is significant heterogeneity in the way financial conditions in emerging markets react to monetary policy changes in advanced economies. Focusing on some features of this heterogeneity can provide a partial glimpse into specific

[10]The chapter focuses on the response of emerging market exchange rates vis-à-vis the US dollar. A large literature highlights the outsized role played by the dollar exchange rate in causing financial shocks in emerging markets (for example, because of liability dollarization) and demand shocks (because of dollar invoicing in international trade). See, for instance, Calvo and Reinhart (2002) and Gopinath and others (2020).

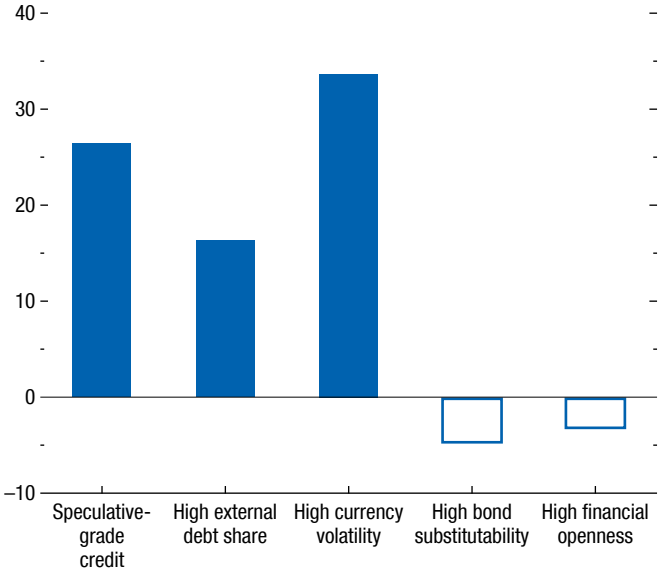
[11]Although the sensitivity is higher, the difference is not statistically significant. A further exploration based on shocks on 10-year US Treasury securities suggests that this increased sensitivity does not seem to be driven by the adoption of unconventional monetary policy tools by advanced economies.

Figure 4.8. Time Variation in the Sensitivity of Emerging Market Yields to US Monetary Policy Surprises
(Basis points)



Source: IMF staff calculations.
Note: The bars show the effects of a 100-basis-point surprise US monetary policy tightening on five- and 10-year emerging market government bond yields during various periods. The 2014–20 bars are not statistically significantly higher than the pre-November 2008 bars.

Figure 4.9. Spillover Amplifiers from US Monetary Policy Surprises
(Basis points)



Source: IMF staff calculations.
Note: The figure shows how the sensitivity of emerging market 10-year yields to each 100-basis-point US monetary policy surprise depends on economy characteristics. "High" refers to the 75th percentile of the distribution of the economy characteristic in the latest available year. Not shown in the figure, the values for investment-grade credit rating, low external debt share, low currency volatility, low bond substitutability, and low financial openness are 0, 0, 14, –2, and 3, respectively. Solid bars show economic characteristics that are statistically significant; hollow bars show those that are not.

channels of transmission of international monetary policy spillovers. As shown in Figure 4.9, economies with a speculative sovereign debt credit rating experience an extra 27-basis-point increase in their 10-year bond yield following a surprise 100-basis-point US monetary policy tightening. Spillovers are also stronger for countries with a higher proportion of debt held externally or with higher currency volatility. For instance, moving from the 25th percentile in the cross-country distribution of external debt (for example, Armenia) to the 75th percentile (Brazil) raises the sensitivity of 10-year yields by 17 basis points. Similarly, going from a currency volatility at the 25th percentile of economies (for example, Romania) to the 75th percentile (Russia) increases the response of yields by 20 basis points.

The sensitivities of yields to these three indicators can be used to construct a "vulnerability index," which is used in the next part of the chapter that looks at the determinants of monetary policy reactions in emerging markets during the pandemic. Moreover, all these indicators can be considered proxies for some form of risk. Sovereign default risk, in particular, is influenced by the level and expected path of public debt and therefore provides a mechanism by which fiscal policy directly influences financial conditions in emerging markets and thus, indirectly, the conduct of monetary policy.

That countries with higher perceived sovereign risk experience stronger spillovers suggests that US monetary policy is transmitted to emerging markets through a "risk channel," whereby monetary policy in the United States can change the objective riskiness of emerging market assets (for example, by increasing perceived default probabilities) or affect investors' risk aversion (Chen, Griffoli, and Sahay 2014; IMF 2014; Bowman, Londono, and Sapriza 2015; Ahmed, Coulibaly, and Zlate 2017; Kalemli-Özcan 2019).[12]

[12]The conclusion on the possible presence of a *risk channel* is based here only on the observed heterogenous response of bond yields for different classes of sovereign borrowers (Figure 4.9). No evidence of a *risk* channel is instead found based on the behavior of the VIX (Figure 4.7), which is a measure of global risk aversion that many studies (for example, Bekaert, Hoerova, and Lo Duca 2013) but not all (for example, Bekaert, Hoerova, and Xu 2020) find to respond significantly to surprise changes in US monetary policy.

By contrast, the chapter finds no direct evidence that financial openness or greater correlation between the total return of emerging market sovereign bonds and US Treasury securities (a proxy for bond substitutability from the point of view of investors) are associated with a stronger response of domestic yields in emerging markets to US monetary policy shocks (Figure 4.9).[13]

Almost all the change in emerging market domestic yields can be accounted for by the change in term premiums, suggesting that the perceived riskiness of holding emerging market bonds rises after a surprise tightening in US monetary policy, consistent with the finding that countries with higher sovereign risk are more sensitive to spillovers. Markets do expect central banks in emerging market economies to follow a surprise Federal Reserve tightening with tightenings of their own, but only slightly. These conclusions are obtained by relying on dynamic factor models (Adrian, Crump, and Moench 2013) to split the changes in yields on five-year sovereign bonds in emerging markets into one component attributed to changes in the *expected* monetary policy rate in emerging markets and another residual *term premium*. The term premium represents the extra return required by investors to shoulder the greater risk (such as inflation, liquidity, and credit risks) associated with a fixed long-term rate of return (Figure 4.7).

Of course, the yield decomposition into expected monetary policy rates and term premiums must be treated carefully, given that it is sensitive to specific model assumptions. Moreover, market expectations of future monetary policy rates may be an imperfect indicator of actual future policy rates, especially over long time periods. Still, the results presented here suggest that, whereas overall financial conditions in emerging markets react strongly to changes in US monetary policy, monetary policy in emerging markets does not.

[13]Higher values for these two measures for an emerging market could imply that foreign investors in that emerging market are more inclined to change their portfolio composition after a US monetary policy announcement, which would indicate the presence of a "portfolio balance channel." The fact that the two regressors are not significant may then suggest the "portfolio balance channel" has a limited role in transmitting monetary policy spillovers from advanced economies. The degree of substitutability of an economy's government bonds with US Treasury securities is measured as the correlation between the total returns on its 10-year local currency government bonds, converted to US dollars at market exchange rates, and the total returns on 10-year US Treasury securities. Online Annex 4.1 provides more detail.

This finding implies a certain degree of monetary policy autonomy in emerging markets, consistent with the findings in Chapter 3 of the April 2017 *Global Financial Stability Report*. At the same time, the tightening—via risk premiums—of overall financial conditions following a surprise tightening in US policy can be expected to reduce growth in emerging markets. If central banks in emerging markets had full autonomy to adjust their own interest rate policy, then it could be reasonably argued that future monetary policy rates might be expected to fall to offset the rise in domestic yields. The fact that this does not happen (future policy rates are actually expected to go up slightly) may indicate the presence of only partial autonomy.

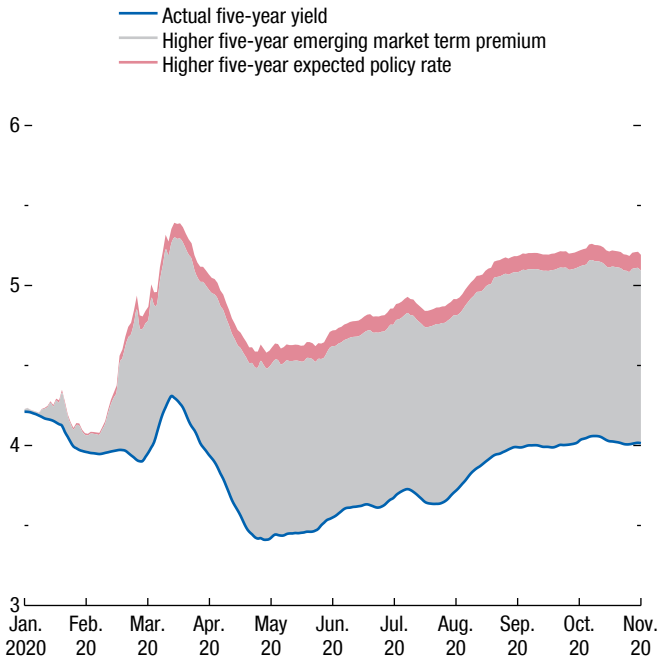
Spillovers from US Monetary Policy during the Pandemic

As Figure 4.10 shows, the GDP-weighted average of emerging market yields first increased in February 2020, then fell quickly until the end of April, then slowly crawled back toward 4 percent in late 2020. Although, as already noted, monetary policy spillovers are heterogenous across emerging markets, estimates in this chapter can be used to perform some back-of-the-envelope calculations to suggest that, had the Federal Reserve not eased monetary policy in March, average yields in emerging markets would have been more than 1 percentage point higher. Most of this effect would have come from higher term premiums. Of course, had the Federal Reserve not eased at a time of deep global crisis, the fallout in financial markets would have been severe; as such, the estimate in Figure 4.10 for the spillover effects of the March 2020 actions likely puts a lower bound on the true effect.

Some monetary policy actions taken by central banks in advanced economies during the pandemic were aimed at affecting financial conditions in foreign markets, including in emerging markets. One such example is the Federal Reserve's announcement on March 19, 2020, of the establishment of temporary US dollar swap line facilities with nine other central banks.[14] Brazil and Mexico were the only emerging markets included, and thus provide an interesting event study to assess the effectiveness of the tool in limiting US dollar funding pressures. Figure 4.11 shows that, following the

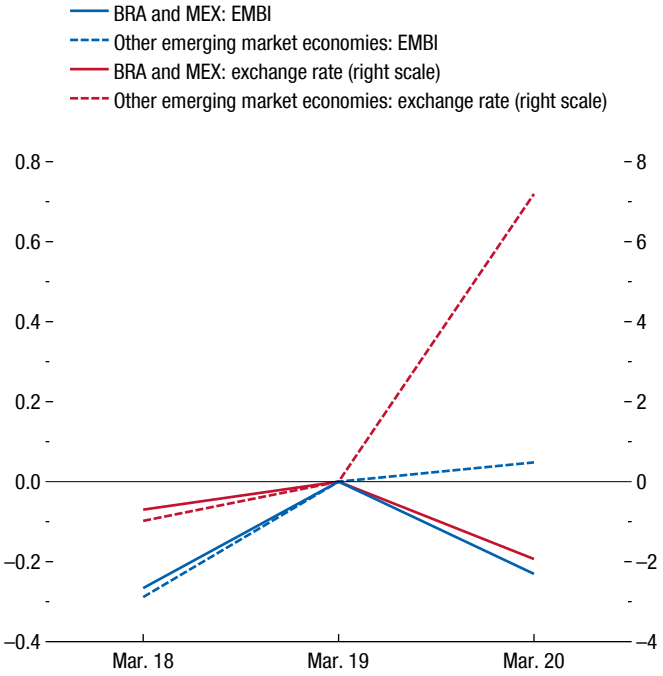
[14]Swap lines can be useful temporary sources of US dollars for the counterparty central banks, which may draw on them to lend US dollars to financial intermediaries while preserving their international reserves. Swap lines may also support investor confidence in liquidity conditions.

Figure 4.10. Counterfactual: Emerging Market Financial Conditions Absent Federal Reserve Easing
(Weighted average, percent a year)



Source: IMF staff calculations.
Note: Five-year denotes government bonds with a five-year maturity.

Figure 4.11. Effects of Swap Line Announcements for Brazil and Mexico
(Percent; changes after March 19, 2020)



Sources: Bloomberg Finance L.P.; Haver Analytics; and IMF staff calculations.
Note: BRA and MEX denote Brazil and Mexico, respectively. EMBI spreads are in percentage point deviations from those of March 19; exchange rates are in percent changes from those of that date. Increases denote depreciation. EMBI = J.P. Morgan Emerging Market Bond Index.

announcement, spreads on Brazilian and Mexican sovereign debt denominated in US dollars narrowed, while spreads continued to widen in other emerging markets. Similarly, the Brazilian *real* and Mexican peso appreciated, while the currencies of other emerging markets continued to depreciate. Therefore, it appears that the swap lines announcement was effective in stabilizing financial conditions in these two countries.

Spillovers from Economic News in Advanced Economies

Analytical Framework

The methodology here closely follows that used for examining spillovers from monetary policy surprises, but the shocks in advanced economies that are now considered include *news* about (1) economic activity in the United States, (2) inflation in the United States, and (3) the development of vaccines in advanced economies.

News about economic activity and inflation in the United States is proxied by surprises about nonfarm payroll employment and core consumer-price inflation released from 2000 to 2020.[15] News about the development of vaccines in advanced economies is proxied by whether the stock returns of Moderna and Pfizer-BioNTech are within the top or bottom 10th percentiles of their historical distribution, controlling for their usual comovement with a portfolio of health care stocks.[16] In this case, the analysis covers April 1 through December 15, 2020, which saw positive news about the development of COVID-19 vaccines, though mostly ones that have stringent cold-chain requirements that make it difficult for them to be delivered in many emerging market and developing economies.

[15]Data were provided by Gürkaynak, Kisacikoğlu, and Wright (2020).

[16]Moderna and BioNTech are companies involved in the development of two vaccines that, during 2021, are expected to provide advanced economies with a relatively wide vaccination coverage, well beyond that of emerging markets.

Impact on Advanced and Emerging Market Economies

Good news about US economic activity lifts longer-term US interest rates (Figure 4.12). The effect is clear at all maturities and, on average, over the 20 years considered, is almost entirely down to expectations of higher monetary policy rates (with almost no change in US term premiums). Good news about the US economy lowers global uncertainty, measured by the VIX, and leads to a nominal effective appreciation of the dollar. Stock prices are not impacted significantly, likely because expectations of higher monetary policy rates counterbalance the effect on stock prices of better economic prospects for firms.[17]

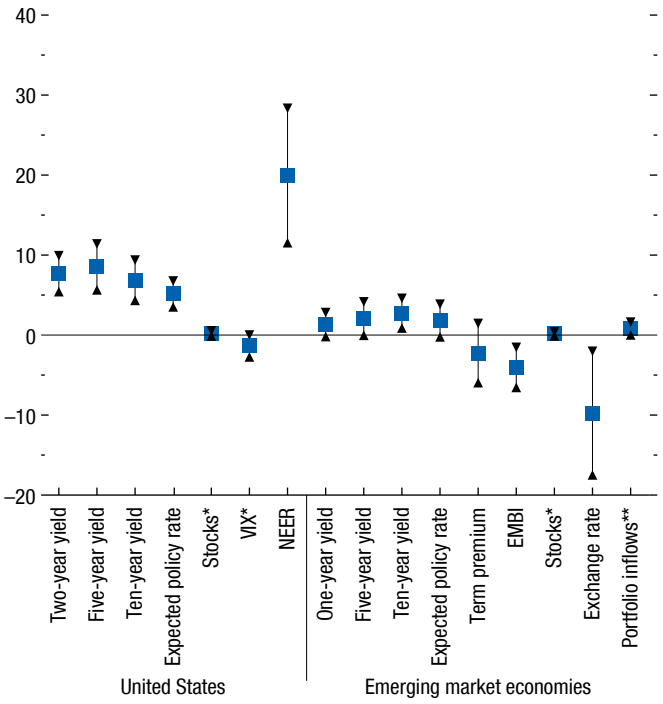
The effect of good news about US economic activity on financial conditions in the average emerging market tends to be benign, in contrast to the impact of surprise monetary policy changes.[18] Good US economic news still depreciates emerging market currencies, on average. However, in parallel with a reduction in the VIX, emerging market default premiums on dollar-denominated debt (Emerging Market Bond Index) now *fall* and portfolio capital *flows into* emerging markets (the effect on capital inflows has a moderate level of statistical confidence with a *p*-value of 13 percent). These findings are consistent with a positive *risk channel*, where good economic news in the United States reduces the risk aversion of international investors. In addition, domestic bond yields still appear to rise in the average emerging market (although with limited statistical significance), but the increase seems now to entirely reflect expectations of higher monetary policy rates, possibly driven by improved growth expectations. This, for instance, would be consistent with a positive "trade channel," whose strength should be expected to be heterogeneous across countries, where higher aggregate demand in the advanced economies leads to more demand for tradable goods produced in emerging markets.[19]

The effect of positive news about COVID-19 vaccines in advanced economies has been positive, thanks in part to the muted response of US interest rates (Figure 4.13). Longer-term US yields have risen on the news, but two-year yields have not reacted, reflecting the Federal Reserve's explicit commitment to maintaining an expansionary monetary policy stance until a firm recovery is under way.[20] Positive vaccine news has lifted corporate earnings expectations and the US stock market, in the context of a muted expected response of monetary policy, and the US dollar has not appreciated.

Domestic bond yields in the average emerging market have not reacted to vaccine news, and there have even been indications of an expected easing in

Figure 4.12. Effects of Positive News about US Economic Activity

*(Basis points; * = percentage points; ** = basis points of annual GDP)*



Source: IMF staff calculations.
Note: The squares show estimates of the effect of a two-standard-deviation surprise in US nonfarm payrolls. The whiskers show 90 percent confidence intervals. Average expected policy rates are calculated at the 10-year maturity for the United States and at the five-year maturity for emerging market economies. An increase in the nominal effective exchange rate (NEER) for the United States, or in the nominal exchange rate vis-à-vis the United States for emerging market economies, denotes appreciation. Portfolio inflows denote bond inflows. EMBI = J.P. Morgan Emerging Market Bond Index; VIX = Chicago Board Options Exchange Volatility Index.

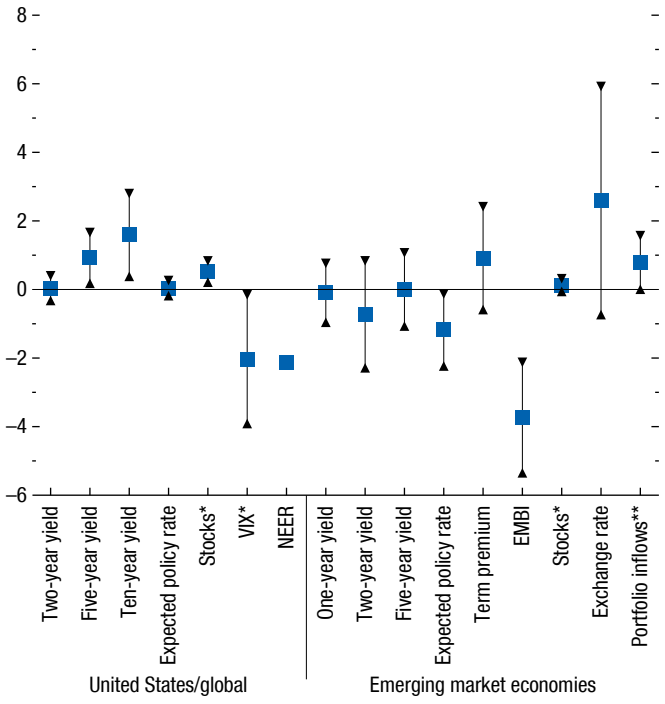
[17]For an explanation of the lack of a clear effect on US stock prices, see Gürkaynak, Kisacikoğlu, and Wright (2020).

[18]This is consistent with previous studies, for example, IMF (2014) and Hoek, Kamin, and Yoldas (2020).

[19]Additional tests reveal that, after an increase in US employment, spreads on dollar-denominated bonds fall more and exchange rates depreciate less in those emerging markets that have stronger trade links with the United States. Online Annex 4.1 provides the details.

[20]Even at the 10-year maturity, all the increase in US yields is attributed to rising term premiums and not to increases in conventional short-term policy rates.

Figure 4.13. Effect of Positive News about COVID-19 Vaccines
*(Basis points; * = percentage points; ** = basis points of annual GDP)*



Source: IMF staff calculations.
Note: The squares show estimates of the effect of positive vaccine news. The whiskers show 90 percent confidence intervals. Average expected policy rates are calculated at the 10-year maturity for the United States and at the five-year maturity for emerging market economies. An increase in the nominal effective exchange rate (NEER) for the United States, or in the nominal exchange rate vis-à-vis the United States for emerging market economies, denotes appreciations. Confidence bands on the NEER are wide; they are not shown due to space constraints. EMBI = J.P. Morgan Emerging Market Bond Index; VIX = Chicago Board Options Exchange Volatility Index.

domestic monetary policy. Domestic stock markets have risen, on average. As seen when economic news is positive, the VIX has fallen and, in parallel, benchmark emerging market bond spreads have shrunk, while capital has flowed *into* emerging markets (and the effect is now statistically significant). The beneficial effects of positive vaccine news on emerging market financial conditions are likely driven by a combination of the aforementioned *risk* and *trade* channels, together with the "low-for-long" expectation for US interest rates and, possibly, with improved prospects for vaccinations globally.

Finally, the chapter finds that longer-term nominal US yields also rise when US inflation comes in higher than expected, but such surprises do not seem to impact the US dollar, aggregate US stock prices, or the VIX. The spillovers from surprise US inflation to interest rates in the average emerging market are minimal,[21] and there is no evidence of effects on the average emerging market's exchange rates, aggregate stock prices, or spreads on dollar-denominated debt. The lack of spillovers from US inflation could be consistent with a mixture of US demand and cost-push shocks, which would have opposite implications for growth in other countries. Future research could explore whether the specific source of the US inflation shock matters for spillovers.

Spillovers to Low-Income Countries

Financial conditions in low-income countries generally do not respond as much as conditions in emerging markets do to monetary policy surprises by the Federal Reserve or ECB, or to news about US economic activity or COVID-19 vaccines. There are, however, some exceptions. First, positive vaccine news in 2020 lifted 10-year government bond yields, on average, in the five low-income countries with data series (Ghana, Kenya, Nigeria, Uganda, Vietnam). Second, positive ECB monetary policy surprises tend to lift six-month government bond yields, on average, in the three low-income countries with data (Nigeria, Rwanda, Zambia). Third, the currencies of low-income countries depreciate by about 1.2 percent, on average, vis-à-vis the US dollar for each 100 basis points of surprise tightening by the Federal Reserve, similar to the response of emerging markets. That said, while the impact of monetary policy on financial conditions of low-income countries appears to be smaller than on emerging markets, its effect on commodity prices can still be significant, with overall important repercussions for commodity exporters.

Determinants of Emerging Market Monetary Policy Reactions

APPs and conventional policy rate cuts were emerging markets' two major monetary policy instruments used to counter financial market turmoil and lessen the depth of the recession during the early months of the pandemic.[22] This section uncovers the factors that drove the frequency and intensity of their use.

[21]Spillovers from US inflation to emerging market interest rates vary slightly by method, as explained in Online Annex 4.1.

[22]An investigation of the role of macroprudential measures during COVID-19 is beyond the scope of this chapter. For a comprehensive analysis of the effectiveness of macroprudential measures, see Chapter 3 of the April 2020 WEO.

The econometric method seeks to ensure that the drivers explored are not endogenous to the repercussion of the pandemic shock and that appropriate controls are added to the specifications. Still, the identification of causal effects is challenging and the results are indicative of associations. A separate analysis of the effectiveness of APPs is also presented.

Asset Purchase Programs

Overview and Effectiveness

The COVID-19 crisis saw an unprecedented use of unconventional monetary policy instruments among emerging market and developing economies. Twenty-seven emerging market and developing economies launched APPs, with most announcing them for the first time—starting with Indonesia on March 2, 2020. Most emerging market and developing economy central banks justified APPs as a means to counter market dysfunction, with only a handful (Ghana, Indonesia, Mauritius) also stating the support of government financing as a motivation for the program.[23] The vast majority of countries announced that their purchases were confined to government bonds; only a few also announced purchases of corporate or bank bonds (Brazil, Chile, Hungary, Mauritius) or equities (Egypt).

The effectiveness of APPs can be assessed by looking at whether yields on government bonds fell with the launch of the programs. This is an important indicator of success, especially for those APPs whose aim was to reduce interest rate spikes caused by rising liquidity premiums in funding markets. Based on this yardstick, Box 4.1 concludes that APPs by emerging market and developing economies during the pandemic appear to have been effective.

Drivers of APPs

Countries with greater exchange rate flexibility, an inflation targeting framework, greater central bank transparency, a history of a more rules-based fiscal policy framework, and lower sovereign risk were more likely to announce an APP between March and August 2020. The findings are based on logit regressions relating an indicator of whether a country announced an APP to groups of drivers that are each considered separately.[24] Depending on data availability for the different drivers, the sample size varies between 39 and 97 emerging market and developing economies (Online Annex 4.2 provides details).[25]

Policy frameworks. Overall, the results indicate that the choice of announcing an APP is highly dependent on the country's monetary and fiscal policy frameworks. Countries with floating or freely floating exchange rate regimes had a 61 percentage point higher probability of launching an APP than countries with other exchange rate regimes (Figure 4.14), reflecting little scope for expanding the money supply when a financially open economy has an exchange rate target. The presence of a numerical inflation target raises the probability by 35 percentage points, while a one-standard-deviation increase in an index of central bank transparency (Dinçer, Eichengreen, and Geraats 2019) raises the probability by 19 percentage points. One extra rule in the fiscal policy framework is associated with a 10 percentage point higher probability.

Fiscal position. Countries with higher sovereign credit ratings (those that were perceived to have less sovereign default risk) were more likely to announce APPs (Figure 4.15). An investment grade rating increases the probability of an APP by 19 percentage points. The amount of "fiscal space" that the government has seems to matter as well. Intermediate levels of fiscal space ("some" or "at risk") increased the probability of an APP by 58 percentage points compared with having, at the two extremes, "substantial" or "no fiscal space."[26] On one hand, it is possible that countries with "substantial" fiscal space were unlikely to launch an APP because their sovereign bond markets were not disrupted. On the other hand, countries with "no" fiscal space may have resisted activating an APP, fearing that markets could interpret it negatively as an attempt at debt monetization (fiscal dominance). The unlikely

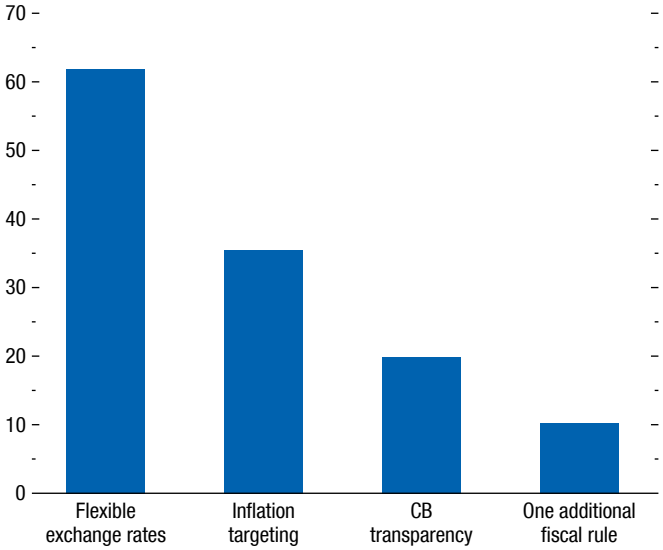
[23]The data on APPs used in this chapter are from Fratto and others (2021), which also includes a detailed description of APPs during the COVID-19 crisis through 2020. The data cover all central bank purchases and sales of private and public securities on primary and secondary markets. They also include twist operations (purchase of long-term and sale of short-term government securities), the establishment of special purpose vehicles or investment funds to purchase equities and other private securities, direct monetary financing of the government, and purchases of loans made to small and medium enterprises. See also Arslan, Drehmann, and Hofmann (2020) and Chapter 2 of the October 2020 *Global Financial Stability Report*.

[24]For the list of APPs in emerging market and developing economies during the pandemic, see Fratto and others (2021).

[25]A separate analysis looks at whether the probability that a country announced an APP was associated with the strength of the country's trade links with other emerging market and developing economies that announced APPs during the pandemic. No evidence of such an effect was found.

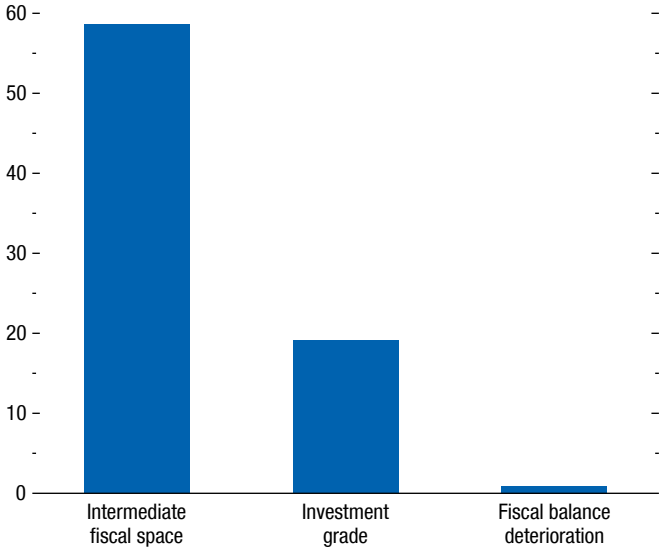
[26]The fiscal space variable is constructed by IMF staff for about 70 countries and published regularly in countries' Article IV Reports.

Figure 4.14. Determinants of Asset Purchase Program Choice during COVID-19: Policy Frameworks
(Change in probability, percentage points)



Sources: Dinçer, Eichengreen, and Geraats 2019; IMF 2020; and IMF staff calculations.
Note: Flexible exchange rates and inflation targeting represent, respectively, floating and free floating exchange rate regimes and inflation-targeting central banks. CB transparency reports the effect of a one-standard-deviation increase in the transparency index. Coefficients are significant at the 5 percent level.
CB = central bank.

Figure 4.15. Determinants of Asset Purchase Program Choice during COVID-19: Fiscal Position
(Change in probability, percentage points)



Sources: Standard & Poor's; and IMF staff calculations.
Note: The fiscal space indicator is calculated by the IMF. Investment-grade ratings are from Standard & Poor's. Fiscal balance deterioration is the change in the 2020 projected fiscal balance between the January 2020 *World Economic Outlook* (WEO) *Update* and the April 2020 WEO, relative to 2019 GDP. Bars are significant at the 5 percent level; the fiscal balance deterioration bar is not significant.

use of APPs as an indirect means of debt financing is corroborated by the lack of a statistically significant relationship between the activation of an APP and the deterioration in the projected 2020 fiscal balance.

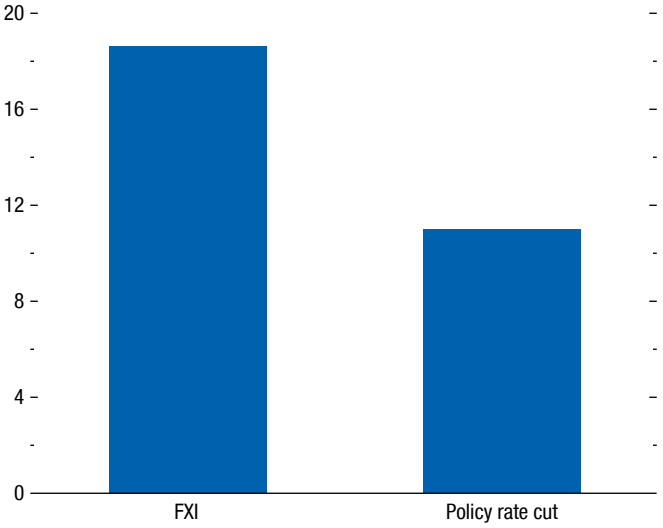
Exposure to financial spillovers. Three proxies are used to measure the exposure. The first is a country-specific "vulnerability index" to monetary policy spillovers from Federal Reserve decisions, as derived in the preceding section of the chapter that deals with the spillover amplifiers from US monetary policy shocks. The second is a measure of financial openness mandated in law, and the third is an indicator of foreign reserves adequacy.[27] None of these proxies is significant in predicting an APP.

Other instruments. APPs are part of a larger set of policy instruments, which include conventional interest cuts (analyzed in detail in the next section) and foreign exchange interventions. A larger policy rate cut increases by 10 percentage points the probability that an APP will be announced, while use of a foreign exchange intervention raises that probability by 18 percentage points. The results (Figure 4.16) suggest that emerging market and developing economies use policy rate cuts, APPs, and foreign exchange interventions complementarily. They also use them for different objectives: lowering the domestic risk-free rate, tackling disruptions in the domestic bond market, and resolving disorderly conditions in the market for foreign exchange.[28]

[27]Financial openness is proxied by the Chinn-Ito index for the year 2018 (see Chinn and Ito 2006 for a description of the index). The reserve adequacy measure is computed by IMF staff and describes reserve holdings relative to the reserve adequacy measure, updated to 2019 (see IMF 2015 for a description).

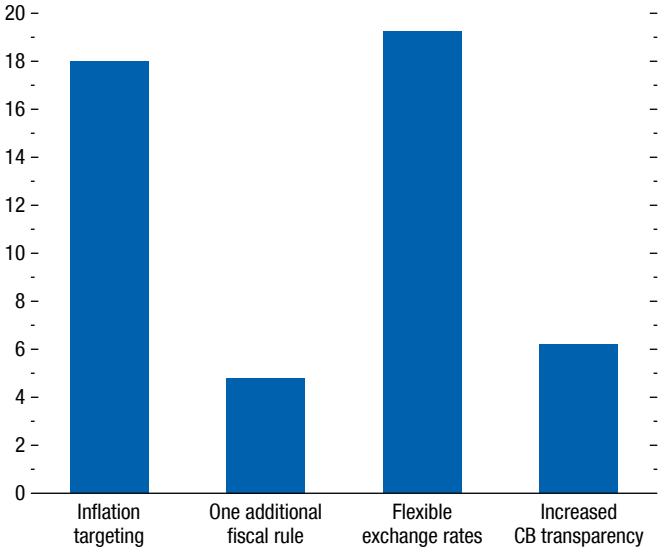
[28]The size of the policy rate cut and the foreign exchange intervention indicator are added simultaneously to the regression. The foreign exchange intervention dummy is based on a collection of such interventions during the COVID-19 crisis by the IMF staff. It is highly correlated with the indicator for floating or free-floating exchange rates, which is added as a control to each regression. This may appear surprising as one would expect that countries with more flexible exchange rates do not rely much on foreign exchange interventions. However, this correlation reflects only the particular construction of the foreign exchange intervention indicator, which captures those interventions aimed specifically at addressing disorderly market conditions (and, so, have a goal similar to that of APPs). Therefore, the indicator does not include all foreign exchange interventions conducted as part of regular operations to maintain a managed exchange rate regime. For this reason, the regression in Figure 4.16 does not include controls for the exchange rate regime.

Figure 4.16. Determinants of Asset Purchase Program Choice during COVID-19: Other Instruments
(Change in probability, percentage points)



Sources: National authorities; and IMF staff calculations based on national central bank information.
Note: FXI is a dummy for countries that have used foreign exchange interventions to address disorderly market conditions during the COVID-19 crisis. Policy rate cut is based on a one-standard-deviation increase in the policy rate, as a percentage of its pre-pandemic level. Coefficients are significant at the 5 percent level.

Figure 4.17. Determinants of Policy Rate Cuts during COVID-19: Policy Frameworks
(Changes, percentage points)



Sources: Dinçer, Eichengreen, and Geraats 2019; IMF 2020; and IMF staff calculations.
Note: Flexible exchange rates and inflation targeting represent, respectively, floating and free floating exchange rate regimes and inflation-targeting central banks. CB transparency reports the effect of a one-standard-deviation increase in the transparency index. Coefficients are significant at the 5 percent level.
CB = central bank.

Policy Rate Cuts

Analysis of the "risk channel" suggests that changes in the expected path of monetary policy rates in emerging markets are only marginally influenced by surprise changes in monetary policy rates in advanced economies. This section seeks to explain the differences between countries in how much the policy rate was reduced from March through August 2020.[29] Central banks in countries with greater exchange rate flexibility, an inflation targeting framework, greater central bank transparency, and a more rules-based fiscal policy framework are found to have delivered deeper interest rate reductions. Unlike for APPs, sovereign credit ratings are not correlated with the extent of interest rate cuts.

The econometric specification relates the change in monetary policy rates, expressed as a ratio to the policy rate before the crisis, to four groups of drivers. The first three are the same as those just explored. The fourth intends to capture how the policy rate cut depended on *domestic economic conditions*, the standard driver of policy interest rates.[30]

Policy frameworks. The same characteristics of policy frameworks that determine the use of APPs also explain the size of policy rate cuts (Figure 4.17). In countries with flexible exchange rates and inflation-targeting central banks, the policy rate cut was about 20 percent larger. A one-standard-deviation increase in the central bank transparency index raises the policy rate cut by 6 percent and the use of one additional fiscal rule makes it 5 percent larger.

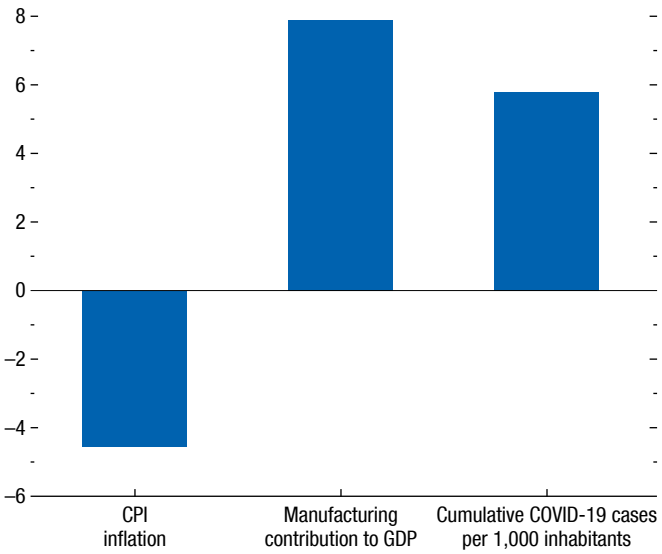
Fiscal position. Neither the sovereign debt rating nor the fiscal space indicator are significant predictors of interest rate cuts. The change in the fiscal balance is also insignificant.

Exposure to financial spillovers. Similar to the chapter findings about the exposure to monetary policy spillovers, the indicator of financial openness and the reserve adequacy ratio are not significant drivers

[29]For a related analysis on determinants of the policy rate cuts, see Gelos, Rawat, and Ye (2020).

[30]The same domestic economic conditions did not determine decisions to use APPs.

Figure 4.18. Determinants of Policy Rate Cuts during COVID-19: Domestic Conditions
(Changes, percentage points)



Sources: Johns Hopkins University; IMF, *World Economic Outlook*; and World Bank, World Development Indicators.
Note: Manufacturing contribution to GDP and cumulative COVID-19 cases per 1,000 inhabitants report the effects of a one-standard-deviation increase in the indicator. Coefficients are significant at the 10 percent level or less.
CPI = consumer price index.

of conventional monetary policy cuts. This result is well aligned with the findings about spillovers from monetary policy surprises and appears to confirm that external monetary and financial conditions are not important drivers of domestic monetary policy rates.

Domestic economic conditions. Interest rate cuts were proportionally larger where pre-pandemic inflation was lower and where the domestic and foreign demand shocks were more negative (Figure 4.18). The policy rate cut was deeper in countries with a higher number of COVID-19 cases by September 1, 2020 (which proxies for the size of negative domestic demand and supply shocks, especially in the service sector). The country's manufacturing share in GDP captures the effect of falling foreign demand on GDP and is also associated with more conventional easing.

Conclusions

Prospects for a multispeed recovery, with advanced economies recovering more quickly than most other economies, raise concerns about the effects from an asynchronous withdrawal of monetary policy support that tightens financial conditions for emerging market and developing economies. These concerns have been amplified by the fiscal packages in the United States, which could lead the Federal Reserve's asset purchases to be scaled back and US interest rates to rise at an earlier-than-expected date.

This chapter finds that changes to interest rates in the United States tend to have important ramifications for financial conditions in emerging market and developing economies. Yet, these effects depend on the circumstances behind the change and the evolution of global risk premiums:

- An unexpected signal of higher future US policy rates that is not driven by changes in economic conditions in the United States unambiguously leads to a tightening of financial conditions in emerging markets. The trigger could arise from markets revising their expectations of how soon or how much the Federal Reserve will react to the evolving information on the economy. This would potentially lead to a shift in global risk appetite, a reversal of capital flows to emerging markets, deleveraging by global banks, and a depreciation in emerging market currencies that exposes foreign exchange-related vulnerabilities.
- By contrast, positive news on US economic activity tends to have a relatively benign impact on financial conditions in emerging markets. The VIX and risk premiums on emerging market bonds fall, while capital tends to flow into emerging markets. Positive news from COVID-19 vaccine trials triggered strong effects in the same direction. These findings can be attributed in part to a positive *risk channel*, where favorable economic developments in advanced economies reduce the risk aversion of international investors, and in part to a *trade channel,* which reflects the tendency of better economic news in the United States to imply better growth prospects for emerging markets as well.
- Upside surprises on US inflation also lift expected US rates, but do not appear to systematically impact financial conditions in emerging markets. Although the source of inflation may matter, on average, the repercussions for emerging markets seem to be limited.

The analysis suggests that a gradual and well-telegraphed normalization of US interest rates driven by a recovering US economy would likely be manageable for most emerging market economies, though

some would be at risk. In fact, many emerging markets (especially those with substantial exports to advanced economies) could see a period of strong capital inflows as economic conditions in advanced economies improve, monetary policy accommodation is withdrawn gradually, and global risk appetite remains favorable. A stronger-than-expected inflation recovery in advanced economies could temper global financial risk appetite somewhat, but with likely limited repercussions if inflation expectations remain well anchored. This is particularly true, given that the Federal Reserve has clearly communicated that it is targeting a temporary overshooting of its medium-term inflation goal and would not raise interest rates until inflation has risen to 2 percent and is on track to moderately exceed 2 percent for some time. However, some emerging market economies with fiscal and external vulnerabilities and a lack of trade ties to advanced economies may find that global financial tightening outweighs the benefits of stronger external demand. Moreover, the current health and economic crises are different from anything seen in recent decades, making evidence from the past an imperfect guide to the future. Today's high debt levels may accentuate any financial spillovers, and efforts to contain the virus may limit the benefits of trade links.

It is not assured that the economic recovery and interest rate normalization in advanced economies will be smooth, and central bank communications will be a critical factor as the recovery progresses. The chapter's findings suggest that a rapid upward revision in expected US monetary policy rates—for example, if markets were suddenly to revise down their expectations for the inflation level that the Federal Reserve would tolerate before it tightened monetary policy under its flexible average inflation targeting framework—could lead to rising risk premiums and significant capital outflows from emerging market and developing economies. As such, it will be important for the Federal Reserve to continue to emphasize its policy approach and how it will implement its new monetary policy strategy to anchor expectations about its policy reaction. In general, it will be important for advanced economy central banks to signal early if they judge that economic conditions are evolving in a way that will warrant scaling back of asset purchases and, eventually, raising policy rates.[31]

[31]See Sahay and others (2014) for a stocktaking of lessons from the taper tantrum episode.

Even if global financial risk appetite remains buoyant for some time, emerging market policymakers need to keep in mind that advanced economy central banks will eventually reduce monetary policy accommodation. Even with central banks providing a high degree of transparency and early communication of changes in their policy stance, markets may still misinterpret intentions, and financial conditions can shift for reasons that are beyond the control of policymakers. Moreover, as the recovery picks up, risk appetite and term premiums may increase, as happened on the back of expected US fiscal stimulus in the second half of February. Combined with a faster expected normalization of US monetary policy, the decompression of term premiums has steepened the US yield curve and has spilled over into higher emerging market bond yields as well, triggering a slowdown in capital flows. This episode foreshadows the bumps that may lie ahead for emerging markets as the global economic recovery progresses and extraordinary policy support is withdrawn.

How can emerging market economies insulate themselves from external financial spillovers? The correlations documented in the chapter suggest that monetary policy in emerging markets could probably react countercyclically in downside scenarios. However, the strength of the policy easing could be limited and heterogenous across countries. For instance, higher public debt might discourage some countries from using APPs with the same intensity as in the earlier phases of the pandemic. Moreover, if public debt and other fiscal concerns were to start weighing on the perceived independence of monetary policy and on its rules-based frameworks, the ability of central banks to deploy large conventional rate cuts without raising long-term inflation expectations could also be called into question. Maintaining credible fiscal and monetary frameworks is therefore essential for emerging market and developing economies to be able to support domestic activity amid unexpected negative shocks. In addition, taking steps to lengthen maturities on debt and smooth out concentrations in debt service obligations, manage leverage through macroprudential measures and strong financial supervision, reduce currency mismatches, and ensure an adequate level of international reserves can also help limit the buildup of vulnerabilities (see Chapter 3 of the April 2020 WEO). A strong international financial architecture, including robust mechanisms for liquidity support for countries, would have a key role to play too.

Box 4.1. Emerging Market Asset Purchase Programs: Rationale and Effectiveness

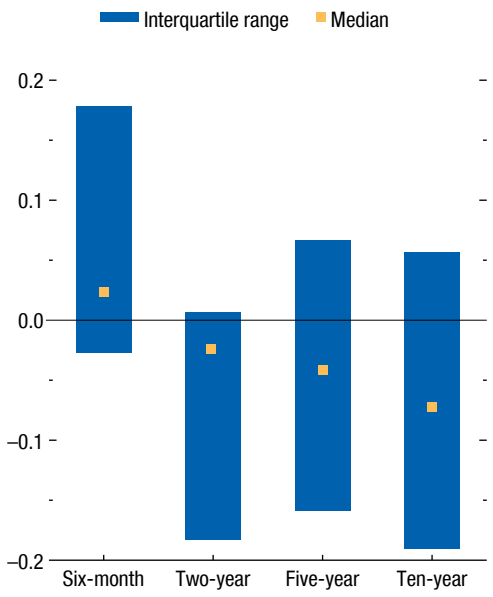
Most Countries Deployed Asset Purchase Programs while Short-Term Policy Rates Were Still Positive

This partly reflected the reported aim to smooth volatility and provide liquidity to the domestic market. In only 9 percent of cases were asset purchase programs (APPs) reported to be aimed at providing monetary stimulus. For 62 percent, market dysfunction and the need to boost confidence was the main concern. Supporting fiscal needs was stated as the main objective in 10 percent of cases, with the rest citing the need to alleviate costs of the COVID-19 pandemic on the population. The exchange rate was one of the objectives in only one case. Purchases of long-dated government bonds (or private sector securities) were sometimes used in combination with policy rate cuts (11 out of 27 cases). The size of APPs, both announced and implemented, was comparable to that in small advanced economies.[1]

Overall, Such Unconventional Monetary Policy Measures Lowered Local Bond Yields but Had No Salient Effect on Exchange Rates or External Borrowing Costs

The results of a multiday event study, using a sample of (only 15, given data limitations) emerging market and developing economies, point to heterogeneous effects. On average, the estimated effect on domestic bond yields is negative and statistically significant (Figure 4.1.1), slightly stronger than that of conventional monetary policy transmission, and higher in emerging market and developing economies than in advanced economies. The results are broadly consistent with the literature (Arslan, Drehmann, and Hofmann 2020; Hartley and Rebucci 2020; Sever and others 2020).[2] The estimated effects on the exchange rate are instead inconclusive. Looking at the second-round effects, the announcements have predominantly an insignificant effect on emerging market benchmark bonds. Panel regressions, controlling for policy and global factors, confirm the results.

Figure 4.1.1. Asset Purchase Program Announcement: Effect on Bond Yields
(Percentage point change)



Source: Fratto and others (2021).

Differences in Implementation and Country Characteristics Can Explain Some of the Heterogeneity in the Effectiveness of APPs

Some country-specific factors (central bank credibility, larger monetary policy space, low share of nonresident holdings of government bonds) and implementation modalities (quantity-based programs, smaller announced size, single as opposed to repeated announcements) seemed to increase the impact of APPs on yields. No statistically significant differences were found between purchasing assets on the primary and the secondary market, nor between single announcement and announcements made in coordination with other national authorities. Overall, the results suggest that APPs can be usefully deployed by emerging market and developing economies in response to domestic market stress, but may not work in dampening external market pressures more broadly.

The authors of this box are Chiara Fratto, Brendan Harnoys Vannier, Borislava Mircheva, David de Padua, and Hélène Poirson.

[1]This box draws on the analysis in Fratto and others (2021) and is based on a data set of APP announcements and implementation during March through August 2020.

[2]Results shown exclude the announcements coinciding with policy rate cuts to avoid capturing spillover effects from conventional monetary policy.

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STATISTICAL APPENDIX

The Statistical Appendix presents historical data as well as projections. It comprises seven sections: Assumptions, What's New, Data and Conventions, Country Notes, Classification of Countries, Key Data Documentation, and Statistical Tables.

The first section summarizes the assumptions underlying the estimates and projections for 2021–22. The second section briefly describes the changes to the database and statistical tables since the October 2020 *World Economic Outlook* (WEO). The third section offers a general description of the data and the conventions used for calculating country group composites. The fourth section presents selected key information for each country. The fifth section summarizes the classification of countries in the various groups presented in the WEO. The sixth section provides information on methods and reporting standards for the member countries' national account and government finance indicators included in the report.

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

Data in these tables have been compiled on the basis of information available through March 22, 2021. The figures for 2021–22 are shown with the same degree of precision as the historical figures solely for convenience; because they are projections, the same degree of accuracy is not to be inferred.

Assumptions

Real effective *exchange rates* for the advanced economies are assumed to remain constant at their average levels measured during January 18, 2021–February 15, 2021. For 2021 and 2022 these assumptions imply average US dollar–special drawing right (SDR) conversion rates of 1.445 and 1.458, US dollar–euro conversion rates[1] of 1.218 and 1.235, and yen–US dollar conversion rates of 104.1 and 102.1, respectively.

It is assumed that the *price of oil* will average $58.52 a barrel in 2021 and $54.83 a barrel in 2022.

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

With regard to *interest rates*, it is assumed that the London interbank offered rate (LIBOR) on six-month US dollar deposits will average 0.3 percent in 2021 and 0.4 percent in 2022, the LIBOR on three-month euro deposits will average –0.5 percent in 2021 and 2022, and the LIBOR on six-month yen deposits will average –0.1 percent in 2021 and 0.0 percent in 2022.

What's New

- The *emerging market and middle-income economies* group (EMMIEs) has been added to selected Chapter 1 and Statistical Appendix tables and comprises emerging market and developing economies that are not classified as low-income developing countries (LIDCs).
- Starting with the April 2021 WEO, real GDP data and forecasts for New Zealand are reported on a production basis rather than an expenditure basis.

Data and Conventions

Data and projections for 195 economies form the statistical basis of the WEO database. The data are maintained jointly by the IMF's Research Department

[1] In regard to the introduction of the euro, on December 31, 1998, the Council of the European Union decided that, effective January 1, 1999, the irrevocably fixed conversion rates between the euro and currencies of the member countries adopting the euro are as described in Box 5.4 of the October 1998 WEO. See Box 5.4 of the October 1998 WEO as well for details on how the conversion rates were established. For the most recent table of fixed conversion rates, see the Statistical Appendix of the October 2020 WEO.

and regional departments, with the latter regularly updating country projections based on consistent global assumptions.

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

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

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

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

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

Composites for other data relating to the domestic economy, whether growth rates or ratios, are weighted by GDP valued at purchasing power parity as a share of total world or group GDP.[4] Annual inflation rates are simple percentage changes from the previous years, except in the case of emerging market and developing economies, for which the rates are based on logarithmic differences.

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

Unless noted otherwise, composites for all sectors for the euro area are corrected for reporting discrepancies in intra-area transactions. Unadjusted annual GDP data are used for the euro area and for the majority of individual countries, except for Cyprus, Ireland,

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

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

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

Portugal, and Spain, which report calendar-adjusted data. For data prior to 1999, data aggregations apply 1995 European currency unit exchange rates.

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

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

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

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

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

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

For some countries, the figures for 2020 and earlier are based on estimates rather than actual outturns; Table G lists the latest actual outturns for the indicators in the national accounts, prices, government finance, and balance of payments indicators for each country.

Country Notes

For *Argentina*, fiscal and inflation variables are excluded from publication for 2021–26 as these are to a large extent linked to still-pending program negotiations. The official national consumer price index (CPI) for Argentina starts in December 2016. For earlier periods, CPI data for Argentina reflect the Greater Buenos Aires Area CPI (prior to December 2013), the national CPI (IPCNu, December 2013 to October 2015), the City of Buenos Aires CPI (November 2015 to April 2016), and the Greater Buenos Aires Area CPI (May 2016 to December 2016). Given limited comparability of these series on account of differences in geographical coverage, weights, sampling, and methodology, the average CPI inflation for 2014–16 and end-of-period inflation for 2015–16 are not reported in the April 2021 WEO. Also, Argentina discontinued the publication of labor market data in December 2015 and new series became available starting in the second quarter of 2016.

Data and forecasts for *Bangladesh* are presented on a fiscal year basis starting with the October 2020 WEO. However, the real GDP and purchasing-power-parity GDP aggregates that include Bangladesh are based on calendar year estimates.

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

The fiscal data for *Ecuador* reflect net lending/borrowing for the nonfinancial public sector. Ecuadorian authorities, with technical support from the IMF, are revising the historical fiscal data for the net lending/borrowing of the nonfinancial public sector over the period 2012–17, with the view of correcting recently identified statistical errors in data compilation at the subnational level and the consistency between above-the-line and financing data by subsectors.

For *Germany*, projections do not reflect the extensions of lockdowns in response to a third wave of infections, the 2021 supplementary budget, and the draft 2022 federal budget.

India's real GDP growth rates are calculated as per national accounts: for 1998 to 2011, with base year 2004/05 and, thereafter, with base year 2011/12.

For *Lebanon*, projections for 2021–26 are omitted due to an unusually high degree of uncertainty.

Against the backdrop of a civil war and weak capacity, the reliability of *Libya's* data, especially regarding national accounts and medium-term projections, is low.

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

For *Turkey*, projections were finalized in early March 2021.

For *Turkmenistan*, estimates and projections of the fiscal balance exclude receipts from domestic bond issuance, in line with GFSM 2014. The authorities' official estimates, which are compiled using domestic statistical methodologies, include bond issuance as part of government revenues.

Ukraine's revised national accounts data are available beginning in 2000 and exclude Crimea and Sevastopol from 2010 onward.

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

Starting in October 2018 *Uruguay*'s public pension system has been receiving transfers in the context of a new law that compensates persons affected by the creation of the mixed pension system. These funds are recorded as revenues, consistent with the IMF's methodology. Therefore, data and projections for 2018–21 are affected by these transfers, which amounted to 1.2 percent of GDP in 2018 and 1.1 percent of GDP in 2019, and are projected to be 0.6 percent of GDP in 2020, 0.2 percent of GDP in 2021, and zero percent thereafter (see IMF Country Report 19/64 for further details).[5] The disclaimer about the public pension system applies only to the revenues and net lending/borrowing series.

The coverage of the fiscal data for *Uruguay* was changed from consolidated public sector to nonfinancial public sector with the October 2019 WEO. In Uruguay, nonfinancial public sector coverage includes central government, local government, social security funds, nonfinancial public corporations, and Banco de Seguros del Estado. Historical data were also revised accordingly. Under this narrower fiscal perimeter—which excludes the central bank—assets and liabilities held by the nonfinancial public sector where the counterpart is the central bank are not netted out in debt figures. In this context, capitalization bonds issued in the past by the government to the central bank are now part of the nonfinancial public sector debt. Gross and net debt estimates for 2008–11 are preliminary.

Projecting the economic outlook in *Venezuela*, including assessing past and current economic developments as the basis for the projections, is complicated by the lack of discussions with the authorities (the last Article IV consultation took place in 2004), incomplete understanding of the reported data, and difficulties in interpreting certain reported economic indicators given economic developments. The fiscal accounts include the budgetary central government; social security; FOGADE (insurance deposit institution); and a sample of public enterprises, including Petróleos de Venezuela, S.A.; and data for 2018–19 are IMF staff estimates. The effects of hyperinflation and the paucity of reported data mean that the IMF staff's projected macroeconomic indicators need to be interpreted with caution. For example, nominal GDP is estimated assuming the GDP deflator rises in line with the IMF staff's projection of average inflation. Public external debt in relation to GDP is projected using the IMF staff's estimate of the average exchange rate for the year. Wide uncertainty surrounds these projections. Venezuela's consumer prices are excluded from all WEO group composites.

In 2019 *Zimbabwe* authorities introduced the Real Time Gross Settlement dollar, later renamed the Zimbabwe dollar, and are in the process of redenominating their national accounts statistics. Current data are subject to revision. The Zimbabwe dollar previously ceased circulating in 2009 and, during 2009–19, Zimbabwe operated under a multicurrency regime, with the US dollar as the unit of account.

Classification of Countries

Summary of the Country Classification

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

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

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

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

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

Advanced Economies

Table B lists the 39 advanced economies. The seven largest in terms of GDP based on market exchange rates—Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States—constitute the subgroup of major advanced economies, often referred to as the Group of Seven. The members of the euro area are also distinguished as a subgroup. Composite data shown in the tables for the euro area cover the current members for all years, even though the membership has increased over time.

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

Emerging Market and Developing Economies

The group of emerging market and developing economies (156) includes all those that are not classified as advanced economies.

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

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

The analytical criterion *source of export earnings* distinguishes between the categories *fuel* (Standard International Trade Classification (SITC) 3) and *nonfuel* and then focuses on *nonfuel primary products* (SITCs 0, 1, 2, 4, and 68). Economies are categorized into one of these groups if their main source of export earnings exceeded 50 percent of total exports on average between 2015 and 2019.

The financial and income criteria focus on *net creditor economies, net debtor economies, heavily indebted poor countries* (HIPCs), LIDCs, and EMMIEs. Economies are categorized as net debtors when their latest net international investment position, where available, was less than zero or their current account balance accumulations from 1972 (or earliest available data) to 2019 were negative. Net debtor economies are further differentiated on the basis of *experience with debt servicing*.[7]

The HIPC group comprises the countries that are or have been considered by the IMF and the World Bank for participation in their debt initiative known as the HIPC Initiative, which aims to reduce the external debt burdens of all the eligible HIPCs to a "sustainable" level in a reasonably short period of time.[8] Many of these countries have already benefited from debt relief and have graduated from the initiative.

The LIDCs are countries that have per capita income levels below a certain threshold (set at $2,700 in 2016 as measured by the World Bank's Atlas method), structural features consistent with limited development and structural transformation, and external financial links insufficiently close for them to be widely seen as emerging market economies.

The EMMIEs comprise emerging market and developing economies that are not classified as LIDCs.

[7] During 2015–19, 27 economies incurred external payments arrears or entered into official or commercial bank debt-rescheduling agreements. This group is referred to as *economies with arrears and/or rescheduling during 2015–19*.

[8] See David Andrews, Anthony R. Boote, Syed S. Rizavi, and Sukwinder Singh, "Debt Relief for Low-Income Countries: The Enhanced HIPC Initiative," IMF Pamphlet Series 51 (Washington, DC: International Monetary Fund, November 1999).

Table A. Classification, by *World Economic Outlook* Groups and Their Shares in Aggregate GDP, Exports of Goods and Services, and Population, 2020[1]

(Percent of total for group or world)

	Number of Economies	GDP		Exports of Goods and Services		Population	
		Advanced Economies	World	Advanced Economies	World	Advanced Economies	World
Advanced Economies	**39**	**100.0**	**42.5**	**100.0**	**63.0**	**100.0**	**14.1**
United States		37.4	15.9	15.3	9.7	30.7	4.3
Euro Area	19	28.3	12.0	42.3	26.7	31.7	4.5
Germany		8.0	3.4	12.0	7.6	7.7	1.1
France		5.4	2.3	5.4	3.4	6.1	0.9
Italy		4.4	1.9	4.0	2.5	5.6	0.8
Spain		3.2	1.4	2.8	1.8	4.4	0.6
Japan		9.5	4.0	5.7	3.6	11.7	1.6
United Kingdom		5.3	2.2	5.3	3.3	6.2	0.9
Canada		3.3	1.4	3.4	2.2	3.5	0.5
Other Advanced Economies	16	16.2	6.9	28.0	17.6	16.2	2.3
Memorandum							
Major Advanced Economies	7	73.3	31.2	51.1	32.2	71.6	10.1
		Emerging Market and Developing Economies	World	Emerging Market and Developing Economies	World	Emerging Market and Developing Economies	World
Emerging Market and Developing Economies	**156**	**100.0**	57.5	100.0	37.0	100.0	85.9
Regional Groups							
Emerging and Developing Asia	30	55.9	32.2	53.4	19.8	55.9	48.0
China		31.9	18.3	33.5	12.4	21.4	18.4
India		11.8	6.8	6.0	2.2	21.0	18.0
ASEAN-5	5	9.8	5.7	12.4	4.6	8.8	7.6
Emerging and Developing Europe	16	13.5	7.7	16.2	6.0	5.8	5.0
Russia		5.4	3.1	4.6	1.7	2.2	1.9
Latin America and the Caribbean	33	12.7	7.3	13.1	4.9	9.7	8.3
Brazil		4.2	2.4	2.9	1.1	3.2	2.8
Mexico		3.2	1.9	5.3	2.0	1.9	1.7
Middle East and Central Asia	32	12.5	7.2	13.3	4.9	12.7	10.9
Saudi Arabia		2.1	1.2	2.2	0.8	0.5	0.5
Sub-Saharan Africa	45	5.4	3.1	4.0	1.5	15.9	13.7
Nigeria		1.4	0.8	0.5	0.2	3.1	2.7
South Africa		0.9	0.5	1.1	0.4	0.9	0.8
Analytical Groups[2]							
By Source of Export Earnings							
Fuel	26	10.0	5.8	12.5	4.6	9.5	8.2
Nonfuel	129	90.0	51.7	87.5	32.4	90.5	77.7
Of Which, Primary Products	35	5.3	3.0	5.1	1.9	9.2	7.9
By External Financing Source							
Net Debtor Economies	123	52.7	30.3	49.4	18.3	68.7	59.1
Net Debtor Economies by Debt-Servicing Experience							
Economies with Arrears and/or Rescheduling during 2015–19	28	3.8	2.2	2.7	1.0	7.4	6.3
Other Groups							
Emerging Market and Middle-Income Economies	97	91.6	52.7	92.4	34.2	76.7	65.9
Low-Income Developing Countries	57	8.4	4.8	7.6	2.8	23.3	20.1
Heavily Indebted Poor Countries	39	2.9	1.7	2.0	0.8	12.1	10.4

[1]The GDP shares are based on the purchasing-power-parity valuation of economies' GDP. The number of economies composing each group reflects those for which data are included in the group aggregates.

[2]Syria is omitted from the source of export earnings, and South Sudan and Syria are omitted from the net external position group composites because of insufficient data.

Table B. Advanced Economies, by Subgroup

Major Currency Areas		
United States		
Euro Area		
Japan		
Euro Area		
Austria	Greece	The Netherlands
Belgium	Ireland	Portugal
Cyprus	Italy	Slovak Republic
Estonia	Latvia	Slovenia
Finland	Lithuania	Spain
France	Luxembourg	
Germany	Malta	
Major Advanced Economies		
Canada	Italy	United States
France	Japan	
Germany	United Kingdom	
Other Advanced Economies		
Australia	Korea	Singapore
Czech Republic	Macao SAR[2]	Sweden
Denmark	New Zealand	Switzerland
Hong Kong SAR[1]	Norway	Taiwan Province of China
Iceland	Puerto Rico	
Israel	San Marino	

[1]On July 1, 1997, Hong Kong was returned to the People's Republic of China and became a Special Administrative Region of China.

[2]On December 20, 1999, Macao was returned to the People's Republic of China and became a Special Administrative Region of China.

Table C. European Union

Austria	France	Malta
Belgium	Germany	The Netherlands
Bulgaria	Greece	Poland
Croatia	Hungary	Portugal
Cyprus	Ireland	Romania
Czech Republic	Italy	Slovak Republic
Denmark	Latvia	Slovenia
Estonia	Lithuania	Spain
Finland	Luxembourg	Sweden

Table D. Emerging Market and Developing Economies, by Region and Main Source of Export Earnings[1]

	Fuel	Nonfuel Primary Products
Emerging and Developing Asia		
	Brunei Darussalam	Kiribati
	Timor-Leste	Marshall Islands
		Papua New Guinea
		Solomon Islands
		Tuvalu
Latin America and the Caribbean		
	Ecuador	Argentina
	Trinidad and Tobago	Bolivia
	Venezuela	Chile
		Guyana
		Paraguay
		Peru
		Suriname
		Uruguay
Middle East and Central Asia		
	Algeria	Afghanistan
	Azerbaijan	Mauritania
	Bahrain	Somalia
	Iran	Sudan
	Iraq	Tajikistan
	Kazakhstan	Uzbekistan
	Kuwait	
	Libya	
	Oman	
	Qatar	
	Saudi Arabia	
	Turkmenistan	
	United Arab Emirates	
	Yemen	
Sub-Saharan Africa		
	Angola	Benin
	Chad	Burkina Faso
	Republic of Congo	Burundi
	Equatorial Guinea	Central African Republic
	Gabon	Democratic Republic of the Congo
	Nigeria	Côte d'Ivoire
	South Sudan	Eritrea
		Guinea
		Guinea-Bissau
		Liberia
		Malawi
		Mali
		Sierra Leone
		South Africa
		Zambia
		Zimbabwe

[1]Emerging and Developing Europe is omitted because no economies in the group have fuel or nonfuel primary products as the main source of export earnings.

Table E. Emerging Market and Developing Economies, by Region, Net External Position, Heavily Indebted Poor Countries, and Per Capita Income Classification

	Net External Position[1]	Heavily Indebted Poor Countries[2]	Per Capita Income Classification[3]
Emerging and Developing Asia			
Bangladesh	*		*
Bhutan	*		*
Brunei Darussalam	•		•
Cambodia	*		*
China	•		•
Fiji	*		•
India	*		•
Indonesia	*		•
Kiribati	•		*
Lao P.D.R.	*		*
Malaysia	*		•
Maldives	*		•
Marshall Islands	*		•
Micronesia	•		•
Mongolia	*		•
Myanmar	*		*
Nauru	*		•
Nepal	•		*
Palau	*		•
Papua New Guinea	*		*
Philippines	*		•
Samoa	*		•
Solomon Islands	*		*
Sri Lanka	*		•
Thailand	*		•
Timor-Leste	•		*
Tonga	*		•
Tuvalu	*		•
Vanuatu	*		•
Vietnam	*		*
Emerging and Developing Europe			
Albania	*		•
Belarus	*		•
Bosnia and Herzegovina	*		•
Bulgaria	*		•
Croatia	*		•
Hungary	*		•
Kosovo	*		•
Moldova	*		*
Montenegro	*		•
North Macedonia	*		•
Poland	*		•
Romania	*		•
Russia	•		•
Serbia	*		•
Turkey	*		•
Ukraine	*		•
Latin America and the Caribbean			
Antigua and Barbuda	*		•
Argentina	•		•
Aruba	*		•
The Bahamas	*		•
Barbados	*		•
Belize	*		•
Bolivia	*	•	•
Brazil	*		•
Chile	*		•
Colombia	*		•
Costa Rica	*		•
Dominica	•		•
Dominican Republic	*		•
Ecuador	*		•
El Salvador	*		•
Grenada	*		•
Guatemala	*		•
Guyana	*	•	•
Haiti	*	•	*
Honduras	*	•	*
Jamaica	*		•
Mexico	*		•
Nicaragua	*	•	*
Panama	*		•
Paraguay	*		•
Peru	*		•
St. Kitts and Nevis	*		•
St. Lucia	*		•
St. Vincent and the Grenadines	*		•
Suriname	*		•
Trinidad and Tobago	•		•
Uruguay	*		•
Venezuela	•		•

Table E. Emerging Market and Developing Economies, by Region, Net External Position, Heavily Indebted Poor Countries, and Per Capita Income Classification *(continued)*

	Net External Position[1]	Heavily Indebted Poor Countries[2]	Per Capita Income Classification[3]
Middle East and Central Asia			
Afghanistan	•	•	*
Algeria	•		•
Armenia	*		•
Azerbaijan	•		•
Bahrain	•		•
Djibouti	*		*
Egypt	*		•
Georgia	*		•
Iran	•		•
Iraq	•		•
Jordan	*		•
Kazakhstan	*		•
Kuwait	•		•
Kyrgyz Republic	*		*
Lebanon	*		•
Libya	•		•
Mauritania	*	•	*
Morocco	*		•
Oman	*		•
Pakistan	*		•
Qatar	•		•
Saudi Arabia	•		•
Somalia	*	*	*
Sudan	*	*	*
Syria[4]	. . .		•
Tajikistan	*		*
Tunisia	*		•
Turkmenistan	•		•
United Arab Emirates	•		•
Uzbekistan	•		*
West Bank and Gaza	*		•
Yemen	*		*
Sub-Saharan Africa			
Angola	*		•
Benin	*	•	*
Botswana	•		•
Burkina Faso	*	•	*
Burundi	*	•	*
Cabo Verde	*		•
Cameroon	*	•	*
Central African Republic	*	•	*
Chad	*	•	*
Comoros	*	•	*
Democratic Republic of the Congo	*	•	*
Republic of Congo	*	•	*
Côte d'Ivoire	*	•	*
Equatorial Guinea	•		•
Eritrea	•	*	*
Eswatini	•		•
Ethiopia	*	•	*
Gabon	•		•
The Gambia	*	•	*
Ghana	*	•	*
Guinea	*	•	*
Guinea-Bissau	*	•	*
Kenya	*		*
Lesotho	*		*
Liberia	*	•	*
Madagascar	*	•	*
Malawi	*	•	*
Mali	*	•	*
Mauritius	•		•
Mozambique	*	•	*
Namibia	*		•
Niger	*	•	*
Nigeria	*		*
Rwanda	*	•	*
São Tomé and Príncipe	*	•	*
Senegal	*	•	*
Seychelles	*		•
Sierra Leone	*	•	*
South Africa	•		•
South Sudan[4]	. . .		*
Tanzania	*	•	*
Togo	*	•	*
Uganda	*	•	*
Zambia	*	•	*
Zimbabwe	*		*

[1]Dot (star) indicates that the country is a net creditor (net debtor).
[2]Dot instead of star indicates that the country has reached the completion point, which allows it to receive the full debt relief committed to at the decision point.
[3]Dot (star) indicates that the country is classified as an emerging market and middle-income economy (low-income developing country).
[4]South Sudan and Syria are omitted from the net external position group composite for lack of a fully developed database.

Table F. Economies with Exceptional Reporting Periods[1]

	National Accounts	Government Finance
The Bahamas		Jul/Jun
Bangladesh	Jul/Jun	Jul/Jun
Barbados		Apr/Mar
Bhutan	Jul/Jun	Jul/Jun
Botswana		Apr/Mar
Burundi		Jul/Jun
Dominica		Jul/Jun
Egypt	Jul/Jun	Jul/Jun
Eswatini		Apr/Mar
Ethiopia	Jul/Jun	Jul/Jun
Haiti	Oct/Sep	Oct/Sep
Hong Kong SAR		Apr/Mar
India	Apr/Mar	Apr/Mar
Iran	Apr/Mar	Apr/Mar
Jamaica		Apr/Mar
Lesotho	Apr/Mar	Apr/Mar
Marshall Islands	Oct/Sep	Oct/Sep
Mauritius		Jul/Jun
Micronesia	Oct/Sep	Oct/Sep
Myanmar	Oct/Sep	Oct/Sep
Namibia		Apr/Mar
Nauru	Jul/Jun	Jul/Jun
Nepal	Aug/Jul	Aug/Jul
Pakistan	Jul/Jun	Jul/Jun
Palau	Oct/Sep	Oct/Sep
Puerto Rico	Jul/Jun	Jul/Jun
Rwanda		Jul/Jun
St. Lucia		Apr/Mar
Samoa	Jul/Jun	Jul/Jun
Singapore		Apr/Mar
Thailand		Oct/Sep
Tonga	Jul/Jun	Jul/Jun
Trinidad and Tobago		Oct/Sep

[1]Unless noted otherwise, all data refer to calendar years.

Table G. Key Data Documentation

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Afghanistan	Afghan afghani	NSO	2019	2016	SNA 2008		NSO	2020
Albania	Albanian lek	IMF staff	2019	1996	ESA 2010	From 1996	NSO	2020
Algeria	Algerian dinar	NSO	2019	2001	SNA 1993	From 2005	NSO	2019
Angola	Angolan kwanza	NSO and MEP	2019	2002	ESA 1995		NSO	2019
Antigua and Barbuda	Eastern Caribbean dollar	CB	2019	2006[6]	SNA 1993		CB	2020
Argentina	Argentine peso	NSO	2019	2004	SNA 2008		NSO	2020
Armenia	Armenian dram	NSO	2019	2005	SNA 2008		NSO	2019
Aruba	Aruban Florin	NSO	2017	2000	SNA 1993	From 2000	NSO	2020
Australia	Australian dollar	NSO	2020	2018	SNA 2008	From 1980	NSO	2020
Austria	Euro	NSO	2019	2015	ESA 2010	From 1995	NSO	2020
Azerbaijan	Azerbaijan manat	NSO	2019	2005	SNA 1993	From 1994	NSO	2020
The Bahamas	Bahamian dollar	NSO	2019	2012	SNA 1993		NSO	2019
Bahrain	Bahrain dinar	NSO	2019	2010	SNA 2008		NSO	2019
Bangladesh	Bangladesh taka	NSO	2019/20	2005/06	SNA 2008		NSO	2019/20
Barbados	Barbados dollar	NSO and CB	2019	2010	SNA 1993		NSO	2020
Belarus	Belarusian ruble	NSO	2019	2018	SNA 2008	From 2005	NSO	2019
Belgium	Euro	CB	2020	2015	ESA 2010	From 1995	CB	2020
Belize	Belize dollar	NSO	2020	2000	SNA 1993		NSO	2019
Benin	CFA franc	NSO	2019	2015	SNA 2008		NSO	2019
Bhutan	Bhutanese ngultrum	NSO	2019/20	2000/01[6]	SNA 1993		CB	2019/20
Bolivia	Bolivian boliviano	NSO	2019	1990	SNA 2008		NSO	2020
Bosnia and Herzegovina	Bosnian convertible marka	NSO	2018	2015	ESA 2010	From 2000	NSO	2019
Botswana	Botswana pula	NSO	2019	2006	SNA 1993		NSO	2019
Brazil	Brazilian real	NSO	2020	1995	SNA 2008		NSO	2020
Brunei Darussalam	Brunei dollar	NSO and GAD	2019	2010	SNA 2008		NSO and GAD	2019
Bulgaria	Bulgarian lev	NSO	2019	2015	ESA 2010	From 1996	NSO	2020
Burkina Faso	CFA franc	NSO and MEP	2018	2015	SNA 2008		NSO	2019
Burundi	Burundi franc	NSO and IMF staff	2019	2005	SNA 1993		NSO	2020
Cabo Verde	Cabo Verdean escudo	NSO	2019	2007	SNA 2008	From 2011	NSO	2019
Cambodia	Cambodian riel	NSO	2019	2000	SNA 1993		NSO	2019
Cameroon	CFA franc	NSO	2019	2005	SNA 2008		NSO	2019
Canada	Canadian dollar	NSO	2020	2012	SNA 2008	From 1980	NSO	2020
Central African Republic	CFA franc	NSO	2017	2005	SNA 1993		NSO	2020
Chad	CFA franc	CB	2017	2005	SNA 1993		NSO	2020
Chile	Chilean peso	CB	2020	2013[6]	SNA 2008	From 2003	NSO	2019
China	Chinese yuan	NSO	2020	2015	SNA 2008		NSO	2020
Colombia	Colombian peso	NSO	2020	2015	SNA 2008	From 2005	NSO	2020
Comoros	Comorian franc	MoF	2018	2007	**SNA 1993**	From 2007	NSO	2019
Democratic Republic of the Congo	Congolese franc	NSO	2019	2005	SNA 1993		CB	2019
Republic of Congo	CFA franc	NSO	2018	2005	SNA 1993		NSO	2019
Costa Rica	Costa Rican colón	CB	2019	2017	SNA 2008		CB	2019

Table G. Key Data Documentation *(continued)*

Country	Government Finance					Balance of Payments		
	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Afghanistan	MoF	2019	2001	CG	C	NSO, MoF, and CB	2018	BPM 6
Albania	IMF staff	2019	1986	CG,LG,SS,MPC, NFPC	. . .	CB	2019	BPM 6
Algeria	MoF	2019	1986	CG	C	CB	2019	BPM 6
Angola	MoF	2019	2001	CG,LG	. . .	CB	2019	BPM 6
Antigua and Barbuda	MoF	2020	2001	CG	Mixed	CB	2018	BPM 6
Argentina	MEP	2019	1986	CG,SG,SS	C	NSO	2019	BPM 6
Armenia	MoF	2019	2001	CG	C	CB	2019	BPM 6
Aruba	MoF	2019	2001	CG	Mixed	CB	2019	BPM 6
Australia	MoF	2019	2014	CG,SG,LG,TG	A	NSO	2020	BPM 6
Austria	NSO	2019	2014	CG,SG,LG,SS	A	CB	2019	BPM 6
Azerbaijan	MoF	2019	2001	CG	C	CB	2019	BPM 6
The Bahamas	MoF	2019/20	2014	CG	C	CB	2019	BPM 5
Bahrain	MoF	2019	2001	CG	C	CB	2019	BPM 6
Bangladesh	MoF	2018/19	. . .	CG	C	CB	2018/19	BPM 6
Barbados	MoF	2019/20	1986	BCG	C	CB	2019	BPM 6
Belarus	MoF	2019	2001	CG,LG,SS	C	CB	2019	BPM 6
Belgium	CB	2019	ESA 2010	CG,SG,LG,SS	A	CB	2019	BPM 6
Belize	MoF	2019	1986	CG,MPC	Mixed	CB	2019	BPM 6
Benin	MoF	2019	1986	CG	C	CB	2019	BPM 6
Bhutan	MoF	2019/20	1986	CG	C	CB	2019/20	BPM 6
Bolivia	MoF	2019	2001	CG,LG,SS,NMPC, NFPC	C	CB	2019	BPM 6
Bosnia and Herzegovina	MoF	2019	2014	CG,SG,LG,SS	Mixed	CB	2019	BPM 6
Botswana	MoF	2019/20	1986	CG	C	CB	2019	BPM 6
Brazil	MoF	2020	2001	CG,SG,LG,SS,NFPC	C	CB	2020	BPM 6
Brunei Darussalam	MoF	2020	. . .	CG,BCG	C	NSO, MEP, and GAD	2019	BPM 6
Bulgaria	MoF	2020	2001	CG,LG,SS	C	CB	2020	BPM 6
Burkina Faso	MoF	2019	2001	CG	CB	CB	2018	BPM 6
Burundi	MoF	2019/20	2001	CG	Mixed	CB	2020	BPM 6
Cabo Verde	MoF	2018	2001	CG	A	NSO	2019	BPM 6
Cambodia	MoF	2019	2001	CG,LG	Mixed	CB	2019	BPM 5
Cameroon	MoF	2019	2001	CG,NFPC,NMPC	Mixed	MoF	2019	BPM 6
Canada	MoF	2020	2001	CG,SG,LG,SS,other	A	NSO	2020	BPM 6
Central African Republic	MoF	2019	2001	CG	C	CB	2017	BPM 5
Chad	MoF	2020	1986	CG,NFPC	C	CB	2013	BPM 5
Chile	MoF	2020	2001	CG,LG	A	CB	2020	BPM 6
China	MoF	2019	. . .	CG,LG	C	GAD	2020	BPM 6
Colombia	MoF	2019	2001	CG,SG,LG,SS	. . .	CB and NSO	2019	BPM 6
Comoros	MoF	2018	1986	CG	Mixed	CB and IMF staff	2018	BPM 5
Democratic Republic of the Congo	MoF	2019	2001	CG,LG	A	CB	2019	BPM 6
Republic of Congo	MoF	2018	2001	CG	A	CB	2017	BPM 6
Costa Rica	MoF and CB	2019	1986	CG	C	CB	2019	BPM 6

Table G. Key Data Documentation *(continued)*

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Côte d'Ivoire	CFA franc	NSO	2017	2015	SNA 2008		NSO	2019
Croatia	Croatian kuna	NSO	2019	2015	ESA 2010		NSO	2019
Cyprus	Euro	NSO	2020	2010	ESA 2010	From 1995	NSO	2020
Czech Republic	Czech koruna	NSO	2019	2015	ESA 2010	From 1995	NSO	2019
Denmark	Danish krone	NSO	2019	2010	ESA 2010	From 1980	NSO	2019
Djibouti	Djibouti franc	NSO	2018	2013	SNA 1993		NSO	2019
Dominica	Eastern Caribbean dollar	NSO	2018	2006	SNA 1993		NSO	2019
Dominican Republic	Dominican peso	CB	2019	2007	SNA 2008	From 2007	CB	2020
Ecuador	US dollar	CB	2019	2007	SNA 1993		NSO and CB	2020
Egypt	Egyptian pound	MEP	2019/20	2016/17	SNA 2008		NSO	2019/20
El Salvador	US dollar	CB	2019	2014	SNA 2008		NSO	2019
Equatorial Guinea	CFA franc	MEP and CB	2017	2006	SNA 1993		MEP	2019
Eritrea	Eritrean nakfa	IMF staff	2018	2011	SNA 1993		NSO	2018
Estonia	Euro	NSO	2020	2015	ESA 2010	From 2010	NSO	2020
Eswatini	Swazi lilangeni	NSO	2019	2011	SNA 2008		NSO	2020
Ethiopia	Ethiopian birr	NSO	2019/20	2015/16	SNA 2008		NSO	2019
Fiji	Fijian dollar	NSO	2019	2014	SNA 1993		NSO	2019
Finland	Euro	NSO	2019	2015	ESA 2010	From 1980	NSO	2019
France	Euro	NSO	2020	2014	ESA 2010	From 1980	NSO	2020
Gabon	CFA franc	MoF	2019	2001	SNA 1993		NSO	2019
The Gambia	Gambian dalasi	NSO	2018	2013	SNA 2008		NSO	2018
Georgia	Georgian lari	NSO	2019	2015	SNA 2008	From 1996	NSO	2019
Germany	Euro	NSO	2020	2015	ESA 2010	From 1991	NSO	2020
Ghana	Ghanaian cedi	NSO	2019	2013	SNA 2008		NSO	2019
Greece	Euro	NSO	2020	2015	ESA 2010	From 1995	NSO	2020
Grenada	Eastern Caribbean dollar	NSO	2019	2006	SNA 1993		NSO	2019
Guatemala	Guatemalan quetzal	CB	2019	2013	SNA 2008	From 2001	NSO	2019
Guinea	Guinean franc	NSO	2018	2010	SNA 1993		NSO	2020
Guinea-Bissau	CFA franc	NSO	2018	2015	SNA 2008		NSO	2020
Guyana	Guyanese dollar	NSO	2019	2012[6]	SNA 2008		NSO	2020
Haiti	Haitian gourde	NSO	2018/19	2012	SNA 2008		NSO	2019/20
Honduras	Honduran lempira	CB	2019	2000	SNA 1993		CB	2019
Hong Kong SAR	Hong Kong dollar	NSO	2020	2018	SNA 2008	From 1980	NSO	2020
Hungary	Hungarian forint	NSO	2020	2015	ESA 2010	From 1995	IEO	2020
Iceland	Icelandic króna	NSO	2018	2015	ESA 2010	From 1990	NSO	2018
India	Indian rupee	NSO	2020/21	2011/12	SNA 2008		NSO	2019/20
Indonesia	Indonesian rupiah	NSO	2020	2010	SNA 2008		NSO	2020
Iran	Iranian rial	CB	2019/20	2011/12	SNA 1993		CB	2018/19
Iraq	Iraqi dinar	NSO	2020	2007	SNA 1968/93		NSO	2020
Ireland	Euro	NSO	2019	2017	ESA 2010	From 1995	NSO	2019
Israel	New Israeli shekel	NSO	2020	2015	SNA 2008	From 1995	NSO	2020
Italy	Euro	NSO	2020	2015	ESA 2010	From 1980	NSO	2020
Jamaica	Jamaican dollar	NSO	2019	2007	SNA 1993		NSO	2019

Table G. Key Data Documentation *(continued)*

	Government Finance					Balance of Payments		
Country	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Côte d'Ivoire	MoF	2019	1986	CG	A	CB	2018	BPM 6
Croatia	MoF	2019	2014	CG,LG	A	CB	2019	BPM 6
Cyprus	NSO	2019	ESA 2010	CG,LG,SS	A	CB	2019	BPM 6
Czech Republic	MoF	2019	2014	CG,LG,SS	A	NSO	2019	BPM 6
Denmark	NSO	2019	2014	CG,LG,SS	A	NSO	2019	BPM 6
Djibouti	MoF	2019	2001	CG	A	CB	2018	BPM 5
Dominica	MoF	2020/21	1986	CG	C	CB	2018	BPM 6
Dominican Republic	MoF	2019	2014	CG,LG,SS,NMPC	A	CB	2019	BPM 6
Ecuador	CB and MoF	2019	1986	CG,SG,LG,SS,NFPC	Mixed	CB	2019	BPM 6
Egypt	MoF	2019/20	2001	CG,LG,SS,MPC	C	CB	2019/20	BPM 5
El Salvador	MoF and CB	2019	1986	CG,LG,SS,NFPC	C	CB	2019	BPM 6
Equatorial Guinea	MoF and MEP	2018	1986	CG	C	CB	2017	BPM 5
Eritrea	MoF	2018	2001	CG	C	CB	2018	BPM 5
Estonia	MoF	2019	1986/2001	CG,LG,SS	C	CB	2020	BPM 6
Eswatini	MoF	2019/20	2001	CG	A	CB	2019	BPM 6
Ethiopia	MoF	2019/20	1986	CG,SG,LG,NFPC	C	CB	2019/20	BPM 5
Fiji	MoF	2019/20	1986	CG	C	CB	2019	BPM 6
Finland	MoF	2020	2014	CG,LG,SS	A	NSO	2020	BPM 6
France	NSO	2019	2014	CG,LG,SS	A	CB	2020	BPM 6
Gabon	IMF staff	2019	2001	CG	A	CB	2019	BPM 5
The Gambia	MoF	2018	1986	CG	C	CB and IMF staff	2018	BPM 5
Georgia	MoF	2019	2001	CG,LG	C	NSO and CB	2019	BPM 6
Germany	NSO	2020	ESA 2010	CG,SG,LG,SS	A	CB	2020	BPM 6
Ghana	MoF	2018	2001	CG	C	CB	2019	BPM 5
Greece	NSO	2019	ESA 2010	CG,LG,SS	A	CB	2019	BPM 6
Grenada	MoF	2019	2014	CG	CB	CB	2018	BPM 6
Guatemala	MoF	2019	2001	CG	C	CB	2019	BPM 6
Guinea	MoF	2019	2001	CG	C	CB and MEP	2019	BPM 6
Guinea-Bissau	MoF	2019	2001	CG	A	CB	2019	BPM 6
Guyana	MoF	2019	1986	CG,SS,NFPC	C	CB	2019	BPM 6
Haiti	MoF	2019/20	1986	CG	C	CB	2019/20	BPM 5
Honduras	MoF	2019	2014	CG,LG,SS,other	Mixed	CB	2019	BPM 5
Hong Kong SAR	NSO	2019/20	2001	CG	C	NSO	2019	BPM 6
Hungary	MEP and NSO	2019	ESA 2010	CG,LG,SS,NMPC	A	CB	2019	BPM 6
Iceland	NSO	2018	2001	CG,LG,SS	A	CB	2018	BPM 6
India	MoF and IMF staff	2019/20	1986	CG,SG	C	CB	2019/20	BPM 6
Indonesia	MoF	2020	2001	CG,LG	C	CB	2020	BPM 6
Iran	MoF	2018/19	2001	CG	C	CB	2019/20	BPM 5
Iraq	MoF	2020	2001	CG	C	CB	2020	BPM 6
Ireland	MoF and NSO	2019	2001	CG,LG,SS	A	NSO	2019	BPM 6
Israel	MoF and NSO	2019	2014	CG,LG,SS	. . .	NSO	2020	BPM 6
Italy	NSO	2020	2001	CG,LG,SS	A	NSO	2020	BPM 6
Jamaica	MoF	2019/20	1986	CG	C	CB	2019	BPM 6

Table G. Key Data Documentation *(continued)*

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Japan	Japanese yen	GAD	2020	2015	SNA 2008	From 1980	GAD	2020
Jordan	Jordanian dinar	NSO	2019	2016	SNA 2008		NSO	2019
Kazakhstan	Kazakhstani tenge	NSO	2020	2005	SNA 1993	From 1994	CB	2020
Kenya	Kenyan shilling	NSO	2019	2009	SNA 2008		NSO	2020
Kiribati	Australian dollar	NSO	2017	2006	SNA 2008		IMF Staff	2017
Korea	South Korean won	CB	2020	2015	SNA 2008	From 1980	NSO	2020
Kosovo	Euro	NSO	2019	2016	ESA 2010		NSO	2020
Kuwait	Kuwaiti dinar	MEP and NSO	2019	2010	SNA 1993		NSO and MEP	2019
Kyrgyz Republic	Kyrgyz som	NSO	2019	2005	SNA 1993		NSO	2019
Lao P.D.R.	Lao kip	NSO	2019	2012	SNA 1993		NSO	2019
Latvia	Euro	NSO	2020	2015	ESA 2010	From 1995	NSO	2020
Lebanon	Lebanese pound	NSO	2018	2010	SNA 2008	From 2010	NSO	2019/20
Lesotho	Lesotho loti	NSO	2018/19	2012/13	SNA 2008		NSO	2019
Liberia	US dollar	IMF staff	2016	2018	SNA 1993		CB	2019
Libya	Libyan dinar	CB	2017	2007	SNA 1993		NSO	2019
Lithuania	Euro	NSO	2020	2015	ESA 2010	From 2005	NSO	2020
Luxembourg	Euro	NSO	2020	2010	ESA 2010	From 1995	NSO	2020
Macao SAR	Macanese pataca	NSO	2020	2018	SNA 2008	From 2001	NSO	2020
Madagascar	Malagasy ariary	NSO	2018	2007	SNA 1993		NSO	2020
Malawi	Malawian kwacha	NSO	2019	2010	SNA 2008		NSO	2020
Malaysia	Malaysian ringgit	NSO	2019	2015	SNA 2008		NSO	2019
Maldives	Maldivian rufiyaa	MoF and NSO	2020	2014	SNA 1993		CB	2020
Mali	CFA franc	NSO	2018	1999	SNA 1993		NSO	2018
Malta	Euro	NSO	2020	2015	ESA 2010	From 2000	NSO	2020
Marshall Islands	US dollar	NSO	2018/19	2003/04	SNA 1993		NSO	2018/19
Mauritania	New Mauritanian ouguiya	NSO	2018	2014	SNA 2008	From 2014	NSO	2019
Mauritius	Mauritian rupee	NSO	2018	2006	SNA 1993	From 1999	NSO	2020
Mexico	Mexican peso	NSO	2020	2013	SNA 2008		NSO	2020
Micronesia	US dollar	NSO	2017/18	2003/04	SNA 1993		NSO	2017/18
Moldova	Moldovan leu	NSO	2019	1995	SNA 2008		NSO	2020
Mongolia	Mongolian tögrög	NSO	2020	2010	SNA 1993		NSO	2020
Montenegro	Euro	NSO	2020	2006	ESA 2010		NSO	2020
Morocco	Moroccan dirham	NSO	2019	2007	SNA 2008	From 2007	NSO	2019
Mozambique	Mozambican metical	NSO	2019	2014	SNA 1993/ 2008		NSO	2019
Myanmar	Myanmar kyat	MEP	2019/20	2015/16	. . .		NSO	2019/20
Namibia	Namibian dollar	NSO	2020	2000	SNA 1993		NSO	2020
Nauru	Australian dollar	. . .	2018/19	2006/07	SNA 2008		NSO	2019/20
Nepal	Nepalese rupee	NSO	2019/20	2000/01	SNA 1993		CB	2019/20
The Netherlands	Euro	NSO	2019	2015	ESA 2010	From 1980	NSO	2019
New Zealand[6]	New Zealand dollar	NSO	2020	2009	SNA 2008	From 1987	NSO	2020
Nicaragua	Nicaraguan córdoba	CB	2019	2006	SNA 1993	From 1994	CB	2020
Niger	CFA franc	NSO	2019	2015	SNA 2008		NSO	2019
Nigeria	Nigerian naira	NSO	2019	2010	SNA 2008		NSO	2019
North Macedonia	Macedonian denar	NSO	2020	2005	ESA 2010		NSO	2020
Norway	Norwegian krone	NSO	2018	2018	ESA 2010	From 1980	NSO	2019

Table G. Key Data Documentation *(continued)*

Country	Government Finance					Balance of Payments		
	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Japan	GAD	2019	2014	CG,LG,SS	A	MoF	2020	BPM 6
Jordan	MoF	2019	2001	CG,NFPC	C	CB	2019	BPM 6
Kazakhstan	NSO	2020	2001	CG,LG	C	CB	2019	BPM 6
Kenya	MoF	2019	2001	CG	C	CB	2020	BPM 6
Kiribati	MoF	2017	1986	CG	C	NSO and IMF staff	2018	BPM 6
Korea	MoF	2019	2001	CG,SS	C	CB	2020	BPM 6
Kosovo	MoF	2020	. . .	CG,LG	C	CB	2019	BPM 6
Kuwait	MoF	2019	2014	CG,SS	Mixed	CB	2018	BPM 6
Kyrgyz Republic	MoF	2019	. . .	CG,LG,SS	C	CB	2019	BPM 6
Lao P.D.R.	MoF	2019	2001	CG	C	CB	2019	BPM 6
Latvia	MoF	2020	ESA 2010	CG,LG,SS	C	CB	2020	BPM 6
Lebanon	MoF	2019	2001	CG	Mixed	CB and IMF staff	2019	BPM 5
Lesotho	MoF	2019/20	2001	CG,LG	C	CB	2018/19	BPM 6
Liberia	MoF	2019	2001	CG	A	CB	2019	BPM 5
Libya	CB	2019	1986	CG,SG,LG	C	CB	2017	BPM 6
Lithuania	MoF	2019	2014	CG,LG,SS	A	CB	2020	BPM 6
Luxembourg	MoF	2019	2001	CG,LG,SS	A	NSO	2019	BPM 6
Macao SAR	MoF	2019	2014	CG,SS	C	NSO	2019	BPM 6
Madagascar	MoF	2020	1986	CG,LG	C	CB	2019	BPM 6
Malawi	MoF	2019	2014	CG	C	NSO and GAD	2020	BPM 6
Malaysia	MoF	2019	2001	CG,SG,LG	C	NSO	2019	BPM 6
Maldives	MoF	2020	1986	CG	C	CB	2020	BPM 6
Mali	MoF	2018	2001	CG	Mixed	CB	2018	BPM 6
Malta	NSO	2019	2001	CG,SS	A	NSO	2019	BPM 6
Marshall Islands	MoF	2018/19	2001	CG,LG,SS	A	NSO	2018/19	BPM 6
Mauritania	MoF	2019	1986	CG	C	CB	2018	BPM 6
Mauritius	MoF	2019/20	2001	CG,LG,NFPC	C	CB	2020	BPM 6
Mexico	MoF	2020	2014	CG,SS,NMPC,NFPC	C	CB	2019	BPM 6
Micronesia	MoF	2017/18	2001	CG,SG	. . .	NSO	2017/18	BPM 6
Moldova	MoF	2019	1986	CG,LG	C	CB	2019	BPM 6
Mongolia	MoF	2020	2001	CG,SG,LG,SS	C	CB	2020	BPM 6
Montenegro	MoF	2020	1986	CG,LG,SS	C	CB	2020	BPM 6
Morocco	MEP	2019	2001	CG	A	GAD	2019	BPM 6
Mozambique	MoF	2019	2001	CG,SG	Mixed	CB	2019	BPM 6
Myanmar	MoF	2019/20	2014	CG,NFPC	C	IMF staff	2018/19	BPM 6
Namibia	MoF	2018/19	2001	CG	C	CB	2019	BPM 6
Nauru	MoF	2019/20	2001	CG	Mixed	IMF staff	2018/19	BPM 6
Nepal	MoF	2019/20	2001	CG	C	CB	2019/20	BPM 5
The Netherlands	MoF	2019	2001	CG,LG,SS	A	CB	2019	BPM 6
New Zealand	MoF	2020	2014	CG, LG	A	NSO	2020	BPM 6
Nicaragua	MoF	2019	1986	CG,LG,SS	C	IMF staff	2019	BPM 6
Niger	MoF	2019	1986	CG	A	CB	2018	BPM 6
Nigeria	MoF	2019	2001	CG,SG,LG	C	CB	2019	BPM 6
North Macedonia	MoF	2020	1986	CG,SG,SS	C	CB	2020	BPM 6
Norway	NSO and MoF	2020	2014	CG,LG,SS	A	NSO	2018	BPM 6

Table G. Key Data Documentation *(continued)*

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Oman	Omani rial	NSO	2019	2010	SNA 1993		NSO	2019
Pakistan	Pakistan rupee	NSO	2019/20	2005/06[6]	. . .		NSO	2019/20
Palau	US dollar	MoF	2018/19	2014/15	SNA 1993		MoF	2018/19
Panama	US dollar	NSO	2019	2007	SNA 1993	From 2007	NSO	2020
Papua New Guinea	Papua New Guinea kina	NSO and MoF	2019	2013	SNA 1993		NSO	2019
Paraguay	Paraguayan guaraní	CB	2019	2014	SNA 2008		CB	2019
Peru	Peruvian sol	CB	2020	2007	SNA 1993		CB	2019
Philippines	Philippine peso	NSO	2020	2018	SNA 2008		NSO	2020
Poland	Polish zloty	NSO	2020	2015	ESA 2010	From 2010	NSO	2020
Portugal	Euro	NSO	2020	2016	ESA 2010	From 1980	NSO	2020
Puerto Rico	US dollar	NSO	2018/19	1954	SNA1968		NSO	2018/19
Qatar	Qatari riyal	NSO and MEP	2019	2018	SNA 1993		NSO and MEP	2019
Romania	Romanian leu	NSO	2019	2015	ESA 2010	From 2000	NSO	2019
Russia	Russian ruble	NSO	2020	2016	SNA 2008	From 1995	NSO	2020
Rwanda	Rwandan franc	NSO	2018	2017	SNA 2008		NSO	2019
Samoa	Samoan tala	NSO	2019/20	2012/13	SNA 2008		NSO	2019/20
San Marino	Euro	NSO	2019	2007	**ESA 2010**		NSO	2020
São Tomé and Príncipe	São Tomé and Príncipe dobra	NSO	2019	2008	SNA 1993		NSO	2019
Saudi Arabia	Saudi riyal	NSO	2019	2010	SNA 1993		NSO	2020
Senegal	CFA franc	NSO	2019	2014	SNA 2008		NSO	2019
Serbia	Serbian dinar	NSO	2019	2015	ESA 2010	From 2010	NSO	2020
Seychelles	Seychelles rupee	NSO	2019	2006	SNA 1993		NSO	2019
Sierra Leone	Sierra Leonean leone	NSO	2018	2006	SNA 2008	From 2010	NSO	2019
Singapore	Singapore dollar	NSO	2019	2015	SNA 2008	From 2015	NSO	2019
Slovak Republic	Euro	NSO	2019	2015	ESA 2010	From 1997	NSO	2020
Slovenia	Euro	NSO	2020	2010	ESA 2010	From 2000	NSO	2020
Solomon Islands	Solomon Islands dollar	CB	2019	2012	SNA 1993		NSO	2019
Somalia	US dollar	CB	2019	2013	SNA 2008		CB	2020
South Africa	South African rand	NSO	2020	2010	SNA 2008		NSO	2020
South Sudan	South Sudanese pound	NSO and IMF staff	2018	2010	SNA 1993		NSO	2019
Spain	Euro	NSO	2020	2015	ESA 2010	From 1995	NSO	2020
Sri Lanka	Sri Lankan rupee	NSO	2019	2010	SNA 2008		NSO	2020
St. Kitts and Nevis	Eastern Caribbean dollar	NSO	2019	2006	SNA 1993		NSO	2020
St. Lucia	Eastern Caribbean dollar	NSO	2019	2018	SNA 2008		NSO	2020
St. Vincent and the Grenadines	Eastern Caribbean dollar	NSO	2019	2006	SNA 1993		NSO	2020
Sudan	Sudanese pound	NSO	2019	1982	SNA 1968		NSO	2019
Suriname	Surinamese dollar	NSO	2019	2007	SNA 1993		NSO	2020

Table G. Key Data Documentation *(continued)*

Country	Government Finance					Balance of Payments		
	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Oman	MoF	2018	2001	CG	C	CB	2019	BPM 5
Pakistan	MoF	2019/20	1986	CG,SG,LG	C	CB	2019/20	BPM 6
Palau	MoF	2018/19	2001	CG	. . .	MoF	2018/19	BPM 6
Panama	MoF	2020	2014	CG,SG,LG,SS,NFPC	C	NSO	2019	BPM 6
Papua New Guinea	MoF	2019	1986	CG	C	CB	2019	BPM 5
Paraguay	MoF	2019	2001	CG,SG,LG,SS,MPC, NFPC	C	CB	2019	BPM 6
Peru	CB and MoF	2019	2001	CG,SG,LG,SS	Mixed	CB	2020	BPM 5
Philippines	MoF	2020	2001	CG,LG,SS	C	CB	2019	BPM 6
Poland	MoF and NSO	2019	ESA 2010	CG,LG,SS	A	CB	2020	BPM 6
Portugal	NSO	2019	2001	CG,LG,SS	A	CB	2020	BPM 6
Puerto Rico	MEP	2015/16	2001	. . .	A	. . .	. . .	. . .
Qatar	MoF	2019	1986	CG	C	CB and IMF staff	2019	BPM 5
Romania	MoF	2019	2001	CG,LG,SS	C	CB	2019	BPM 6
Russia	MoF	2019	2014	CG,SG,SS	Mixed	CB	2019	BPM 6
Rwanda	MoF	2018	1986	CG,LG	Mixed	CB	2018	BPM 6
Samoa	MoF	2019/20	2001	CG	A	CB	2019/20	BPM 6
San Marino	MoF	2019	. . .	CG	. . .	Other	2019	. . .
São Tomé and Príncipe	MoF and Customs	2019	2001	CG	C	CB	2019	BPM 6
Saudi Arabia	MoF	2019	2014	CG	C	CB	2019	BPM 6
Senegal	MoF	2019	2001	CG	C	CB and IMF staff	2019	BPM 6
Serbia	MoF	2020	1986/2001	CG,SG,LG,SS,other	C	CB	2020	BPM 6
Seychelles	MoF	2019	1986	CG,SS	C	CB	2017	BPM 6
Sierra Leone	MoF	2019	1986	CG	C	CB	2018	BPM 6
Singapore	MoF and NSO	2019/20	2014	CG	C	NSO	2019	BPM 6
Slovak Republic	NSO	2019	2001	CG,LG,SS	A	CB	2019	BPM 6
Slovenia	MoF	2019	2001	CG,LG,SS	A	CB	2020	BPM 6
Solomon Islands	MoF	2019	1986	CG	C	CB	2019	BPM 6
Somalia	MoF	2019	2001	CG	C	CB	2019	BPM 5
South Africa	MoF	2020	2001	CG,SG,SS,other	C	CB	2019	BPM 6
South Sudan	MoF and MEP	2019	. . .	CG	C	MoF, NSO, and MEP	2018	BPM 6
Spain	MoF and NSO	2019	ESA 2010	CG,SG,LG,SS	A	CB	2019	BPM 6
Sri Lanka	MoF	2019	2001	CG	C	CB	2019	BPM 6
St. Kitts and Nevis	MoF	2020	1986	CG,SG	C	CB	2018	BPM 6
St. Lucia	MoF	2019/20	1986	CG	C	CB	2018	BPM 6
St. Vincent and the Grenadines	MoF	2020	1986	CG	C	CB	2018	BPM 6
Sudan	MoF	2019	2001	CG	Mixed	CB	2019	BPM 6
Suriname	MoF	2019	1986	CG	Mixed	CB	2020	BPM 6

Table G. Key Data Documentation *(continued)*

		National Accounts					Prices (CPI)	
Country	Currency	Historical Data Source[1]	Latest Actual Annual Data	Base Year[2]	System of National Accounts	Use of Chain-Weighted Methodology[3]	Historical Data Source[1]	Latest Actual Annual Data
Sweden	Swedish krona	NSO	2019	2019	ESA 2010	From 1993	NSO	2020
Switzerland	Swiss franc	NSO	2019	2015	ESA 2010	From 1980	NSO	2020
Syria	Syrian pound	NSO	2010	2000	SNA 1993		NSO	2011
Taiwan Province of China	New Taiwan dollar	NSO	2020	2016	SNA 2008		NSO	2020
Tajikistan	Tajik somoni	NSO	2019	1995	SNA 1993		NSO	2019
Tanzania	Tanzanian shilling	NSO	2019	2015	SNA 2008		NSO	2020
Thailand	Thai baht	MEP	2020	2002	SNA 1993	From 1993	MEP	2020
Timor-Leste	US dollar	NSO	2019	2015	SNA 2008		NSO	2019
Togo	CFA franc	NSO	2016	2016	SNA 1993		NSO	2019
Tonga	Tongan pa'anga	CB	2018/19	2016/17	SNA 1993		CB	2019/20
Trinidad and Tobago	Trinidad and Tobago dollar	NSO	2019	2012	SNA 1993		NSO	2020
Tunisia	Tunisian dinar	NSO	2019	2010	SNA 1993	From 2009	NSO	2019
Turkey	Turkish lira	NSO	2020	2009	ESA 2010	From 2009	NSO	2020
Turkmenistan	New Turkmen manat	NSO	2019	2008	SNA 1993	From 2000	NSO	2019
Tuvalu	Australian dollar	PFTAC advisors	2018	2005	SNA 1993		NSO	2018
Uganda	Ugandan shilling	NSO	2019	2016	SNA 1993		CB	2020
Ukraine	Ukrainian hryvnia	NSO	2019	2016	SNA 2008	From 2005	NSO	2020
United Arab Emirates	U.A.E. dirham	NSO	2019	2010	SNA 2008		NSO	2020
United Kingdom	British pound	NSO	2020	2018	ESA 2010	From 1980	NSO	2020
United States	US dollar	NSO	2020	2012	SNA 2008	From 1980	NSO	2020
Uruguay	Uruguayan peso	CB	2019	2016	SNA 2008		NSO	2020
Uzbekistan	Uzbek som	NSO	2019	2015	SNA 1993		NSO, and IMF staff	2020
Vanuatu	Vanuatu vatu	NSO	2018	2006	SNA 1993		NSO	2019
Venezuela	Venezuelan bolívar soberano	CB	2018	1997	SNA 1993		CB	2020
Vietnam	Vietnamese dong	NSO	2019	2010	SNA 1993		NSO	2019
West Bank and Gaza	New Israeli shekel	NSO	2019	2015	SNA 2008		NSO	2020
Yemen	Yemeni rial	IMF staff	2019	1990	SNA 1993		NSO, CB, and IMF staff	2019
Zambia	Zambian kwacha	NSO	2019	2010	SNA 2008		NSO	2020
Zimbabwe	Zimbabwe dollar	NSO	2019	2012	. . .		NSO	2019

Table G. Key Data Documentation *(continued)*

	Government Finance					Balance of Payments		
Country	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source	Subsectors Coverage[4]	Accounting Practice[5]	Historical Data Source[1]	Latest Actual Annual Data	Statistics Manual in Use at Source
Sweden	MoF	2019	2001	CG,LG,SS	A	NSO	2019	BPM 6
Switzerland	MoF	2018	2001	CG,SG,LG,SS	A	CB	2020	BPM 6
Syria	MoF	2009	1986	CG	C	CB	2009	BPM 5
Taiwan Province of China	MoF	2019	2001	CG,LG,SS	C	CB	2020	BPM 6
Tajikistan	MoF	2019	1986	CG,LG,SS	C	CB	2019	BPM 6
Tanzania	MoF	2019	1986	CG,LG	C	CB	2019	BPM 6
Thailand	MoF	2019/20	2001	CG,BCG,LG,SS	A	CB	2019	BPM 6
Timor-Leste	MoF	2019	2001	CG	C	CB	2019	BPM 6
Togo	MoF	2019	2001	CG	C	CB	2018	BPM 6
Tonga	MoF	2018/19	2014	CG	C	CB and NSO	2018/19	BPM 6
Trinidad and Tobago	MoF	2019/20	1986	CG	C	CB	2019	BPM 6
Tunisia	MoF	2019	1986	CG	C	CB	2019	BPM 5
Turkey	MoF	2020	2001	CG,LG,SS,other	A	CB	2020	BPM 6
Turkmenistan	MoF	2019	1986	CG,LG	C	NSO and IMF staff	2015	BPM 6
Tuvalu	MoF	2019	. . .	CG	Mixed	IMF staff	2012	BPM 6
Uganda	MoF	2019	2001	CG	C	CB	2019	BPM 6
Ukraine	MoF	2019	2001	CG,LG,SS	C	CB	2019	BPM 6
United Arab Emirates	MoF	2019	2001	CG,BCG,SG,SS	Mixed	CB	2019	BPM 5
United Kingdom	NSO	2020	2001	CG,LG	A	NSO	2019	BPM 6
United States	MEP	2019	2014	CG,SG,LG	A	NSO	2019	BPM 6
Uruguay	MoF	2020	1986	CG,LG,SS,NFPC, NMPC	C	CB	2019	BPM 6
Uzbekistan	MoF	2019	2014	CG,SG,LG,SS	C	CB and MEP	2019	BPM 6
Vanuatu	MoF	2019	2001	CG	C	CB	2019	BPM 6
Venezuela	MoF	2017	2001	BCG,NFPC,SS,other	C	CB	2018	BPM 6
Vietnam	MoF	2019	2001	CG,SG,LG	C	CB	2019	BPM 5
West Bank and Gaza	MoF	2020	2001	CG	Mixed	NSO	2019	BPM 6
Yemen	MoF	2019	2001	CG,LG	C	IMF staff	2019	BPM 5
Zambia	MoF	2019	1986	CG	C	CB	2019	BPM 6
Zimbabwe	MoF	2018	1986	CG	C	CB and MoF	2018	BPM 6

Note: BPM = *Balance of Payments Manual*; CPI = consumer price index; ESA = European System of National Accounts; SNA = System of National Accounts.
[1]CB = central bank; Customs = Customs Authority; GAD = General Administration Department; IEO = international economic organization; MEP = Ministry of Economy, Planning, Commerce, and/or Development; MoF = Ministry of Finance and/or Treasury; NSO = National Statistics Office; PFTAC = Pacific Financial Technical Assistance Centre.
[2]National accounts base year is the period with which other periods are compared and the period for which prices appear in the denominators of the price relationships used to calculate the index.
[3]Use of chain-weighted methodology allows countries to measure GDP growth more accurately by reducing or eliminating the downward biases in volume series built on index numbers that average volume components using weights from a year in the moderately distant past.
[4]BCG = budgetary central government; CG = central government; LG = local government; MPC = monetary public corporation, including central bank; NFPC = nonfinancial public corporation; NMPC = nonmonetary financial public corporation; SG = state government; SS = social security fund; TG = territorial governments.
[5]Accounting standard: A = accrual accounting; C = cash accounting; CB = commitments basis accounting; Mixed = combination of accrual and cash accounting.
[6]Base year deflator is not equal to 100 because the nominal GDP is not measured in the same way as real GDP or the data are seasonally adjusted.

Box A1. Economic Policy Assumptions underlying the Projections for Selected Economies

Fiscal Policy Assumptions

The short-term fiscal policy assumptions used in the *World Economic Outlook* (WEO) are normally based on officially announced budgets, adjusted for differences between the national authorities and the IMF staff regarding macroeconomic assumptions and projected fiscal outturns. When no official budget has been announced, projections incorporate policy measures judged likely to be implemented. The medium-term fiscal projections are similarly based on a judgment about policies' most likely path. For cases in which the IMF staff has insufficient information to assess the authorities' budget intentions and prospects for policy implementation, an unchanged structural primary balance is assumed unless indicated otherwise. Specific assumptions used in regard to some of the advanced economies follow. (See also Tables B4 to B6 in the online section of the Statistical Appendix for data on fiscal net lending/borrowing and structural balances.)[1]

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

Australia: Fiscal projections are based on data from the Australian Bureau of Statistics, FY2020/21 Mid-Year Economic and Fiscal Outlook of the Commonwealth government, the FY2020/21 budget published by each state/territory government, and the IMF staff's estimates and projections.

Austria: Fiscal projections are based on the 2021 budget but take into consideration available data for 2020 and include the new EU recovery funds (not included in the budget) for projection years.

Belgium: Projections are based on the 2020–21 Stability Program, the Draft Budgetary Plan for 2020, the 2021 budget, and other available information on the authorities' fiscal plans, with adjustments for the IMF staff's assumptions.

Brazil: Fiscal projections for 2021 reflect policy announcements as of March 12, 2021. Medium-term projections reflect full compliance with Brazil's constitutional expenditure ceiling.

Canada: Projections use the baseline forecasts from the Fall Economic Statement 2020 and the latest provincial budgets. The IMF staff makes some adjustments to these forecasts, including for differences in macroeconomic projections. The IMF staff's forecast also incorporates the most recent data releases from Statistics Canada's National Economic Accounts, including federal, provincial, and territorial budgetary outturns through the third quarter of 2020.

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

China: After a large fiscal expansion estimated for 2020, a mild tightening is projected for 2021 based on government policy announcements.

Denmark: Estimates for 2020 are aligned with the latest official budget numbers, adjusted where appropriate for the IMF staff's macroeconomic assumptions. For 2021 the projections incorporate key features of the medium-term fiscal plan as embodied in the authorities' latest budget.

France: Estimates for 2020 and projections for 2021 onward are based on the measures of the 2018–20 budget laws; the four amending budget laws enacted in 2020; and the 2021 budget law, adjusted for differences in assumptions on macroeconomic and financial variables, and in revenue projections.

Germany: The IMF staff's projections for 2021 and beyond are based on the 2021 budgets, and data updates from the national statistical agency (Destatis) and Ministry of Finance, adjusted for the differences in the IMF staff's macroeconomic framework and assumptions concerning revenue elasticities. The projections do not reflect the 2021 supplementary budget or draft 2022 federal budget. The estimate of gross debt includes portfolios of impaired assets and noncore business transferred to institutions that are winding up as well as other financial sector and EU support operations.

[1] The output gap is actual minus potential output, as a percentage of potential output. Structural balances are expressed as a percentage of potential output. The structural balance is the actual net lending/borrowing minus the effects of cyclical output from potential output, corrected for one-time and other factors, such as asset and commodity prices and output composition effects. Changes in the structural balance consequently include effects of temporary fiscal measures, the impact of fluctuations in interest rates and debt-service costs, and other noncyclical fluctuations in net lending/borrowing. The computations of structural balances are based on the IMF staff's estimates of potential GDP and revenue and expenditure elasticities. (See Annex I of the October 1993 WEO.) Net debt is calculated as gross debt minus financial assets corresponding to debt instruments. Estimates of the output gap and of the structural balance are subject to significant margins of uncertainty.

Box A1 *(continued)*

Greece: The general government primary balance estimate for 2019 is based on the preliminary budget execution data by the Greek authorities. Historical data since 2010 reflect adjustments in line with the primary balance definition under the enhanced surveillance framework for Greece.

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

Hungary: Fiscal projections include the IMF staff's projections of the macroeconomic framework and fiscal policy plans announced in the 2020 budget.

India: Historical data are based on budgetary execution data. Projections are based on available information on the authorities' fiscal plans, with adjustments for the IMF staff's assumptions. Subnational data are incorporated with a lag of up to one year; general government data are thus finalized well after central government data. IMF and Indian presentations differ, particularly regarding disinvestment and license-auction proceeds, net versus gross recording of revenues in certain minor categories, and some public sector lending. Starting in FY2020/21 expenditure also includes the off-budget component of food subsidies, consistent with the revised treatment of food subsidies in the budget. The IMF staff adjust expenditure to take out payments for previous years' food subsidies, which are included as expenditure in budget estimates for FY2020/21 and FY2021/22.

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

Ireland: Fiscal projections are based on the country's Budget 2021 and Stability Programme Update 2020.

Israel: Historical data are based on government finance statistics data prepared by the Central Bureau of Statistics. Projections are based on figures from the Ministry of Finance for the execution of the coronavirus fiscal package during 2020 and assume partial implementation of the package for 2021.

Italy: The IMF estimates and projections are informed by the fiscal plans included in the government's 2021 budget. The stock of maturing postal bonds is included in the debt projections.

Japan: The projections reflect fiscal measures already announced by the government as of March 9, with adjustments for IMF staff assumptions.

Korea: The forecast incorporates the overall fiscal balance in the 2021 annual and supplementary budgets and the medium-term fiscal plan announced with the 2021 budget, and the IMF staff's adjustments.

Mexico: The 2020 Public Sector Borrowing Requirements estimate by the IMF staff adjusts for some statistical discrepancies between above-the-line and below-the-line numbers and proceeds from the oil hedge program. Fiscal projections for 2021 are broadly in line with the approved budget; projections for 2022 onward assume compliance with rules established in the Fiscal Responsibility Law.

The Netherlands: Fiscal projections for 2020–25 are based on the IMF staff forecast framework and are also informed by the authorities' draft budget plan and Bureau for Economic Policy Analysis projections. Historical data were revised following the June 2014 Central Bureau of Statistics release of revised macroeconomic data because of the adoption of the European System of National and Regional Accounts and revisions of data sources.

New Zealand: Fiscal projections are based on Half Year Economic and Fiscal Update 2020 and the IMF staff's estimates.

Portugal: The projections for the current year are based on the authorities' approved budget, adjusted to reflect the IMF staff's macroeconomic forecast. Projections thereafter are based on the assumption of unchanged policies.

Puerto Rico: Fiscal projections are based on the Puerto Rico Fiscal and Economic Growth Plans (FEGPs), which were prepared in October 2018, and are certified by the Financial Oversight and Management Board. In line with these plans' assumptions, IMF projections assume federal aid for rebuilding after Hurricane Maria, which devastated the island in September 2017. The projections also assume revenue losses from elimination of federal funding for the Affordable Care Act starting in 2020 for Puerto Rico; elimination of federal tax incentives starting in 2018 that had neutralized the effects of Puerto Rico's Act 154 on foreign firms; and the effects of the Tax Cuts and Jobs Act, which reduce the tax advantage of US firms producing in Puerto Rico. Given sizable policy uncertainty, some FEGP and IMF assumptions may differ, in particular those relating to the effects of the corporate tax reform, tax compliance, and tax adjustments (fees and rates); reduction of subsidies and expenses, freezing of payroll operational costs,

Box A1 *(continued)*

and improvement of mobility; reduction of expenses; and increased health care efficiency. On the expenditure side, measures include extension of Act 66, which freezes much government spending, through 2020; reduction of operating costs; decreases in government subsidies; and spending cuts in education. Although IMF policy assumptions are similar to those in the FEGP scenario with full measures, the IMF's projections of fiscal revenues, expenditures, and balance are different from the FEGPs'. This stems from two main differences in methodologies: first, while IMF projections are on an accrual basis, the FEGPs' are on a cash basis. Second, the IMF and FEGPs make very different macroeconomic assumptions.

Russia: Fiscal policy was countercyclical in 2020. There will be some degree of consolidation in 2021 in line with economic recovery, and the deficit is likely to come back to the fiscal rule's limit in 2022.

Saudi Arabia: The IMF staff baseline fiscal projections are based on the IMF staff's understanding of government policies as outlined in the 2021 budget. Exported oil revenues are based on WEO baseline oil price assumptions and staff's understanding of current oil policy under the OPEC+ agreement.

Singapore: For FY2020, projections are based on the initial and supplementary budgets as well as budget execution through the end of 2020. FY2021 projections are based on the initial budget of February 16, 2020. The IMF staff assume gradual withdrawal of remaining exception measures in FY2022 and unchanged policies for the remainder of the projection period.

South Africa: Fiscal assumptions draw on the 2020 Medium-Term Budget Policy Statement. Nontax revenue excludes transactions in financial assets and liabilities, as they involve primarily revenues associated with realized exchange rate valuation gains from the holding of foreign currency deposits, sale of assets, and conceptually similar items.

Spain: For 2020 fiscal projections include the discretionary measures adopted in response to the COVID-19 crisis, the legislated pension and public wage increases, and the minimum vital income support. Fiscal projections for 2021 include COVID-19–related support measures, the legislated increase in pensions, and the legislated revenue measures. Fiscal projections from 2022 onward assume no policy changes. Disbursements under the EU Recovery and Resilience Facility are reflected in the projections for 2021–24.

Sweden: Fiscal estimates for 2020 are based on preliminary information on the fall 2020 budget bill. The impact of cyclical developments on the fiscal accounts is calculated using the 2014 Organisation for Economic Co-operation and Development elasticity[2] to take into account output and employment gaps.

Switzerland: The authorities' announced discretionary stimulus—as reflected in the fiscal projections for 2020 and 2021—is permitted within the context of the debt brake rule in the event of "exceptional circumstances."

Turkey: The basis for the projections in the WEO and *Fiscal Monitor* is the IMF-defined fiscal balance, which excludes some revenue and expenditure items that are included in the authorities' headline balance.

United Kingdom: Fiscal projections are based on the latest GDP data published by the Office of National Statistics on February 12, 2021, and forecasts by the Office for Budget Responsibility from November 23, 2020. Revenue projections are adjusted for differences between the IMF staff's forecasts of macroeconomic variables (such as GDP growth and inflation) and the forecasts of these variables assumed in the authorities' fiscal projections. Projections assume that the measures taken in response to the coronavirus outbreak expire as announced. It is also assumed there is some additional fiscal consolidation relative to the policies announced to date starting in FY2023/24 with the goal of stabilizing public debt within five years. The IMF staff's data exclude public sector banks and the effect of transferring assets from the Royal Mail Pension Plan to the public sector in April 2012. Real government consumption and investment are part of the real GDP path, which, according to the IMF staff, may or may not be the same as projected by the UK Office for Budget Responsibility. Data are presented on a calendar year basis.

United States: Fiscal projections are based on the September 2020 Congressional Budget Office baseline adjusted for the IMF staff's policy and macroeconomic assumptions. Projections incorporate the effects of the American Rescue Plan; the Coronavirus Preparedness and Response Supplemental Appropriations Act;

[2] R. W. Price, T. Dang, and Y. Guillemette, "New Tax and Expenditure Elasticity Estimates for EU Budget Surveillance," OECD Economics Department Working Paper 1174 (Paris: OECD Publishing, 2014).

Box A1 *(continued)*

the Families First Coronavirus Response Act; the Coronavirus Aid, Relief, and the Paycheck Protection Program and Health Care Enhancement Act. Finally, fiscal projections are adjusted to reflect the IMF staff's forecasts for key macroeconomic and financial variables and different accounting treatment of financial sector support and of defined-benefit pension plans and are converted to a general government basis. Data are compiled using System of National Accounts 2008, and when translated into government finance statistics, this is in accordance with the Government Finance Statistics Manual 2014. Because of data limitations, most series begin in 2001.

Monetary Policy Assumptions

Monetary policy assumptions are based on the established policy framework in each country. In most cases, this implies a nonaccommodative stance over the business cycle: official interest rates will increase when economic indicators suggest that inflation will rise above its acceptable rate or range; they will decrease when indicators suggest inflation will not exceed the acceptable rate or range, that output growth is below its potential rate, and that the margin of slack in the economy is significant. On this basis, the LIBOR on six-month US dollar deposits is assumed to average 0.3 percent in 2021 and 0.4 percent in 2022 (also see Table 1.1 in Chapter 1). The rate on three-month euro deposits is assumed to average –0.5 percent in 2021 and 2022. The rate on six-month Japanese yen deposits is assumed to average –0.1 percent in 2021 and 0.0 percent in 2022.

Argentina: Monetary policy assumptions are consistent with the current monetary policy framework, which targets zero-based money growth in seasonally adjusted terms.

Australia: Monetary policy assumptions are in line with market expectations.

Brazil: Monetary policy assumptions are consistent with the convergence of inflation toward the middle of the target range at the end of 2021.

Canada: Monetary policy assumptions are based on the IMF staff's analysis.

Chile: Monetary policy assumptions are based on the GDP growth rate.

China: Monetary policy is expected to remain supportive in 2021 and gradually tighten to be around neutral in 2022.

Denmark: Monetary policy is to maintain the peg to the euro.

Euro area: Monetary policy assumptions for euro area member countries are in line with market expectations.

Greece: Interest rates are based on the WEO LIBOR with an assumption of a spread for Greece. Broad money projections are based on monetary financial institution balance sheets and deposit flow assumptions.

Hong Kong Special Administrative Region: The IMF staff assumes that the currency board system will remain intact.

India: Monetary policy projections are consistent with achieving the Reserve Bank of India's inflation target over the medium term.

Indonesia: Monetary policy assumptions are in line with inflation within the central bank's targeted band over the medium term.

Israel: Monetary policy assumptions are based on gradual normalization of monetary policy.

Japan: Monetary policy assumptions are in line with market expectations.

Korea: The projections assume the policy rate evolves in line with market expectations.

Mexico: Monetary policy assumptions are consistent with attaining the inflation target.

The Netherlands: Monetary projections are based on the IMF staff-estimated six-month euro LIBOR projections.

New Zealand: Monetary projections are based on the growth of nominal GDP estimates and the Reserve Bank of New Zealand's Large Assets Purchase Program.

Portugal: Monetary policy assumptions are based on the country desk officers' spreadsheets given input projections for the real and fiscal sectors.

Russia: Monetary projections assume that the Central Bank of the Russian Federation is adopting a moderately accommodative monetary policy stance.

Saudi Arabia: Monetary policy projections are based on the continuation of the exchange rate peg to the US dollar.

Singapore: Broad money is projected to grow in line with the projected growth in nominal GDP.

South Africa: Monetary policy assumptions are consistent with maintaining inflation within the 3 percent to 6 percent target band.

Sweden: Monetary projections are in line with Riksbank projections.

Box A1 *(continued)*

Switzerland: The projections assume no change in the policy rate in 2021–22.

Turkey: The baseline assumes that the authorities remain committed to a firm monetary policy stance, with no easing in 2021. Further measured monetary policy tightening would likely be needed should inflation expectations fail to stabilize.

United Kingdom: The short-term interest rate path is based on market interest rate expectations.

United States: The IMF staff expects the Federal Open Market Committee to continue to adjust the federal funds target rate, in line with the broader macroeconomic outlook.

List of Tables[1]

[1] When countries are not listed alphabetically, they are ordered on the basis of economic size.

Table A1. Summary of World Output[1]

(Annual percent change)

	Average									Projections		
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026
World	**4.2**	**3.5**	**3.6**	**3.5**	**3.3**	**3.8**	**3.6**	**2.8**	**–3.3**	**6.0**	**4.4**	**3.3**
Advanced Economies	**1.7**	**1.4**	**2.1**	**2.4**	**1.8**	**2.5**	**2.3**	**1.6**	**–4.7**	**5.1**	**3.6**	**1.5**
United States	1.8	1.8	2.5	3.1	1.7	2.3	3.0	2.2	–3.5	6.4	3.5	1.6
Euro Area	0.9	–0.2	1.4	2.0	1.9	2.6	1.9	1.3	–6.6	4.4	3.8	1.3
Japan	0.7	2.0	0.3	1.6	0.8	1.7	0.6	0.3	–4.8	3.3	2.5	0.5
Other Advanced Economies[2]	2.7	2.4	3.0	2.1	2.2	2.8	2.4	1.8	–4.2	4.7	4.0	2.0
Emerging Market and Developing Economies	**6.6**	**5.1**	**4.7**	**4.3**	**4.5**	**4.8**	**4.5**	**3.6**	**–2.2**	**6.7**	**5.0**	**4.4**
Regional Groups												
Emerging and Developing Asia	8.7	6.9	6.9	6.8	6.8	6.6	6.4	5.3	–1.0	8.6	6.0	5.4
Emerging and Developing Europe	4.6	3.1	1.8	1.0	1.9	4.1	3.4	2.4	–2.0	4.4	3.9	2.7
Latin America and the Caribbean	3.9	2.9	1.3	0.4	–0.6	1.3	1.2	0.2	–7.0	4.6	3.1	2.4
Middle East and Central Asia	5.7	3.1	3.3	2.8	4.7	2.5	2.0	1.4	–2.9	3.7	3.8	3.6
Sub-Saharan Africa	5.7	5.1	5.1	3.2	1.5	3.1	3.2	3.2	–1.9	3.4	4.0	4.0
Analytical Groups												
By Source of Export Earnings												
Fuel	6.2	3.1	3.1	1.4	2.3	0.6	–0.1	–0.4	–4.4	3.8	3.0	2.6
Nonfuel	6.7	5.4	5.0	4.7	4.8	5.3	5.1	4.1	–1.9	7.0	5.2	4.6
Of Which, Primary Products	4.8	4.0	2.2	2.9	1.7	2.7	1.6	0.9	–5.7	5.0	3.8	2.9
By External Financing Source												
Net Debtor Economies	5.3	4.7	4.4	4.1	4.1	4.7	4.5	3.4	–4.2	6.3	5.1	4.7
Net Debtor Economies by Debt-Servicing Experience												
Economies with Arrears and/or Rescheduling during 2015–19	4.3	2.9	1.6	0.2	2.7	2.9	3.5	3.1	–1.3	2.4	4.2	4.9
Other Groups												
European Union	1.3	0.0	1.7	2.5	2.1	3.0	2.3	1.7	–6.1	4.4	3.9	1.6
Middle East and North Africa	5.5	2.6	3.0	2.5	5.1	1.9	1.2	0.8	–3.4	4.0	3.7	3.3
Emerging Market and Middle-Income Economies	6.6	5.0	4.6	4.3	4.6	4.8	4.5	3.5	–2.4	6.9	5.0	4.3
Low-Income Developing Countries	6.2	5.9	6.1	4.7	3.9	4.9	5.1	5.3	0.0	4.3	5.2	5.4
Memorandum												
Median Growth Rate												
Advanced Economies	2.1	1.3	2.3	2.2	2.2	3.0	2.8	2.0	–5.1	4.0	3.6	2.0
Emerging Market and Developing Economies	4.8	3.9	3.8	3.3	3.4	3.7	3.4	3.0	–4.1	3.5	4.4	3.5
Emerging Market Middle-Income Economies	4.2	3.4	3.2	3.0	2.9	3.0	2.9	2.2	–6.0	3.4	4.0	3.0
Low-Income Developing Countries	5.4	5.1	5.4	4.0	4.4	4.5	3.9	4.5	–1.3	3.5	4.7	5.0
Output per Capita[3]												
Advanced Economies	1.0	0.9	1.6	1.9	1.2	2.0	1.9	1.2	–5.1	4.8	3.3	1.2
Emerging Market and Developing Economies	4.8	3.5	3.1	2.8	3.0	3.4	3.2	2.3	–3.5	5.3	3.8	3.3
Emerging Market Middle-Income Economies	5.1	3.7	3.3	3.0	3.3	3.6	3.5	2.4	–3.4	5.9	4.1	3.6
Low-Income Developing Countries	3.6	3.5	3.8	2.1	1.5	2.6	2.7	2.9	–2.2	2.0	3.0	3.2
World Growth Rate Based on Market Exchange Rates	**2.7**	**2.6**	**2.9**	**2.9**	**2.6**	**3.3**	**3.1**	**2.4**	**–3.6**	**5.8**	**4.1**	**2.7**
Value of World Output (billions of US dollars)												
At Market Exchange Rates	57,997	77,084	79,155	74,937	76,159	80,834	85,893	87,345	84,538	93,864	100,105	122,363
At Purchasing Power Parities	79,632	105,061	108,996	111,271	115,533	121,690	128,965	134,784	131,656	141,962	151,543	187,448

[1]Real GDP.
[2]Excludes euro area countries, Japan, and the United States.
[3]Output per capita is in international dollars at purchasing power parity.

Table A2. Advanced Economies: Real GDP and Total Domestic Demand[1]

(Annual percent change)

	Average									Projections			Q4 over Q4[2]	Projections	
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026	2020:Q4	2021:Q4	2022:Q4
Real GDP															
Advanced Economies	**1.7**	**1.4**	**2.1**	**2.4**	**1.8**	**2.5**	**2.3**	**1.6**	**–4.7**	**5.1**	**3.6**	**1.5**	**–3.1**	**4.9**	**2.3**
United States	1.8	1.8	2.5	3.1	1.7	2.3	3.0	2.2	–3.5	6.4	3.5	1.6	–2.5	6.3	2.3
Euro Area	0.9	–0.2	1.4	2.0	1.9	2.6	1.9	1.3	–6.6	4.4	3.8	1.3	–4.9	4.4	2.4
Germany	1.1	0.4	2.2	1.5	2.2	2.6	1.3	0.6	–4.9	3.6	3.4	1.1	–3.6	3.4	2.8
France	1.2	0.6	1.0	1.1	1.1	2.3	1.9	1.5	–8.2	5.8	4.2	1.2	–4.9	4.5	2.6
Italy	–0.1	–1.8	0.0	0.8	1.3	1.7	0.9	0.3	–8.9	4.2	3.6	0.8	–6.6	4.1	2.1
Spain	1.1	–1.4	1.4	3.8	3.0	3.0	2.4	2.0	–11.0	6.4	4.7	1.4	–9.1	7.2	1.5
The Netherlands	1.2	–0.1	1.4	2.0	2.2	2.9	2.4	1.7	–3.8	3.5	3.0	1.5	–3.1	4.0	1.8
Belgium	1.7	0.5	1.6	2.0	1.3	1.6	1.8	1.7	–6.4	4.0	3.1	1.3	–5.1	3.4	2.3
Austria	1.6	0.0	0.7	1.0	2.0	2.4	2.6	1.4	–6.6	3.5	4.0	1.8	–5.9	5.9	1.7
Ireland	1.8	1.5	8.6	25.3	2.0	9.4	8.9	5.9	2.5	4.2	4.8	2.6	–0.2	8.5	–0.4
Portugal	–0.1	–0.9	0.8	1.8	2.0	3.5	2.8	2.5	–7.6	3.9	4.8	1.7	–6.1	4.7	2.3
Greece	–0.9	–2.7	0.7	–0.4	–0.5	1.3	1.6	1.9	–8.2	3.8	5.0	1.4	–7.9	6.9	3.6
Finland	1.4	–0.9	–0.4	0.5	2.8	3.2	1.3	1.3	–2.9	2.3	2.5	1.3	–1.7	4.3	0.4
Slovak Republic	4.7	0.7	2.6	4.8	2.1	3.0	3.8	2.3	–5.2	4.7	4.4	2.5	–2.6	3.1	4.0
Lithuania	4.0	3.6	3.5	2.0	2.5	4.3	3.9	4.3	–0.8	3.2	3.2	2.3	–1.0	4.6	1.0
Slovenia	1.9	–1.0	2.8	2.2	3.2	4.8	4.4	3.2	–5.5	3.7	4.5	2.5	–4.7	5.6	3.9
Luxembourg	2.3	3.7	4.3	4.3	4.6	1.8	3.1	2.3	–1.3	4.1	3.6	2.5	1.4	0.9	4.8
Latvia	3.5	2.3	1.1	4.0	2.4	3.3	4.0	2.0	–3.6	3.9	5.2	3.0	–1.8	4.1	5.6
Estonia	3.2	1.3	3.0	1.8	3.2	5.5	4.4	5.0	–2.9	3.4	4.2	3.0	–1.9	3.6	3.8
Cyprus	2.2	–6.6	–1.8	3.2	6.4	5.2	5.2	3.1	–5.1	3.0	3.9	2.5	–4.5	5.1	0.2
Malta	2.7	5.5	7.6	9.6	4.1	8.1	5.2	5.5	–7.0	4.7	5.6	4.5	–6.2	4.3	4.8
Japan	0.7	2.0	0.3	1.6	0.8	1.7	0.6	0.3	–4.8	3.3	2.5	0.5	–1.3	2.0	1.8
United Kingdom	1.4	2.2	2.9	2.4	1.7	1.7	1.3	1.4	–9.9	5.3	5.1	1.4	–7.8	6.5	2.0
Korea	4.0	3.2	3.2	2.8	2.9	3.2	2.9	2.0	–1.0	3.6	2.8	2.3	–1.2	3.7	2.1
Canada	1.9	2.3	2.9	0.7	1.0	3.0	2.4	1.9	–5.4	5.0	4.7	1.5	–3.2	4.1	3.8
Australia	3.1	2.1	2.6	2.3	2.7	2.4	2.8	1.9	–2.4	4.5	2.8	2.5	–1.1	3.2	2.8
Taiwan Province of China	4.4	2.5	4.7	1.5	2.2	3.3	2.8	3.0	3.1	4.7	3.0	2.1	4.6	3.0	2.9
Switzerland	2.0	1.9	2.4	1.6	2.0	1.7	3.0	1.1	–3.0	3.5	2.8	1.8	–1.7	4.5	–0.1
Singapore	6.6	4.8	3.9	3.0	3.3	4.5	3.5	1.3	–5.4	5.2	3.2	2.5	–2.4	3.3	2.3
Sweden	2.1	1.2	2.7	4.5	2.1	2.6	2.0	1.4	–2.8	3.1	3.0	2.0	–2.1	3.7	2.2
Hong Kong SAR	4.5	3.1	2.8	2.4	2.2	3.8	2.8	–1.2	–6.1	4.3	3.8	2.9	–2.9	5.8	1.3
Czech Republic	2.8	0.0	2.3	5.4	2.5	5.2	3.2	2.3	–5.6	4.2	4.3	2.5	–4.7	5.9	1.7
Israel	3.9	4.3	3.9	2.2	3.8	3.6	3.5	3.4	–2.4	5.0	4.3	3.1	–0.6	3.8	3.5
Norway	1.6	1.0	2.0	2.0	1.1	2.3	1.1	0.9	–0.8	3.9	4.0	1.7	–1.1	4.3	3.3
Denmark	0.8	0.9	1.6	2.3	3.2	2.8	2.2	2.9	–3.3	2.8	2.9	1.8	–2.6	2.6	2.7
New Zealand	2.3	2.3	3.7	3.6	3.9	3.5	3.4	2.4	–3.0	4.0	3.2	2.5	–0.9	2.1	3.9
Puerto Rico	–0.5	–0.3	–1.2	–1.0	–1.3	–2.9	–4.7	1.2	–7.5	2.5	0.7	–0.4	. . .	. . .	. . .
Macao SAR	13.2	10.8	–2.0	–21.5	–0.7	10.0	6.5	–2.6	–56.3	61.2	43.0	3.0	. . .	. . .	. . .
Iceland	2.4	4.6	1.7	4.4	6.3	4.2	4.7	2.6	–6.6	3.7	3.6	2.3	–5.9	0.3	3.6
San Marino	–1.2	–0.8	–0.7	2.7	2.3	0.3	1.5	2.4	–9.7	4.5	3.4	1.1	. . .	. . .	. . .
Memorandum															
Major Advanced Economies	1.4	1.4	1.9	2.2	1.5	2.2	2.1	1.5	–5.0	5.4	3.6	1.3	–3.3	5.1	2.4
Real Total Domestic Demand															
Advanced Economies	**1.5**	**1.2**	**2.1**	**2.7**	**2.1**	**2.5**	**2.3**	**1.8**	**–4.6**	**5.1**	**3.6**	**1.5**	**–2.9**	**5.2**	**2.0**
United States	1.7	1.6	2.7	3.7	1.9	2.5	3.2	2.3	–3.3	7.6	3.2	1.5	–1.3	6.7	1.8
Euro Area	0.7	–0.5	1.3	2.3	2.4	2.3	1.9	1.9	–6.4	3.4	4.0	1.3	–5.8	4.3	2.4
Germany	0.8	1.1	1.7	1.4	3.1	2.7	1.8	1.2	–4.2	2.6	4.3	1.2	–4.3	4.8	2.8
France	1.4	0.7	1.5	1.5	1.5	2.4	1.4	1.8	–6.7	5.0	4.3	1.1	–4.3	5.1	1.9
Italy	–0.4	–2.7	0.1	1.2	1.8	1.8	1.3	–0.4	–8.4	3.8	3.4	0.8	–6.2	4.4	1.7
Spain	0.7	–2.9	1.9	4.1	2.1	3.3	3.1	1.4	–9.3	5.6	3.9	1.4	–6.5	4.5	2.3
Japan	0.4	2.4	0.3	1.1	0.3	1.1	0.5	0.5	–3.9	3.0	3.0	0.6	–1.3	4.0	1.3
United Kingdom	1.2	2.6	3.1	3.0	3.0	1.6	0.5	1.6	–10.5	6.7	5.2	1.5	–3.2	4.8	2.3
Canada	3.1	2.2	1.7	–0.2	0.4	4.1	2.2	1.5	–6.7	5.0	5.1	1.7	–4.0	3.8	4.6
Other Advanced Economies[3]	3.0	1.7	2.8	2.5	2.9	3.6	2.7	1.3	–2.9	3.4	3.2	2.3	–2.2	3.9	2.1
Memorandum															
Major Advanced Economies	1.3	1.4	2.0	2.6	1.8	2.3	2.2	1.6	–4.7	5.9	3.6	1.3	–2.4	5.6	2.0

[1]In this and other tables, when countries are not listed alphabetically, they are ordered on the basis of economic size.
[2]From the fourth quarter of the preceding year.
[3]Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

Table A3. Advanced Economies: Components of Real GDP

(Annual percent change)

	Averages										Projections	
	2003–12	2013–22	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Private Consumer Expenditure												
Advanced Economies	**1.6**	**1.6**	**1.2**	**1.9**	**2.6**	**2.2**	**2.2**	**2.1**	**1.7**	**–6.0**	**4.5**	**4.2**
United States	1.9	2.4	1.5	3.0	3.8	2.8	2.6	2.7	2.4	–3.9	6.1	3.3
Euro Area	0.8	0.9	–0.7	0.9	1.9	2.0	1.8	1.5	1.3	–8.0	3.6	5.0
Germany	0.7	1.2	0.4	1.1	1.9	2.4	1.5	1.5	1.6	–6.1	1.8	5.9
France	1.3	1.2	0.5	0.8	1.5	1.8	1.5	0.9	1.5	–7.3	4.5	6.3
Italy	0.0	0.0	–2.4	0.2	1.9	1.2	1.5	1.0	0.3	–10.7	4.5	3.5
Spain	0.8	0.6	–2.9	1.7	2.9	2.7	3.0	1.8	0.9	–12.4	6.0	3.3
Japan	0.7	0.4	2.6	–0.9	–0.2	–0.4	1.1	0.3	–0.3	–5.9	3.0	5.4
United Kingdom	1.2	1.3	2.6	2.3	3.0	3.4	1.1	1.4	1.1	–11.0	4.0	6.3
Canada	2.9	2.0	2.6	2.6	2.3	2.1	3.7	2.5	1.7	–6.1	3.5	5.0
Other Advanced Economies[1]	2.8	1.9	2.3	2.5	2.9	2.7	2.8	2.8	1.8	–5.6	3.5	3.5
Memorandum												
Major Advanced Economies	1.4	1.7	1.3	1.8	2.6	2.1	2.1	1.9	1.6	–5.7	4.8	4.4
Public Consumption												
Advanced Economies	**1.5**	**1.7**	**–0.1**	**0.6**	**1.7**	**2.0**	**1.0**	**1.7**	**2.3**	**1.2**	**5.9**	**1.3**
United States	0.9	1.6	–1.9	–0.8	1.6	1.8	0.6	1.5	1.8	0.3	10.1	1.7
Euro Area	1.4	1.2	0.2	0.8	1.3	1.9	1.1	1.2	1.8	1.2	2.0	0.4
Germany	1.4	2.1	1.4	1.7	2.9	4.0	1.6	1.2	2.7	3.3	1.0	1.1
France	1.6	0.8	1.5	1.3	1.0	1.4	1.4	1.0	1.7	–3.1	2.6	–0.6
Italy	0.1	0.1	–1.1	–0.6	–0.6	0.7	–0.1	0.1	–0.8	1.6	2.0	0.2
Spain	3.5	1.5	–2.1	–0.7	2.0	1.0	1.0	2.6	2.3	4.5	3.9	0.4
Japan	1.3	1.5	1.5	1.0	1.9	1.6	0.1	1.0	1.9	2.7	3.2	–0.1
United Kingdom	1.9	1.7	–0.5	2.0	1.8	1.0	0.7	0.6	4.0	–5.7	12.0	1.4
Canada	2.2	1.8	–0.8	0.6	1.4	1.8	2.1	2.9	2.0	–1.1	6.4	3.3
Other Advanced Economies[1]	2.8	3.0	2.7	2.7	2.7	3.5	2.4	3.5	3.8	4.6	2.1	2.1
Memorandum												
Major Advanced Economies	1.1	1.5	–0.6	0.2	1.6	1.8	0.7	1.3	1.9	0.3	7.2	1.2
Gross Fixed Capital Formation												
Advanced Economies	**1.1**	**2.6**	**1.7**	**3.4**	**3.5**	**2.4**	**3.7**	**3.2**	**2.4**	**–3.7**	**6.0**	**3.8**
United States	1.4	3.5	3.6	5.1	3.7	1.8	3.5	4.8	2.3	–0.8	7.9	3.6
Euro Area	0.2	2.0	–2.3	1.4	4.7	4.0	3.8	3.2	5.7	–8.3	3.9	4.6
Germany	1.3	2.0	–1.3	3.2	1.7	3.8	2.5	3.5	2.5	–3.1	3.6	3.7
France	1.3	1.8	–0.8	0.0	1.0	2.7	4.7	3.3	4.3	–10.3	9.7	4.7
Italy	–1.9	0.4	–6.4	–2.2	1.8	4.0	3.2	3.1	1.1	–9.1	5.4	3.9
Spain	–1.6	2.5	–3.8	4.1	4.9	2.4	6.8	6.1	2.7	–12.4	8.9	7.5
Japan	–1.0	1.2	4.1	2.2	2.3	1.2	1.6	0.2	0.9	–4.1	3.7	0.5
United Kingdom	0.3	2.6	3.7	7.0	5.3	4.4	2.8	0.4	1.5	–8.7	5.9	4.2
Canada	4.2	1.3	1.4	2.3	–5.2	–4.7	3.3	1.8	0.3	–3.6	11.5	7.2
Other Advanced Economies[1]	3.4	2.3	2.6	2.6	2.3	3.0	5.0	2.0	0.1	–1.7	4.3	3.5
Memorandum												
Major Advanced Economies	0.8	2.6	2.1	3.7	2.7	2.1	3.2	3.4	2.1	–3.4	6.9	3.5

Table A3. Advanced Economies: Components of Real GDP *(continued)*

(Annual percent change)

	Averages										Projections	
	2003–12	2013–22	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Final Domestic Demand												
Advanced Economies	**1.5**	**1.9**	**1.1**	**2.0**	**2.7**	**2.3**	**2.4**	**2.2**	**2.0**	**–4.2**	**4.9**	**3.5**
United States	1.7	2.5	1.3	2.8	3.5	2.4	2.5	3.0	2.3	–2.7	7.1	3.2
Euro Area	0.8	1.2	–0.8	1.0	2.3	2.4	2.1	1.8	2.4	–6.1	3.3	3.9
Germany	1.0	1.5	0.2	1.7	2.1	3.1	1.8	1.9	2.0	–3.4	2.0	4.3
France	1.4	1.2	0.5	0.8	1.3	1.9	2.2	1.5	2.2	–7.0	5.2	4.3
Italy	–0.4	0.1	–2.9	–0.4	1.4	1.6	1.5	1.2	0.2	–8.1	4.1	2.9
Spain	0.8	1.1	–2.9	1.6	3.1	2.3	3.3	2.8	1.5	–9.1	6.1	3.5
Japan	0.4	0.9	2.8	0.1	0.8	0.3	1.0	0.4	0.4	–3.8	3.7	3.0
United Kingdom	1.2	1.6	2.2	3.0	3.2	3.1	1.3	1.1	1.7	–9.6	5.9	4.9
Canada	3.0	1.6	1.6	2.1	0.3	0.5	3.3	2.5	1.4	–4.5	4.6	5.1
Other Advanced Economies[1]	2.9	2.2	2.4	2.6	2.7	2.9	3.4	2.4	1.6	–2.8	3.5	3.1
Memorandum												
Major Advanced Economies	1.3	1.8	1.2	1.9	2.5	2.1	2.1	2.1	1.8	–4.1	5.6	3.5
Stock Building[2]												
Advanced Economies	**0.0**	**0.0**	**0.0**	**0.1**	**0.0**	**–0.2**	**0.2**	**0.1**	**–0.2**	**–0.4**	**0.2**	**0.1**
United States	0.0	0.0	0.2	–0.1	0.3	–0.6	0.0	0.2	0.0	–0.6	0.5	0.0
Euro Area	–0.1	0.0	0.3	0.4	0.0	0.0	0.2	0.1	–0.5	–0.3	0.0	0.1
Germany	–0.2	0.0	0.8	0.0	–0.7	0.0	0.8	–0.1	–0.7	–0.8	0.6	0.0
France	0.0	0.1	0.2	0.7	0.3	–0.4	0.2	0.0	–0.4	0.2	–0.2	0.0
Italy	–0.1	0.1	0.2	0.5	–0.1	0.2	0.2	0.1	–0.6	–0.3	–0.3	0.5
Spain	–0.1	–0.2	0.1	0.2	–1.5	–0.1	0.0	0.3	–0.1	–0.3	–0.4	0.3
Japan	0.1	0.0	–0.4	0.1	0.3	–0.1	0.1	0.1	0.0	–0.2	–0.2	0.1
United Kingdom	0.1	0.0	0.1	0.4	–0.1	–0.1	0.2	–0.7	0.1	–0.7	0.3	0.3
Canada	0.1	0.0	0.5	–0.4	–0.5	0.0	0.9	–0.2	0.2	–1.3	0.9	0.0
Other Advanced Economies[1]	0.1	0.0	–0.6	0.3	–0.1	0.0	0.2	0.3	–0.2	–0.1	–0.1	0.1
Memorandum												
Major Advanced Economies	0.0	0.0	0.2	0.1	0.1	–0.3	0.2	0.1	–0.1	–0.5	0.3	0.1
Foreign Balance[2]												
Advanced Economies	**0.2**	**0.0**	**0.2**	**0.0**	**–0.3**	**–0.1**	**0.0**	**0.0**	**–0.1**	**–0.1**	**–0.1**	**0.1**
United States	0.1	–0.3	0.2	–0.3	–0.8	–0.2	–0.2	–0.3	–0.2	–0.2	–1.4	0.2
Euro Area	0.3	0.1	0.3	0.1	–0.2	–0.4	0.4	0.1	–0.5	–0.5	1.2	0.0
Germany	0.4	–0.2	–0.5	0.7	0.3	–0.6	0.1	–0.4	–0.6	–0.9	1.2	–0.6
France	–0.2	–0.2	–0.1	–0.5	–0.4	–0.4	–0.1	0.4	–0.3	–1.4	0.6	–0.2
Italy	0.3	0.0	0.8	–0.1	–0.4	–0.5	0.0	–0.3	0.7	–0.7	0.4	0.3
Spain	0.3	0.2	1.4	–0.5	–0.1	1.0	–0.2	–0.5	0.6	–1.9	0.8	0.9
Japan	0.2	0.0	–0.4	0.1	0.5	0.5	0.6	0.0	–0.2	–1.1	0.3	–0.5
United Kingdom	0.2	–0.3	–0.6	–0.9	–0.8	–0.4	0.8	0.1	–0.1	0.7	–1.4	–0.3
Canada	–1.2	0.1	0.1	1.2	0.8	0.4	–1.1	0.1	0.3	0.6	–0.7	–0.5
Other Advanced Economies[1]	0.6	0.5	0.7	0.5	0.1	0.0	–0.3	0.3	0.6	0.7	1.4	0.6
Memorandum												
Major Advanced Economies	0.1	–0.2	0.0	–0.1	–0.4	–0.2	0.0	–0.1	–0.2	–0.4	–0.6	–0.1

[1]Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.
[2]Changes expressed as percent of GDP in the preceding period.

Table A4. Emerging Market and Developing Economies: Real GDP

(Annual percent change)

	Average									Projections		
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026
Emerging and Developing Asia	**8.7**	**6.9**	**6.9**	**6.8**	**6.8**	**6.6**	**6.4**	**5.3**	**–1.0**	**8.6**	**6.0**	**5.4**
Bangladesh	6.1	6.0	6.1	6.6	7.1	7.3	7.9	8.2	3.8	5.0	7.5	7.2
Bhutan	8.5	3.6	4.0	6.2	7.4	6.3	3.8	4.3	–0.8	–1.9	5.7	5.8
Brunei Darussalam	0.5	–2.1	–2.5	–0.4	–2.5	1.3	0.1	3.9	1.2	1.6	2.5	2.0
Cambodia	8.0	7.4	7.1	7.0	6.9	7.0	7.5	7.0	–3.5	4.2	6.0	6.8
China	10.5	7.8	7.4	7.0	6.9	6.9	6.7	5.8	2.3	8.4	5.6	4.9
Fiji	1.2	4.7	5.6	4.5	2.4	5.4	3.8	–0.4	–19.0	5.0	9.0	3.3
India[1]	7.9	6.4	7.4	8.0	8.3	6.8	6.5	4.0	–8.0	12.5	6.9	6.5
Indonesia	5.8	5.6	5.0	4.9	5.0	5.1	5.2	5.0	–2.1	4.3	5.8	5.2
Kiribati	1.1	4.2	–0.7	10.4	5.1	0.9	3.8	3.9	–0.5	1.8	2.5	2.0
Lao P.D.R.	7.6	8.0	7.6	7.3	7.0	6.9	6.3	4.7	–0.4	4.6	5.6	6.0
Malaysia	5.1	4.7	6.0	5.0	4.4	5.8	4.8	4.3	–5.6	6.5	6.0	5.0
Maldives	6.6	7.3	7.3	2.9	6.3	7.2	8.1	7.0	–32.2	18.9	13.4	5.5
Marshall Islands	0.3	3.9	–1.0	1.6	1.4	3.3	3.1	6.5	–3.3	–1.5	3.5	1.6
Micronesia	0.1	–3.7	–2.3	4.6	0.9	2.7	0.2	1.2	–1.6	–3.7	2.8	0.6
Mongolia	8.2	11.6	7.9	2.4	1.2	5.3	7.2	5.2	–5.3	5.0	7.5	5.0
Myanmar	9.6	7.9	8.2	7.5	6.4	5.8	6.4	6.8	3.2	–8.9	1.4	5.1
Nauru	. . .	31.0	27.2	3.4	3.0	–5.5	5.7	1.0	0.7	1.6	0.9	0.5
Nepal	4.2	3.5	6.0	4.0	0.4	9.0	7.6	6.7	–1.9	2.9	4.2	5.2
Palau	0.1	–1.7	6.0	5.0	–0.4	–2.0	5.8	–1.8	–10.3	–10.8	10.4	2.0
Papua New Guinea	4.6	3.8	13.5	6.6	5.5	3.5	–0.3	5.9	–3.9	3.5	4.2	2.8
Philippines	5.2	6.8	6.3	6.3	7.1	6.9	6.3	6.0	–9.5	6.9	6.5	6.5
Samoa	2.3	–0.4	0.1	4.3	8.1	1.0	–2.1	3.6	–3.2	–7.8	1.7	2.1
Solomon Islands	5.4	5.3	1.0	1.4	5.9	5.3	3.9	1.2	–4.3	1.5	4.5	2.9
Sri Lanka	6.7	3.4	5.0	5.0	4.5	3.6	3.3	2.3	–3.6	4.0	4.1	4.2
Thailand	4.4	2.7	1.0	3.1	3.4	4.2	4.2	2.3	–6.1	2.6	5.6	3.6
Timor-Leste[2]	4.9	2.1	4.4	2.9	3.4	–4.1	–1.1	1.8	–6.8	2.8	4.9	3.0
Tonga	0.1	0.3	2.0	1.2	6.6	3.3	0.3	0.7	–0.5	–2.5	2.5	1.8
Tuvalu	0.2	4.9	1.2	9.2	5.9	4.6	3.2	6.0	0.5	2.5	3.5	4.0
Vanuatu	3.9	0.5	3.1	0.4	4.7	6.3	2.9	3.3	–9.2	3.2	4.6	2.7
Vietnam	6.6	5.6	6.4	7.0	6.7	6.9	7.1	7.0	2.9	6.5	7.2	6.6
Emerging and Developing Europe	**4.6**	**3.1**	**1.8**	**1.0**	**1.9**	**4.1**	**3.4**	**2.4**	**–2.0**	**4.4**	**3.9**	**2.7**
Albania	4.7	1.0	1.8	2.2	3.3	3.8	4.1	2.2	–3.5	5.0	4.0	3.5
Belarus	7.1	1.0	1.7	–3.8	–2.5	2.5	3.1	1.4	–0.9	–0.4	0.8	1.4
Bosnia and Herzegovina	3.1	2.4	1.1	3.1	3.1	3.2	3.7	2.8	–5.5	3.5	3.2	3.0
Bulgaria	3.8	0.3	1.9	4.0	3.8	3.5	3.1	3.7	–3.8	4.4	4.4	2.8
Croatia	1.4	–0.4	–0.3	2.4	3.5	3.4	2.8	2.9	–9.0	4.7	5.0	3.0
Hungary	1.3	1.9	4.2	3.8	2.1	4.3	5.4	4.6	–5.0	4.3	5.9	2.6
Kosovo	4.3	3.4	1.2	4.1	4.1	4.2	3.8	4.9	–6.0	4.5	5.5	4.0
Moldova	4.3	9.0	5.0	–0.3	4.4	4.7	4.0	3.6	–7.5	4.5	4.0	4.2
Montenegro	3.0	3.5	1.8	3.4	2.9	4.7	5.1	4.1	–15.2	9.0	5.5	3.0
North Macedonia	3.3	2.9	3.6	3.9	2.8	1.1	2.9	3.2	–4.5	3.8	4.0	3.5
Poland	4.2	1.1	3.4	4.2	3.1	4.8	5.4	4.5	–2.7	3.5	4.5	2.6
Romania	3.5	3.8	3.6	3.0	4.7	7.3	4.5	4.1	–3.9	6.0	4.8	3.5
Russia	4.8	1.8	0.7	–2.0	0.2	1.8	2.8	2.0	–3.1	3.8	3.8	1.8
Serbia	3.9	2.9	–1.6	1.8	3.3	2.1	4.5	4.2	–1.0	5.0	4.5	4.0
Turkey[1]	5.6	8.5	4.9	6.1	3.3	7.5	3.0	0.9	1.8	6.0	3.5	3.5
Ukraine[1]	3.4	0.0	–6.6	–9.8	2.4	2.5	3.4	3.2	–4.2	4.0	3.4	4.0
Latin America and the Caribbean	**3.9**	**2.9**	**1.3**	**0.4**	**–0.6**	**1.3**	**1.2**	**0.2**	**–7.0**	**4.6**	**3.1**	**2.4**
Antigua and Barbuda	1.9	–0.6	3.8	3.8	5.5	3.1	7.0	3.4	–17.3	–3.0	11.9	3.0
Argentina	5.6	2.4	–2.5	2.7	–2.1	2.8	–2.6	–2.1	–10.0	5.8	2.5	1.5
Aruba	0.1	4.2	0.9	–0.4	0.5	2.3	1.2	0.4	–25.5	5.0	12.0	1.4
The Bahamas	0.5	–2.7	1.1	0.2	1.4	3.1	3.0	1.2	–16.3	2.0	8.5	1.5
Barbados	0.7	–1.4	–0.1	2.4	2.5	0.5	–0.6	–0.1	–17.6	4.1	7.7	1.8
Belize	3.2	1.3	4.0	2.6	0.0	1.8	2.9	1.8	–14.1	1.9	6.4	2.0
Bolivia	4.5	6.8	5.5	4.9	4.3	4.2	4.2	2.2	–7.7	5.5	4.2	3.4
Brazil	3.8	3.0	0.5	–3.5	–3.3	1.3	1.8	1.4	–4.1	3.7	2.6	2.0
Chile	4.7	4.0	1.8	2.3	1.7	1.2	3.7	1.0	–5.8	6.2	3.8	2.5
Colombia	4.7	5.1	4.5	3.0	2.1	1.4	2.6	3.3	–6.8	5.1	3.6	3.6

Table A4. Emerging Market and Developing Economies: Real GDP *(continued)*

(Annual percent change)

	Average									Projections		
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026
Latin America and the Caribbean (continued)	**3.9**	**2.9**	**1.3**	**0.4**	**–0.6**	**1.3**	**1.2**	**0.2**	**–7.0**	**4.6**	**3.1**	**2.4**
Costa Rica	4.7	2.5	3.5	3.7	4.2	4.2	2.1	2.2	–4.8	2.6	3.3	3.3
Dominica	2.6	–0.6	4.4	–2.6	2.5	–9.5	0.5	7.6	–10.4	–0.4	5.8	1.5
Dominican Republic	4.5	4.9	7.1	6.9	6.7	4.7	7.0	5.1	–6.7	5.5	5.0	5.0
Ecuador	4.7	4.9	3.8	0.1	–1.2	2.4	1.3	0.0	–7.5	2.5	1.3	2.5
El Salvador	2.0	2.2	1.7	2.4	2.5	2.2	2.4	2.4	–8.6	4.2	2.8	2.0
Grenada	1.6	2.4	7.3	6.4	3.7	4.4	4.1	1.9	–13.5	–1.5	5.2	2.7
Guatemala	3.5	3.5	4.4	4.1	2.7	3.0	3.2	3.8	–1.5	4.5	4.0	3.5
Guyana	3.1	3.7	1.7	0.7	3.8	3.7	4.4	5.4	43.4	16.4	46.5	3.0
Haiti	2.4	3.1	3.4	1.6	1.7	2.3	1.7	–1.7	–3.7	1.0	1.0	1.4
Honduras	4.3	2.8	3.1	3.8	3.9	4.8	3.7	2.7	–8.0	4.5	3.3	3.9
Jamaica	0.5	0.2	0.6	0.9	1.5	0.7	1.8	1.0	–10.2	1.5	5.7	2.2
Mexico	2.2	1.4	2.8	3.3	2.6	2.1	2.2	–0.1	–8.2	5.0	3.0	2.0
Nicaragua	3.8	4.9	4.8	4.8	4.6	4.6	–4.0	–3.9	–3.0	0.2	2.7	2.8
Panama	7.7	6.9	5.1	5.7	5.0	5.6	3.6	3.0	–17.9	12.0	5.0	5.0
Paraguay	4.1	8.4	4.9	3.1	4.3	5.0	3.4	0.0	–0.9	4.0	4.0	3.5
Peru	6.2	5.8	2.4	3.3	4.4	2.1	4.0	2.2	–11.1	8.5	5.2	3.3
St. Kitts and Nevis	1.4	5.4	6.3	1.0	2.8	–2.0	2.9	2.8	–18.7	–2.0	10.0	2.7
St. Lucia	2.7	–2.2	1.3	–0.2	3.8	3.5	2.6	1.7	–18.9	3.1	10.7	1.4
St. Vincent and the Grenadines	2.2	1.8	1.2	1.3	1.9	1.0	2.2	0.3	–4.2	–0.1	4.9	2.7
Suriname	5.0	2.9	0.3	–3.4	–5.6	1.8	2.6	0.3	–13.5	0.7	1.5	1.0
Trinidad and Tobago	4.5	2.2	–0.9	1.5	–5.6	–3.0	0.1	–1.2	–7.8	2.1	4.1	1.5
Uruguay[1]	5.2	4.6	3.2	0.4	1.7	1.6	0.5	0.3	–5.7	3.0	3.1	2.3
Venezuela	4.7	1.3	–3.9	–6.2	–17.0	–15.7	–19.6	–35.0	–30.0	–10.0	–5.0	. . .
Middle East and Central Asia	**5.7**	**3.1**	**3.3**	**2.8**	**4.7**	**2.5**	**2.0**	**1.4**	**–2.9**	**3.7**	**3.8**	**3.6**
Afghanistan	9.2	5.7	2.7	1.0	2.2	2.6	1.2	3.9	–5.0	4.0	4.5	4.0
Algeria	3.6	2.8	3.8	3.7	3.2	1.3	1.2	0.8	–6.0	2.9	2.7	1.1
Armenia	6.9	3.4	3.6	3.3	0.2	7.5	5.2	7.6	–7.6	1.0	3.5	4.5
Azerbaijan	12.7	5.8	2.8	1.0	–3.1	0.2	1.5	2.2	–4.3	2.3	1.7	1.7
Bahrain	5.3	5.4	4.4	2.5	3.6	4.3	1.7	2.0	–5.4	3.3	3.1	3.1
Djibouti	4.3	5.0	7.1	7.7	6.9	5.1	8.5	7.5	–1.0	5.0	5.5	6.0
Egypt	4.6	3.3	2.9	4.4	4.3	4.1	5.3	5.6	3.6	2.5	5.7	5.8
Georgia	6.6	3.6	4.4	3.0	2.9	4.8	4.8	5.0	–6.1	3.5	5.8	5.2
Iran	3.1	–0.2	4.6	–1.3	13.4	3.8	–6.0	–6.8	1.5	2.5	2.1	2.1
Iraq	16.1	7.6	0.7	2.5	15.2	–3.4	0.8	4.5	–10.9	1.1	4.4	3.3
Jordan	5.6	2.6	3.4	2.5	2.0	2.1	1.9	2.0	–2.0	2.0	2.7	3.3
Kazakhstan	7.2	6.0	4.2	1.2	1.1	4.1	4.1	4.5	–2.6	3.2	4.0	4.4
Kuwait	5.9	1.2	0.5	0.6	2.9	–4.7	1.2	0.4	–8.1	0.7	3.2	2.5
Kyrgyz Republic	4.1	10.9	4.0	3.9	4.3	4.7	3.5	4.5	–8.0	6.0	4.6	4.0
Lebanon[1]	5.3	3.8	2.5	0.2	1.5	0.9	–1.9	–6.7	–25.0	. . .	. . .	. . .
Libya[1]	–0.8	–36.8	–53.0	–13.0	–7.4	64.0	17.9	13.2	–59.7	131.0	5.4	4.2
Mauritania	4.6	4.2	4.3	5.4	1.3	3.5	2.1	5.6	–2.2	3.1	5.6	3.8
Morocco	4.7	4.5	2.7	4.5	1.1	4.2	3.1	2.5	–7.0	4.5	3.9	3.5
Oman	3.8	5.1	1.4	4.7	4.9	0.3	0.9	–0.8	–6.4	1.8	7.4	2.0
Pakistan	4.8	3.7	4.1	4.1	4.6	5.2	5.5	1.9	–0.4	1.5	4.0	5.0
Qatar	13.9	5.6	5.3	4.8	3.1	–1.5	1.2	0.8	–2.6	2.4	3.6	1.9
Saudi Arabia	5.3	2.7	3.7	4.1	1.7	–0.7	2.4	0.3	–4.1	2.9	4.0	2.8
Somalia	. . .	1.9	2.4	3.5	2.9	1.4	2.8	2.9	–1.5	2.9	3.2	4.3
Sudan[3]	1.1	2.0	4.7	1.9	3.5	0.7	–2.3	–2.5	–3.6	0.4	1.1	4.4
Syria[4]	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Tajikistan	7.5	7.4	6.7	6.0	6.9	7.1	7.3	7.5	4.5	5.0	4.5	4.0
Tunisia	3.9	2.8	2.9	1.2	1.2	1.9	2.7	1.0	–8.8	3.8	2.4	1.8
Turkmenistan	12.2	10.2	10.3	6.5	6.2	6.4	6.2	6.3	0.8	4.6	3.9	3.7
United Arab Emirates	4.6	5.1	4.3	5.1	3.1	2.4	1.2	1.7	–5.9	3.1	2.6	2.6
Uzbekistan	7.5	7.6	7.2	7.4	6.1	4.5	5.4	5.8	1.6	5.0	5.3	5.5
West Bank and Gaza	8.6	4.7	–0.2	3.7	8.9	1.4	1.2	1.4	–11.0	5.7	7.0	2.0
Yemen	2.3	4.8	–0.2	–28.0	–9.4	–5.1	0.8	2.1	–5.0	0.5	2.5	5.5

Table A4. Emerging Market and Developing Economies: Real GDP *(continued)*

(Annual percent change)

	Average									Projections		
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026
Sub-Saharan Africa	**5.7**	**5.1**	**5.1**	**3.2**	**1.5**	**3.1**	**3.2**	**3.2**	**–1.9**	**3.4**	**4.0**	**4.0**
Angola	8.2	5.0	4.8	0.9	–2.6	–0.2	–2.0	–0.6	–4.0	0.4	2.4	3.7
Benin	3.7	7.2	6.4	1.8	3.3	5.7	6.7	6.9	2.0	5.0	6.0	6.4
Botswana	4.5	11.3	4.1	–1.7	4.3	2.9	4.5	3.0	–8.3	7.5	5.4	3.9
Burkina Faso	6.1	5.8	4.3	3.9	6.0	6.2	6.8	5.7	0.8	4.3	5.2	5.6
Burundi	4.2	4.9	4.2	–3.9	–0.6	0.5	1.6	1.8	–1.3	2.8	3.7	3.0
Cabo Verde	4.8	0.8	0.6	1.0	4.7	3.7	4.5	5.7	–14.0	5.8	6.0	6.2
Cameroon	3.9	5.4	5.9	5.7	4.6	3.5	4.1	3.9	–2.8	3.4	4.3	5.5
Central African Republic	2.8	–36.4	0.1	4.3	4.7	4.5	3.8	3.0	0.0	3.5	5.0	4.8
Chad	8.6	5.8	6.9	1.8	–5.6	–2.4	2.3	3.0	–0.9	1.8	2.6	3.8
Comoros	2.8	4.5	2.1	1.3	3.5	4.2	3.6	1.9	–0.5	0.0	3.6	3.8
Democratic Republic of the Congo	6.0	8.5	9.5	6.9	2.4	3.7	5.8	4.4	–0.1	3.8	4.9	4.1
Republic of Congo	4.9	–0.7	6.7	–3.6	–10.7	–4.4	–6.4	–0.6	–7.8	0.2	1.0	1.0
Côte d'Ivoire	1.8	9.3	8.8	8.8	7.2	7.4	6.9	6.2	2.3	6.0	6.5	6.0
Equatorial Guinea	9.5	–4.1	0.4	–9.1	–8.8	–5.7	–6.4	–5.6	–5.8	4.0	–5.9	–2.4
Eritrea	2.7	–10.5	30.9	–20.6	7.4	–10.0	13.0	3.8	–0.6	2.0	4.9	3.9
Eswatini	3.8	3.9	0.9	2.2	1.1	2.0	2.4	2.2	–3.3	1.4	0.9	2.3
Ethiopia	9.7	9.9	10.3	10.4	8.0	10.2	7.7	9.0	6.1	2.0	8.7	8.0
Gabon	2.4	5.5	4.4	3.9	2.1	0.5	0.8	3.9	–1.8	1.2	2.7	3.9
The Gambia	2.9	2.9	–1.4	4.1	1.9	4.8	7.2	6.1	0.0	6.0	6.5	5.6
Ghana	7.1	7.2	2.9	2.2	3.4	8.1	6.3	6.5	0.9	4.6	6.1	5.4
Guinea	3.4	3.9	3.7	3.8	10.8	10.3	6.2	5.6	5.2	5.6	5.2	5.0
Guinea-Bissau	3.1	3.3	1.0	6.1	5.3	4.8	3.4	4.5	–2.4	3.0	4.0	5.0
Kenya	4.8	5.9	5.4	5.7	5.9	4.8	6.3	5.4	–0.1	7.6	5.7	6.1
Lesotho	3.8	1.8	2.1	3.3	1.9	–2.7	–1.0	1.1	–4.5	3.5	4.3	3.2
Liberia	2.9	8.8	0.7	0.0	–1.6	2.5	1.2	–2.5	–3.0	3.6	4.7	5.7
Madagascar	3.8	2.3	3.3	3.1	4.0	3.9	3.2	4.4	–4.2	3.2	5.0	5.0
Malawi	5.8	5.2	5.7	2.9	2.3	4.0	3.2	4.5	0.6	2.2	6.5	6.0
Mali	4.2	2.3	7.1	6.2	5.9	5.3	4.7	4.8	–2.0	4.0	6.0	5.0
Mauritius	4.3	3.4	3.7	3.6	3.8	3.8	3.8	3.0	–15.8	6.6	5.2	3.3
Mozambique	7.4	7.0	7.4	6.7	3.8	3.7	3.4	2.3	–0.5	2.1	4.7	5.3
Namibia	4.1	5.6	6.1	4.3	0.0	–1.0	1.1	–1.6	–7.2	2.6	3.3	2.5
Niger	5.0	5.3	6.6	4.4	5.7	5.0	7.2	5.9	1.2	6.9	12.8	5.8
Nigeria	7.7	5.4	6.3	2.7	–1.6	0.8	1.9	2.2	–1.8	2.5	2.3	2.2
Rwanda	7.7	4.7	6.2	8.9	6.0	4.0	8.6	9.4	–0.2	5.7	6.8	6.1
São Tomé and Príncipe	5.4	4.8	6.5	3.8	4.2	3.9	3.0	1.3	–6.5	3.0	5.0	4.5
Senegal	3.5	2.4	6.2	6.4	6.4	7.4	6.2	4.4	0.8	5.2	6.0	6.5
Seychelles	3.0	6.0	4.5	4.9	4.4	5.0	1.3	1.9	–13.4	1.8	4.3	3.5
Sierra Leone	6.8	20.7	4.6	–20.5	6.4	3.8	3.5	5.5	–2.2	3.0	3.6	4.8
South Africa	3.4	2.5	1.8	1.2	0.4	1.4	0.8	0.2	–7.0	3.1	2.0	1.3
South Sudan	. . .	29.3	2.9	–0.2	–13.5	–5.8	–1.9	0.9	–6.6	5.3	6.5	4.4
Tanzania	6.5	6.8	6.7	6.2	6.9	6.8	7.0	7.0	1.0	2.7	4.6	5.5
Togo	3.0	6.1	5.9	5.7	5.6	4.3	5.0	5.5	0.7	3.5	4.5	5.5
Uganda	7.3	3.9	5.7	7.3	0.3	7.3	6.0	8.0	–2.1	6.3	5.0	6.4
Zambia	7.8	5.1	4.7	2.9	3.8	3.5	4.0	1.4	–3.5	0.6	1.1	1.6
Zimbabwe[1]	–0.3	2.0	2.4	1.8	0.7	4.7	3.5	–7.4	–8.0	3.1	4.0	2.5

[1]See country-specific notes for India, Lebanon, Libya, Turkey, Ukraine, Uruguay, and Zimbabwe in the "Country Notes" section of the Statistical Appendix.
[2]Data for Timor-Leste excludes projections for oil exports from the Joint Petroleum Development Area.
[3]Data for 2011 exclude South Sudan after July 9. Data for 2012 and onward pertain to the current Sudan.
[4]Data for Syria are excluded for 2011 onward owing to the uncertain political situation.

Table A5. Summary of Inflation

(Percent)

	Average									Projections		
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026
GDP Deflators												
Advanced Economies	**1.6**	**1.3**	**1.4**	**1.2**	**1.0**	**1.5**	**1.7**	**1.5**	**1.4**	**1.5**	**1.5**	**1.7**
United States	2.1	1.8	1.9	1.0	1.0	1.9	2.4	1.8	1.2	1.8	2.3	1.9
Euro Area	1.7	1.2	0.9	1.4	0.9	1.1	1.4	1.7	1.5	1.3	1.4	1.8
Japan	–1.1	–0.4	1.7	2.1	0.4	–0.1	0.0	0.6	0.9	0.6	0.5	0.5
Other Advanced Economies[1]	2.1	1.5	1.4	1.2	1.3	2.0	1.7	1.3	1.8	1.5	0.7	1.8
Consumer Prices												
Advanced Economies	**2.0**	**1.4**	**1.4**	**0.3**	**0.7**	**1.7**	**2.0**	**1.4**	**0.7**	**1.6**	**1.7**	**1.9**
United States	2.5	1.5	1.6	0.1	1.3	2.1	2.4	1.8	1.2	2.3	2.4	2.2
Euro Area[2]	2.1	1.4	0.4	0.2	0.2	1.5	1.8	1.2	0.3	1.4	1.2	1.8
Japan	–0.1	0.3	2.8	0.8	–0.1	0.5	1.0	0.5	0.0	0.1	0.7	1.0
Other Advanced Economies[1]	2.3	1.7	1.5	0.5	0.9	1.8	1.9	1.4	0.6	1.4	1.4	1.9
Emerging Market and Developing Economies[3]	**6.4**	**5.4**	**4.7**	**4.7**	**4.3**	**4.4**	**4.9**	**5.1**	**5.1**	**4.9**	**4.4**	**3.8**
Regional Groups												
Emerging and Developing Asia	4.8	4.6	3.4	2.7	2.8	2.4	2.7	3.3	3.1	2.3	2.7	2.7
Emerging and Developing Europe	8.8	5.5	6.5	10.6	5.5	5.6	6.4	6.6	5.4	6.5	5.4	5.4
Latin America and the Caribbean	5.4	4.6	4.9	5.4	5.5	6.3	6.6	7.7	6.4	7.2	6.6	4.0
Middle East and Central Asia	7.9	8.3	6.4	5.5	5.7	6.9	9.5	7.4	10.2	11.2	8.1	6.4
Sub-Saharan Africa	9.2	6.5	6.3	6.8	10.4	10.7	8.4	8.5	10.8	9.8	7.8	6.0
Analytical Groups												
By Source of Export Earnings												
Fuel	8.2	8.2	5.6	5.6	7.6	6.4	8.4	6.5	9.0	11.0	8.5	6.9
Nonfuel	6.0	5.0	4.5	4.6	3.9	4.2	4.5	4.9	4.7	4.3	4.0	3.5
Of Which, Primary Products[4]	6.3	6.4	7.0	5.2	6.2	11.7	14.2	17.9	19.5	19.1	13.7	6.0
By External Financing Source												
Net Debtor Economies	7.1	6.1	5.6	5.4	5.2	5.6	5.5	5.3	5.8	5.8	4.9	4.4
Net Debtor Economies by Debt-Servicing Experience												
Economies with Arrears and/or Rescheduling during 2015–19	9.4	6.1	10.0	15.0	10.0	17.3	16.9	13.6	16.5	15.8	9.6	6.1
Other Groups												
European Union	2.4	1.4	0.4	0.1	0.2	1.6	1.8	1.4	0.7	1.6	1.4	1.9
Middle East and North Africa	7.6	8.7	6.3	5.6	5.5	7.0	10.7	7.6	10.6	12.4	8.5	6.8
Emerging Market and Middle-Income Economies	6.1	5.2	4.5	4.6	4.0	4.0	4.5	4.8	4.5	4.4	4.1	3.6
Low-Income Developing Countries	9.9	7.8	7.2	6.5	8.4	9.2	8.8	8.4	11.7	11.2	7.8	5.7
Memorandum												
Median Inflation Rate												
Advanced Economies	2.3	1.4	0.7	0.1	0.6	1.6	1.8	1.5	0.4	1.4	1.5	1.9
Emerging Market and Developing Economies[3]	5.3	3.7	3.1	2.6	2.7	3.3	3.1	2.7	2.8	3.1	3.1	3.0

[1]Excludes the United States, euro area countries, and Japan.
[2]Based on Eurostat's harmonized index of consumer prices.
[3]Excludes Venezuela but includes Argentina from 2017 onward. See country-specific notes for Argentina and Venezuela in the "Country Notes" section of the Statistical Appendix.
[4]Includes Argentina from 2017 onward. See country-specific note for Argentina in the "Country Notes" section of the Statistical Appendix.

Table A6. Advanced Economies: Consumer Prices[1]

(Annual percent change)

	Average									Projections			End of Period[2]		
														Projections	
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026	2020	2021	2022
Advanced Economies	**2.0**	**1.4**	**1.4**	**0.3**	**0.7**	**1.7**	**2.0**	**1.4**	**0.7**	**1.6**	**1.7**	**1.9**	**0.5**	**1.9**	**1.7**
United States	2.5	1.5	1.6	0.1	1.3	2.1	2.4	1.8	1.2	2.3	2.4	2.2	1.4	2.3	2.5
Euro Area[3]	2.1	1.4	0.4	0.2	0.2	1.5	1.8	1.2	0.3	1.4	1.2	1.8	–0.3	1.8	1.2
Germany	1.8	1.6	0.8	0.7	0.4	1.7	1.9	1.4	0.4	2.2	1.1	2.1	–0.7	3.1	1.0
France	1.9	1.0	0.6	0.1	0.3	1.2	2.1	1.3	0.5	1.1	1.2	1.6	–0.1	1.3	1.4
Italy	2.4	1.2	0.2	0.1	–0.1	1.3	1.2	0.6	–0.1	0.8	0.9	1.3	–0.3	0.8	0.9
Spain	2.7	1.4	–0.2	–0.5	–0.2	2.0	1.7	0.7	–0.3	1.0	1.3	1.7	–0.5	1.3	1.4
The Netherlands	1.8	2.6	0.3	0.2	0.1	1.3	1.6	2.7	1.1	1.4	1.5	1.8	0.9	1.4	1.5
Belgium	2.3	1.2	0.5	0.6	1.8	2.2	2.3	1.2	0.4	1.7	1.9	1.8	0.4	2.1	1.6
Austria	2.1	2.1	1.5	0.8	1.0	2.2	2.1	1.5	1.4	1.6	1.8	2.0	1.0	1.9	1.8
Ireland	1.7	0.5	0.3	0.0	–0.2	0.3	0.7	0.9	–0.5	1.6	1.9	2.0	–1.0	2.0	2.0
Portugal	2.3	0.4	–0.2	0.5	0.6	1.6	1.2	0.3	–0.1	0.9	1.2	1.6	0.0	0.8	1.2
Greece	3.1	–0.9	–1.4	–1.1	0.0	1.1	0.8	0.5	–1.3	0.2	0.8	1.9	–2.4	0.8	0.8
Finland	1.9	2.2	1.2	–0.2	0.4	0.8	1.2	1.1	0.4	1.4	1.5	1.9	0.2	1.6	1.5
Slovak Republic	3.8	1.5	–0.1	–0.3	–0.5	1.4	2.5	2.8	2.0	1.2	1.9	2.0	1.6	1.5	1.9
Lithuania	3.6	1.2	0.2	–0.7	0.7	3.7	2.5	2.2	1.1	1.5	1.9	2.1	–0.1	1.5	1.9
Slovenia	3.0	1.8	0.2	–0.5	–0.1	1.4	1.7	1.6	–0.1	0.8	1.5	2.1	–1.1	1.7	1.3
Luxembourg	2.9	1.7	0.7	0.1	0.0	2.1	2.0	1.7	0.0	0.9	1.8	1.9	–0.4	1.3	1.7
Latvia	5.6	0.0	0.7	0.2	0.1	2.9	2.6	2.7	0.1	2.1	2.2	2.2	–0.5	3.9	1.8
Estonia	4.2	3.2	0.5	0.1	0.8	3.7	3.4	2.3	–0.6	1.8	2.5	1.9	–0.9	1.8	2.5
Cyprus	2.6	0.4	–0.3	–1.5	–1.2	0.7	0.8	0.6	–1.1	0.5	0.8	1.9	–0.8	1.0	0.8
Malta	2.5	1.0	0.8	1.2	0.9	1.3	1.7	1.5	0.8	1.1	1.4	2.0	0.2	1.7	1.5
Japan	–0.1	0.3	2.8	0.8	–0.1	0.5	1.0	0.5	0.0	0.1	0.7	1.0	–0.9	1.2	0.2
United Kingdom	2.6	2.6	1.5	0.0	0.7	2.7	2.5	1.8	0.9	1.5	1.9	2.0	0.5	2.1	1.8
Korea	3.1	1.3	1.3	0.7	1.0	1.9	1.5	0.4	0.5	1.4	0.9	2.0	0.5	1.2	1.0
Canada	2.0	0.9	1.9	1.1	1.4	1.6	2.3	1.9	0.7	1.7	2.0	2.0	0.8	1.6	2.2
Australia	2.8	2.5	2.5	1.5	1.3	2.0	1.9	1.6	0.9	1.7	1.6	2.4	0.9	1.5	1.7
Taiwan Province of China	1.3	1.0	1.3	–0.6	1.0	1.1	1.5	0.5	–0.2	0.9	1.2	1.4	0.1	0.9	1.2
Switzerland	0.7	–0.2	0.0	–1.1	–0.4	0.5	0.9	0.4	–0.7	0.1	0.3	1.0	–0.8	0.1	0.6
Singapore	2.5	2.4	1.0	–0.5	–0.5	0.6	0.4	0.6	–0.2	0.2	0.8	1.5	0.0	0.4	0.9
Sweden	1.7	0.4	0.2	0.7	1.1	1.9	2.0	1.6	0.7	1.5	1.2	1.9	0.4	1.5	1.2
Hong Kong SAR	1.8	4.3	4.4	3.0	2.4	1.5	2.4	2.9	0.3	1.4	1.9	2.4	0.3	1.4	1.9
Czech Republic	2.4	1.4	0.3	0.3	0.7	2.5	2.1	2.8	3.2	2.3	2.0	2.0	2.7	2.3	2.0
Israel	2.0	1.5	0.5	–0.6	–0.5	0.2	0.8	0.8	–0.6	0.3	0.6	0.9	–0.7	0.7	0.6
Norway	1.8	2.1	2.0	2.2	3.6	1.9	2.8	2.2	1.3	2.2	2.0	2.0	1.4	2.5	2.0
Denmark	2.0	0.5	0.4	0.2	0.0	1.1	0.7	0.7	0.3	1.1	1.4	1.8	0.4	1.1	1.4
New Zealand	2.6	1.1	1.2	0.3	0.6	1.9	1.6	1.6	1.7	1.8	1.6	2.2	1.4	2.1	1.7
Puerto Rico	3.1	1.1	0.6	–0.8	–0.3	1.8	1.3	0.1	–1.3	2.5	1.5	1.6	–1.3	2.5	1.5
Macao SAR	3.9	5.5	6.0	4.6	2.4	1.2	3.0	2.8	0.8	1.4	1.9	2.4	–0.9	1.4	1.9
Iceland	6.0	3.9	2.0	1.6	1.7	1.8	2.7	3.0	2.9	3.2	2.5	2.5	3.6	2.6	2.5
San Marino	2.3	1.6	1.1	0.1	0.6	1.0	1.8	1.0	0.2	0.8	0.9	1.1	0.5	0.8	0.9
Memorandum															
Major Advanced Economies	1.9	1.3	1.5	0.3	0.8	1.8	2.1	1.5	0.8	1.7	1.8	1.9	0.6	2.1	1.8

[1]Movements in consumer prices are shown as annual averages.
[2]Monthly year-over-year changes and, for several countries, on a quarterly basis.
[3]Based on Eurostat's harmonized index of consumer prices.

Table A7. Emerging Market and Developing Economies: Consumer Prices[1]

(Annual percent change)

	Average									Projections			End of Period[2]	Projections	
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026	2020	2021	2022
Emerging and Developing Asia	**4.8**	**4.6**	**3.4**	**2.7**	**2.8**	**2.4**	**2.7**	**3.3**	**3.1**	**2.3**	**2.7**	**2.7**	**1.2**	**3.0**	**2.5**
Bangladesh	7.9	6.8	7.3	6.4	5.9	5.4	5.8	5.5	5.6	5.8	5.6	5.5	6.0	5.7	5.6
Bhutan	5.8	8.1	9.6	6.7	3.3	4.3	3.7	2.8	4.2	4.9	4.9	4.0	4.5	5.3	4.4
Brunei Darussalam	0.7	0.4	–0.2	–0.3	–0.4	–1.3	1.1	–0.4	1.9	0.8	0.8	0.8	2.0	0.7	0.7
Cambodia	6.0	3.0	3.9	1.2	3.0	2.9	2.4	2.0	2.9	3.1	2.8	3.0	2.9	3.0	2.8
China	3.0	2.6	2.0	1.4	2.0	1.6	2.1	2.9	2.4	1.2	1.9	2.0	–0.3	2.3	1.9
Fiji	4.2	2.9	0.5	1.4	3.9	3.4	4.1	1.8	–2.6	–1.1	2.0	2.0	–2.8	1.5	2.0
India	7.6	9.4	5.8	4.9	4.5	3.6	3.4	4.8	6.2	4.9	4.1	4.0	4.9	4.8	3.9
Indonesia	7.2	6.4	6.4	6.4	3.5	3.8	3.3	2.8	2.0	2.0	3.1	2.9	1.7	2.8	1.2
Kiribati	2.0	–1.5	2.1	0.6	1.9	0.4	0.6	–1.8	2.5	1.8	1.8	1.8	1.9	1.6	1.9
Lao P.D.R.	6.9	6.4	4.1	1.3	1.8	0.7	2.0	3.3	5.1	4.9	3.7	3.1	3.2	4.3	3.1
Malaysia	2.4	2.1	3.1	2.1	2.1	3.8	1.0	0.7	–1.1	2.0	2.0	2.0	–1.4	2.0	2.0
Maldives	6.0	4.0	2.4	1.4	0.8	2.3	1.4	1.3	–1.6	1.6	2.1	2.0	–2.0	2.3	2.0
Marshall Islands	. . .	1.9	1.1	–2.2	–1.5	0.1	0.8	–0.5	0.6	1.1	1.5	2.0	0.6	1.1	1.5
Micronesia	4.2	2.2	0.7	–0.2	–0.6	0.1	1.4	1.5	0.5	1.9	2.2	2.0	0.5	1.9	2.2
Mongolia	10.7	10.5	12.3	5.7	0.7	4.3	6.8	7.3	3.7	5.4	6.4	6.0	2.3	6.5	6.2
Myanmar	14.2	6.4	5.7	7.3	9.1	4.6	5.9	8.6	5.7	5.0	5.6	6.3	2.0	6.5	5.9
Nauru	. . .	–1.1	0.3	9.8	8.2	5.1	0.5	4.3	0.9	1.2	2.0	2.0	–0.9	1.2	1.4
Nepal	7.4	9.9	9.0	7.2	9.9	4.5	4.1	4.6	6.1	4.2	6.4	5.3	4.8	5.6	6.0
Palau	3.5	2.8	4.0	2.2	–1.3	1.1	2.0	0.6	0.0	0.0	1.0	2.0	0.0	0.0	1.0
Papua New Guinea	5.3	5.0	5.2	6.0	6.7	5.4	4.7	3.7	5.0	3.3	4.7	3.2	5.2	3.8	4.7
Philippines	4.6	2.6	3.6	0.7	1.3	2.9	5.2	2.5	2.6	3.4	3.0	3.0	3.5	2.8	3.0
Samoa	5.7	–0.2	–1.2	1.9	0.1	1.3	3.7	2.2	1.5	–2.5	2.7	2.6	–3.3	3.1	1.9
Solomon Islands	8.1	5.2	5.3	–0.6	0.5	0.5	3.5	1.6	3.4	2.6	3.2	2.3	–1.8	3.8	3.6
Sri Lanka	8.8	6.9	2.8	2.2	4.0	6.6	4.3	4.3	4.6	4.4	5.0	5.0	4.2	4.6	5.5
Thailand	3.1	2.2	1.9	–0.9	0.2	0.7	1.1	0.7	–0.8	1.3	1.0	1.9	–0.3	1.0	1.1
Timor-Leste	6.1	9.5	0.8	0.6	–1.5	0.5	2.3	0.9	0.5	1.6	2.5	2.0	1.2	2.0	3.0
Tonga	7.0	0.7	2.3	0.1	–0.6	7.2	6.8	3.5	0.2	–0.1	3.4	2.6	–1.4	3.4	3.5
Tuvalu	2.5	2.0	1.1	3.1	3.5	4.1	2.2	3.5	1.6	2.8	3.0	3.4	1.6	2.8	3.0
Vanuatu	2.6	1.5	0.8	2.5	0.8	3.1	2.3	2.7	2.9	2.4	2.1	2.3	2.6	2.2	2.1
Vietnam	10.1	6.6	4.1	0.6	2.7	3.5	3.5	2.8	3.2	3.9	3.9	4.0	0.2	4.3	4.0
Emerging and Developing Europe	**8.8**	**5.5**	**6.5**	**10.6**	**5.5**	**5.6**	**6.4**	**6.6**	**5.4**	**6.5**	**5.4**	**5.4**	**6.5**	**5.8**	**5.4**
Albania	2.8	1.9	1.6	1.9	1.3	2.0	2.0	1.4	1.6	2.0	2.3	3.0	1.0	1.8	2.0
Belarus	20.8	18.3	18.1	13.5	11.8	6.0	4.9	5.6	5.5	6.9	5.5	5.0	7.3	5.9	5.4
Bosnia and Herzegovina	2.7	–0.1	–0.9	–1.0	–1.6	0.8	1.4	0.6	–0.6	1.2	1.0	2.1	–0.6	1.1	0.9
Bulgaria[3]	5.2	0.4	–1.6	–1.1	–1.3	1.2	2.6	2.5	1.2	1.0	2.0	2.0	0.0	1.9	2.0
Croatia	2.8	2.2	–0.2	–0.5	–1.1	1.1	1.5	0.8	0.3	0.7	1.2	1.6	0.1	0.9	1.6
Hungary	5.1	1.7	–0.2	–0.1	0.4	2.4	2.8	3.4	3.3	3.6	3.5	3.0	2.7	3.9	3.7
Kosovo	2.2	1.8	0.4	–0.5	0.3	1.5	1.1	2.7	0.2	0.3	1.5	1.9	0.1	1.1	1.6
Moldova	9.3	4.6	5.1	9.6	6.4	6.5	3.1	4.8	3.8	3.0	5.0	5.0	0.4	5.0	5.0
Montenegro	4.0	2.2	–0.7	1.5	–0.3	2.4	2.6	0.4	–0.2	0.4	1.0	1.7	–0.9	1.0	1.2
North Macedonia	2.2	2.8	–0.3	–0.3	–0.2	1.4	1.5	0.8	1.2	2.0	1.5	2.0	2.3	1.6	1.2
Poland	2.8	0.9	0.0	–0.9	–0.6	2.0	1.6	2.3	3.4	3.2	2.5	2.5	2.4	2.7	2.6
Romania	7.6	4.0	1.1	–0.6	–1.6	1.3	4.6	3.8	2.6	2.8	2.1	2.5	2.1	2.8	2.5
Russia	10.2	6.8	7.8	15.5	7.0	3.7	2.9	4.5	3.4	4.5	3.4	4.0	4.9	3.7	3.5
Serbia	9.1	7.7	2.1	1.4	1.1	3.1	2.0	1.9	1.7	2.2	2.4	3.0	1.7	2.3	2.4
Turkey[4]	10.0	7.5	8.9	7.7	7.8	11.1	16.3	15.2	12.3	13.6	11.8	11.0	14.6	12.5	11.5
Ukraine[4]	10.7	–0.3	12.1	48.7	13.9	14.4	10.9	7.9	2.7	7.9	6.8	5.0	5.0	7.2	6.0
Latin America and the Caribbean[5]	**5.4**	**4.6**	**4.9**	**5.4**	**5.5**	**6.3**	**6.6**	**7.7**	**6.4**	**7.2**	**6.6**	**4.0**	**6.3**	**7.3**	**6.0**
Antigua and Barbuda	2.4	1.1	1.1	1.0	–0.5	2.4	1.2	1.4	1.1	2.0	2.0	2.0	2.8	2.0	2.0
Argentina[4]	9.2	10.6	. . .	. . .	. . .	25.7	34.3	53.5	42.0	. . .	. . .	. . .	36.1	. . .	. . .
Aruba	3.2	–2.4	0.4	0.5	–0.9	–1.0	3.6	3.9	–1.3	0.1	2.0	2.1	–3.1	1.3	2.5
The Bahamas	2.4	0.4	1.2	1.9	–0.3	1.5	2.3	2.5	0.0	2.0	2.8	2.3	1.2	3.0	2.5
Barbados	5.2	1.8	1.8	–1.1	1.5	4.4	3.7	4.1	2.9	3.7	2.3	2.3	1.3	2.4	2.3
Belize	2.5	0.5	1.2	–0.9	0.7	1.1	0.3	0.2	0.1	1.0	2.0	2.0	0.6	1.5	2.0
Bolivia	5.8	5.7	5.8	4.1	3.6	2.8	2.3	1.8	0.9	3.9	3.7	3.5	0.7	6.2	2.6
Brazil	6.3	6.2	6.3	9.0	8.7	3.4	3.7	3.7	3.2	4.6	4.0	3.3	4.5	4.5	3.5
Chile	3.2	1.8	4.7	4.3	3.8	2.2	2.3	2.3	3.0	3.1	3.0	3.0	2.9	3.0	3.0
Colombia	4.8	2.0	2.9	5.0	7.5	4.3	3.2	3.5	2.5	2.1	2.6	2.9	1.6	2.5	2.6

Table A7. Emerging Market and Developing Economies: Consumer Prices[1] *(continued)*

(Annual percent change)

	Average									Projections			End of Period[2]		
														Projections	
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026	2020	2021	2022
Latin America and the Caribbean (continued)[5]	**5.4**	**4.6**	**4.9**	**5.4**	**5.5**	**6.3**	**6.6**	**7.7**	**6.4**	**7.2**	**6.6**	**4.0**	**6.3**	**7.3**	**6.0**
Costa Rica	9.2	5.2	4.5	0.8	0.0	1.6	2.2	2.1	0.7	1.2	1.1	2.9	0.9	1.2	0.9
Dominica	2.3	0.0	0.8	–0.9	0.1	0.3	1.0	1.5	–0.3	1.6	2.0	2.0	1.7	2.0	2.0
Dominican Republic	11.9	4.8	3.0	0.8	1.6	3.3	3.6	1.8	3.8	6.2	4.0	4.0	5.6	4.5	4.0
Ecuador	4.5	2.7	3.6	4.0	1.7	0.4	–0.2	0.3	–0.3	0.5	2.4	1.0	–0.9	2.1	1.9
El Salvador	3.6	0.8	1.1	–0.7	0.6	1.0	1.1	0.1	0.2	1.1	1.4	1.0	0.7	1.5	1.3
Grenada	3.2	0.0	–1.0	–0.6	1.7	0.9	0.8	0.6	–0.7	1.8	1.7	1.9	–0.8	1.8	1.7
Guatemala	6.2	4.3	3.4	2.4	4.4	4.4	3.8	3.7	2.4	2.9	3.6	4.0	4.8	4.5	3.6
Guyana	5.8	1.9	0.7	–0.9	0.8	1.9	1.3	2.1	0.7	2.0	2.0	3.1	0.9	1.9	2.1
Haiti	12.8	6.8	3.9	7.5	13.4	14.7	12.9	17.3	22.9	20.5	22.4	9.4	25.2	22.0	19.0
Honduras	7.1	5.2	6.1	3.2	2.7	3.9	4.3	4.4	3.5	4.3	4.1	4.0	4.0	4.2	4.0
Jamaica	11.4	9.4	8.3	3.7	2.3	4.4	3.7	3.9	5.2	5.0	5.1	5.0	5.2	4.3	5.8
Mexico	4.3	3.8	4.0	2.7	2.8	6.0	4.9	3.6	3.4	3.5	3.1	3.0	3.2	3.4	3.1
Nicaragua	8.7	7.1	6.0	4.0	3.5	3.9	4.9	5.4	3.7	3.9	3.5	3.5	2.9	3.9	3.5
Panama	3.6	4.0	2.6	0.1	0.7	0.9	0.8	–0.4	–1.6	0.1	1.1	2.0	–1.6	0.5	2.0
Paraguay	7.2	2.7	5.0	3.1	4.1	3.6	4.0	2.8	1.8	2.7	3.2	3.2	2.2	3.2	3.2
Peru	2.9	2.8	3.2	3.5	3.6	2.8	1.3	2.1	1.8	2.0	2.0	2.0	2.0	2.0	2.0
St. Kitts and Nevis	3.5	1.1	0.2	–2.3	–0.7	0.7	–1.0	–0.3	–0.6	–1.0	–0.5	2.0	–1.2	–0.8	–0.3
St. Lucia	2.8	1.5	3.5	–1.0	–3.1	0.1	2.4	0.5	–1.8	2.4	2.0	2.0	–0.4	2.2	2.0
St. Vincent and the Grenadines	3.3	0.8	0.2	–1.7	–0.2	2.2	2.3	0.9	–0.6	1.4	2.0	2.0	–1.0	1.4	2.1
Suriname	10.6	1.9	3.4	6.9	55.5	22.0	6.9	4.4	34.9	52.1	29.0	12.2	61.0	40.5	24.5
Trinidad and Tobago	7.4	5.2	5.7	4.7	3.1	1.9	1.0	1.0	0.6	1.0	1.4	1.3	0.8	1.2	1.5
Uruguay	8.5	8.6	8.9	8.7	9.6	6.2	7.6	7.9	9.8	8.3	7.4	4.0	9.4	7.5	6.0
Venezuela[4]	23.3	40.6	62.2	122	255	438	65,374	19,906	2,355	5,500	5,500	. . .	2,960	5,500	5,500
Middle East and Central Asia	**7.9**	**8.3**	**6.4**	**5.5**	**5.7**	**6.9**	**9.5**	**7.4**	**10.2**	**11.2**	**8.1**	**6.4**	**12.5**	**9.7**	**7.3**
Afghanistan	11.2	7.4	4.7	–0.7	4.4	5.0	0.6	2.3	5.6	5.1	4.5	4.0	5.0	5.8	4.8
Algeria	4.3	3.3	2.9	4.8	6.4	5.6	4.3	2.0	2.4	4.9	6.0	7.0	3.1	5.3	5.6
Armenia	4.9	5.8	3.0	3.7	–1.4	1.0	2.5	1.4	1.2	3.9	3.2	4.0	3.8	3.0	3.5
Azerbaijan	7.8	2.4	1.4	4.0	12.4	12.8	2.3	2.7	2.8	3.5	3.2	3.2	2.7	3.5	3.2
Bahrain	2.2	3.3	2.6	1.8	2.8	1.4	2.1	1.0	–2.3	1.5	2.1	2.2	–1.6	2.3	2.1
Djibouti	4.3	1.1	1.3	–0.8	2.7	0.6	0.1	3.3	2.9	2.4	2.1	2.0	2.5	2.2	2.0
Egypt	9.4	6.9	10.1	11.0	10.2	23.5	20.9	13.9	5.7	4.8	7.2	7.3	5.7	6.3	7.4
Georgia	6.3	–0.5	3.1	4.0	2.1	6.0	2.6	4.9	5.2	3.8	2.7	3.0	2.4	5.0	2.4
Iran	17.0	34.7	15.6	11.9	9.1	9.6	30.2	34.6	36.5	39.0	27.5	25.0	48.0	30.0	25.0
Iraq	. . .	1.9	2.2	1.4	0.5	0.1	0.4	–0.2	0.6	9.4	7.5	2.0	3.2	11.9	4.8
Jordan	4.4	4.9	3.0	–1.1	–0.6	3.6	4.5	0.7	0.4	2.3	2.0	2.5	–0.3	2.5	2.0
Kazakhstan	8.5	5.8	6.7	6.7	14.6	7.4	6.0	5.2	6.8	6.4	5.0	4.0	7.5	5.9	5.0
Kuwait	3.8	2.7	3.1	3.7	3.5	1.5	0.6	1.1	2.1	2.3	2.5	2.5	3.0	2.5	2.5
Kyrgyz Republic	8.4	6.6	7.5	6.5	0.4	3.2	1.5	1.1	6.3	8.6	5.4	4.6	7.5	5.3	5.2
Lebanon[4]	3.6	4.8	1.8	–3.7	–0.8	4.5	4.6	2.9	88.2	. . .	. . .	. . .	150.4	. . .	. . .
Libya[4]	4.6	2.6	2.4	14.8	24.0	28.0	–1.2	4.6	22.3	18.2	14.2	4.0	22.3	18.2	14.2
Mauritania	6.7	4.1	3.8	0.5	1.5	2.3	3.1	2.3	2.3	2.4	3.5	4.0	1.8	3.0	4.0
Morocco	1.8	1.6	0.4	1.4	1.5	0.7	1.6	0.2	0.6	0.8	1.2	2.0	–0.9	0.8	1.2
Oman	3.8	1.2	1.0	0.1	1.1	1.6	0.9	0.1	–0.9	3.8	2.4	0.9	–0.9	3.8	2.4
Pakistan	9.8	7.4	8.6	4.5	2.9	4.1	3.9	6.7	10.7	8.7	8.0	6.5	8.6	10.0	7.9
Qatar	5.3	3.1	4.2	0.9	2.7	0.4	0.3	–0.7	–2.7	2.4	2.9	2.2	–3.4	6.3	–0.3
Saudi Arabia	2.9	3.6	2.2	1.2	2.0	–0.8	2.5	–2.1	3.4	2.7	2.0	2.0	5.4	0.6	2.0
Somalia	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	4.1	2.5	2.1
Sudan[6]	13.6	36.5	36.9	16.9	17.8	32.4	63.3	51.0	163.3	197.1	44.5	10.4	269.3	119.6	28.8
Syria[7]	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Tajikistan	10.5	5.0	6.1	5.8	5.9	7.3	3.8	7.8	8.6	8.0	6.5	6.5	9.4	8.0	6.5
Tunisia	3.7	5.3	4.6	4.4	3.6	5.3	7.3	6.7	5.7	5.8	6.3	7.6	5.5	6.0	6.4
Turkmenistan	6.3	6.8	6.0	7.4	3.6	8.0	13.3	5.1	7.6	8.0	6.5	6.0	8.9	7.0	6.0
United Arab Emirates	5.0	1.1	2.3	4.1	1.6	2.0	3.1	–1.9	–2.1	2.9	1.2	1.8	–2.1	2.9	1.2
Uzbekistan	11.7	11.7	9.1	8.5	8.8	13.9	17.5	14.5	12.9	10.3	11.2	5.0	11.1	10.0	10.6
West Bank and Gaza	4.0	1.7	1.7	1.4	–0.2	0.2	–0.2	1.6	–0.7	0.3	1.1	1.3	0.1	0.6	1.1
Yemen	11.4	11.0	8.2	22.0	21.3	30.4	27.6	10.0	26.2	30.6	19.2	7.2	45.0	20.7	17.9

Table A7. Emerging Market and Developing Economies: Consumer Prices[1] *(continued)*

(Annual percent change)

	Average									Projections			End of Period[2]	Projections	
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026	2020	2021	2022
Sub-Saharan Africa	**9.2**	**6.5**	**6.3**	**6.8**	**10.4**	**10.7**	**8.4**	**8.5**	**10.8**	**9.8**	**7.8**	**6.0**	**11.1**	**8.7**	**7.3**
Angola	23.3	8.8	7.3	9.2	30.7	29.8	19.6	17.1	22.3	22.3	13.1	5.8	25.1	18.7	10.0
Benin	3.4	1.0	–1.1	0.2	–0.8	1.8	0.8	–0.9	3.0	2.0	2.0	2.0	3.0	2.0	2.0
Botswana	8.7	5.9	4.4	3.1	2.8	3.3	3.2	2.8	2.0	4.7	4.3	4.3	2.3	4.7	4.3
Burkina Faso	2.7	0.5	–0.3	1.7	0.4	1.5	2.0	–3.2	1.9	2.7	2.6	2.5	2.3	2.7	2.6
Burundi	11.1	7.9	4.4	5.6	5.5	1.6	–4.0	–0.7	7.3	4.1	2.0	2.1	7.5	1.9	2.1
Cabo Verde	2.6	1.5	–0.2	0.1	–1.4	0.8	1.3	1.1	0.6	1.2	1.4	1.7	–0.9	1.2	1.4
Cameroon	2.4	2.1	1.9	2.7	0.9	0.6	1.1	2.5	2.8	2.2	2.1	2.0	2.4	2.1	2.0
Central African Republic	3.3	7.0	14.9	1.4	4.9	4.2	1.6	2.7	2.3	3.3	2.5	2.5	4.8	2.5	2.5
Chad	2.4	0.2	1.7	4.8	–1.6	–0.9	4.0	–1.0	3.5	3.0	3.0	3.0	1.2	5.6	2.9
Comoros	4.1	0.4	0.0	0.9	0.8	0.1	1.7	3.7	1.1	0.3	1.2	2.0	–6.3	11.4	–0.1
Democratic Republic of the Congo	16.6	0.9	1.2	0.7	3.2	35.8	29.3	4.7	11.3	10.9	7.5	5.0	15.8	7.8	7.4
Republic of Congo	3.2	4.6	0.9	3.2	3.2	0.4	1.2	2.2	2.4	2.6	2.8	3.0	2.5	2.7	3.0
Côte d'Ivoire	2.8	2.6	0.4	1.2	0.7	0.7	0.4	0.8	2.5	2.0	1.6	2.0	2.0	1.6	1.4
Equatorial Guinea	4.8	3.2	4.3	1.7	1.4	0.7	1.3	1.2	4.8	1.5	3.1	3.0	–0.5	3.2	3.0
Eritrea	15.8	5.9	10.0	28.5	–5.6	–13.3	–14.4	–16.4	4.9	2.9	1.9	2.0	4.0	2.0	2.0
Eswatini	6.8	5.6	5.7	5.0	7.8	6.2	4.8	2.6	3.9	4.5	4.7	4.9	4.6	4.6	4.7
Ethiopia	17.6	8.1	7.4	9.6	6.6	10.7	13.8	15.8	20.4	13.1	8.0	8.0	18.2	8.4	8.0
Gabon	1.4	0.5	4.5	–0.1	2.1	2.7	4.8	2.0	1.3	2.0	2.0	2.0	1.6	2.0	2.0
The Gambia	6.6	5.2	6.3	6.8	7.2	8.0	6.5	7.1	5.9	6.0	5.5	5.0	5.7	5.8	5.2
Ghana	12.7	11.7	15.5	17.2	17.5	12.4	9.8	7.1	9.9	9.0	8.2	6.0	10.5	9.8	7.5
Guinea	19.0	11.9	9.7	8.2	8.2	8.9	9.8	9.5	10.6	8.0	7.9	7.8	10.6	8.0	7.9
Guinea-Bissau	2.4	0.8	–1.0	1.5	2.7	–0.2	0.4	0.3	1.5	2.0	2.0	2.0	1.5	2.0	2.0
Kenya	8.5	5.7	6.9	6.6	6.3	8.0	4.7	5.2	5.3	5.0	5.0	5.0	5.6	5.0	5.0
Lesotho	6.2	4.9	5.4	3.2	6.6	4.4	4.8	5.2	4.9	4.6	4.9	5.5	5.2	4.9	4.8
Liberia	8.9	7.6	9.9	7.7	8.8	12.4	23.5	27.0	17.0	10.9	15.2	4.0	13.1	16.0	9.7
Madagascar	9.3	5.8	6.1	7.4	6.1	8.6	8.6	5.6	4.2	5.4	5.7	5.4	4.6	5.4	6.0
Malawi	9.4	28.3	23.8	21.9	21.7	11.5	9.2	9.4	8.6	9.5	7.7	5.0	7.6	9.5	6.6
Mali	2.5	–2.4	2.7	1.4	–1.8	1.8	1.7	–2.9	0.6	1.7	2.0	2.0	0.7	1.7	2.0
Mauritius	5.5	3.5	3.2	1.3	1.0	3.7	3.2	0.5	2.5	2.6	3.9	3.2	2.7	4.0	3.8
Mozambique	9.8	4.3	2.6	3.6	19.9	15.1	3.9	2.8	3.1	5.3	5.5	5.5	3.5	5.5	5.5
Namibia	6.0	5.6	5.3	3.4	6.7	6.1	4.3	3.7	2.6	3.4	4.4	4.5	3.2	3.4	4.5
Niger	2.2	2.3	–0.9	1.0	0.2	0.2	2.8	–2.5	2.8	0.4	2.0	2.0	2.0	2.0	2.0
Nigeria	12.1	8.5	8.0	9.0	15.7	16.5	12.1	11.4	13.2	16.0	13.5	10.5	15.8	14.5	12.6
Rwanda	8.6	4.2	1.8	2.5	5.7	4.8	1.4	2.4	8.0	2.5	4.1	5.0	5.0	2.3	5.0
São Tomé and Príncipe	16.7	8.1	7.0	6.1	5.4	5.7	7.9	7.7	9.8	10.6	8.1	4.4	10.2	10.1	6.2
Senegal	2.0	0.7	–1.1	0.9	1.2	1.1	0.5	1.0	2.5	2.0	1.7	2.2	2.5	1.9	1.7
Seychelles	8.0	4.3	1.4	4.0	–1.0	2.9	3.7	1.8	1.2	3.7	2.5	3.0	3.8	1.5	3.0
Sierra Leone	9.4	5.5	4.6	6.7	10.9	18.2	16.0	14.8	15.7	15.5	12.3	7.0	10.4	13.3	12.1
South Africa	5.5	5.8	6.1	4.6	6.3	5.3	4.6	4.1	3.3	4.3	4.5	4.5	3.2	4.9	4.5
South Sudan	. . .	0.0	1.7	52.8	379.8	187.9	83.5	51.2	38.0	40.0	33.8	11.3	66.1	23.8	25.5
Tanzania	8.5	7.9	6.1	5.6	5.2	5.3	3.5	3.4	3.0	3.3	3.6	3.5	3.2	3.4	3.6
Togo	2.4	1.8	0.2	1.8	0.9	–0.2	0.9	0.7	1.8	2.0	2.0	2.0	3.5	1.7	2.3
Uganda	9.0	4.9	3.1	5.4	5.5	5.6	2.6	2.9	3.8	5.2	5.5	5.0	3.6	5.8	5.1
Zambia	12.6	7.0	7.8	10.1	17.9	6.6	7.0	9.8	16.3	17.8	14.8	7.2	19.2	16.3	13.2
Zimbabwe[4]	3.9	1.6	–0.2	–2.4	–1.6	0.9	10.6	255.3	557.2	99.3	24.7	3.3	348.6	49.4	22.0

[1]Movements in consumer prices are shown as annual averages.
[2]Monthly year-over-year changes and, for several countries, on a quarterly basis.
[3]Based on Eurostat's harmonized index of consumer prices.
[4]See country-specific notes for Argentina, Lebanon, Libya, Turkey, Ukraine, Venezuela, and Zimbabwe in the "Country Notes" section of the Statistical Appendix.
[5]Excludes Venezuela but includes Argentina from 2017 onward. See country-specific notes for Argentina and Venezuela in the "Country Notes" section of the Statistical Appendix.
[6]Data for 2011 exclude South Sudan after July 9. Data for 2012 and onward pertain to the current Sudan.
[7]Data for Syria are excluded for 2011 onward owing to the uncertain political situation.

Table A8. Major Advanced Economies: General Government Fiscal Balances and Debt[1]

(Percent of GDP, unless noted otherwise)

	Average									Projections		
	2003–12	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026
Major Advanced Economies												
Net Lending/Borrowing	–5.4	–4.3	–3.6	–3.0	–3.3	–3.3	–3.4	–3.7	–13.2	–11.9	–5.0	–3.3
Output Gap[2]	–2.0	–3.5	–2.8	–1.8	–1.5	–0.6	0.2	0.3	–3.4	–1.0	0.4	0.2
Structural Balance[2]	–4.4	–3.2	–2.6	–2.4	–2.9	–3.1	–3.4	–3.9	–8.9	–9.6	–5.1	–3.5
United States												
Net Lending/Borrowing[3]	–6.6	–4.6	–4.1	–3.5	–4.3	–4.6	–5.4	–5.7	–15.8	–15.0	–6.1	–4.7
Output Gap[2]	–3.5	–5.4	–4.1	–2.3	–1.9	–1.0	0.4	1.0	–3.1	0.6	1.4	0.5
Structural Balance[2]	–4.6	–3.0	–2.6	–2.6	–3.7	–4.3	–5.4	–6.1	–11.7	–12.9	–6.8	–5.1
Net Debt	56.7	80.7	81.2	80.7	81.7	81.4	81.7	83.0	103.2	109.0	109.5	115.3
Gross Debt	77.8	104.8	104.6	104.7	106.6	105.6	106.6	108.2	127.1	132.8	132.1	134.5
Euro Area												
Net Lending/Borrowing	–3.3	–3.0	–2.5	–2.0	–1.5	–0.9	–0.5	–0.6	–7.6	–6.7	–3.3	–1.6
Output Gap[2]	–0.2	–3.1	–2.8	–2.2	–1.5	–0.4	0.1	0.1	–4.3	–3.1	–1.0	0.0
Structural Balance[2]	–3.2	–1.1	–0.7	–0.6	–0.6	–0.5	–0.5	–0.5	–4.0	–4.6	–2.6	–1.5
Net Debt	60.6	75.6	75.8	74.7	74.2	72.1	70.4	69.2	80.8	82.8	81.8	78.6
Gross Debt	75.8	92.6	92.8	90.9	90.1	87.7	85.8	84.0	96.9	98.2	96.5	91.9
Germany												
Net Lending/Borrowing	–2.0	0.0	0.6	1.0	1.2	1.4	1.8	1.5	–4.2	–5.5	–0.4	0.6
Output Gap[2]	–0.2	–0.8	–0.3	–0.3	0.2	1.0	1.2	0.4	–3.0	–2.0	–0.3	0.0
Structural Balance[2]	–1.7	0.6	1.2	1.2	1.2	1.2	1.3	1.3	–2.6	–4.0	–0.3	0.6
Net Debt	56.8	58.7	55.1	52.5	49.6	45.8	43.0	41.4	50.0	52.5	50.4	42.2
Gross Debt	70.8	78.7	75.6	72.3	69.3	65.1	61.8	59.6	68.9	70.3	67.3	57.1
France												
Net Lending/Borrowing	–4.4	–4.1	–3.9	–3.6	–3.6	–2.9	–2.3	–3.0	–9.9	–7.2	–4.4	–3.5
Output Gap[2]	–0.3	–1.8	–2.0	–2.1	–2.2	–1.2	–0.4	0.0	–4.6	–2.9	–0.5	0.0
Structural Balance[2]	–4.2	–2.9	–2.7	–2.3	–2.1	–2.1	–1.8	–2.0	–3.6	–5.2	–4.0	–3.5
Net Debt	64.6	83.0	85.5	86.3	89.2	89.4	89.3	89.3	104.3	106.1	105.1	107.7
Gross Debt	74.2	93.4	94.9	95.6	98.0	98.3	98.0	98.1	113.5	115.2	114.3	116.9
Italy												
Net Lending/Borrowing	–3.4	–2.9	–3.0	–2.6	–2.4	–2.4	–2.2	–1.6	–9.5	–8.8	–5.5	–1.8
Output Gap[2]	–0.3	–4.1	–4.1	–3.4	–2.5	–1.3	–0.8	–0.9	–5.7	–5.8	–2.4	–0.5
Structural Balance[2]	–3.7	–0.5	–1.0	–0.6	–1.3	–1.7	–1.9	–1.1	–5.1	–5.2	–4.1	–1.5
Net Debt	102.1	119.2	121.4	122.2	121.6	121.3	121.8	122.1	142.0	144.2	143.1	139.7
Gross Debt	111.6	132.5	135.4	135.3	134.8	134.1	134.4	134.6	155.6	157.1	155.5	151.0
Japan												
Net Lending/Borrowing	–6.8	–7.9	–5.9	–3.9	–3.8	–3.3	–2.7	–3.1	–12.6	–9.4	–3.8	–2.4
Output Gap[2]	–1.4	–1.9	–2.3	–1.5	–1.5	–0.5	–0.9	–1.5	–2.7	–1.5	–0.2	0.0
Structural Balance[2]	–6.3	–7.4	–5.6	–4.4	–4.3	–3.5	–2.7	–2.6	–11.3	–8.5	–3.6	–2.4
Net Debt	110.4	142.9	145.1	144.6	149.6	148.1	151.2	150.4	169.2	172.3	171.0	172.6
Gross Debt[4]	188.1	229.6	233.5	228.4	232.5	231.4	232.5	234.9	256.2	256.5	253.6	254.7
United Kingdom												
Net Lending/Borrowing	–5.4	–5.5	–5.5	–4.5	–3.3	–2.4	–2.2	–2.3	–13.4	–11.8	–6.2	–3.3
Output Gap[2]	0.3	–1.6	–0.5	0.0	0.0	0.2	0.0	0.1	–4.4	–3.1	–1.5	0.0
Structural Balance[2]	–5.6	–4.2	–4.9	–4.4	–3.3	–2.5	–2.3	–2.3	0.5	–5.0	–4.8	–3.2
Net Debt	48.8	75.9	77.9	78.2	77.8	76.8	75.9	75.3	93.8	97.2	99.2	103.1
Gross Debt	54.5	84.2	86.1	86.7	86.8	86.3	85.8	85.2	103.7	107.1	109.1	113.0
Canada												
Net Lending/Borrowing	–0.8	–1.5	0.2	–0.1	–0.5	–0.1	0.3	0.5	–10.7	–7.8	–3.9	0.2
Output Gap[2]	–0.1	0.0	1.0	–0.1	–0.9	0.4	0.6	0.4	–3.4	–1.5	0.6	0.0
Structural Balance[2]	–0.8	–1.5	–0.6	0.0	0.1	–0.3	0.0	0.3	–7.8	–6.7	–4.2	0.2
Net Debt[5]	27.2	29.7	28.5	28.4	28.7	26.0	25.6	23.4	33.0	37.0	36.6	26.9
Gross Debt	75.1	86.1	85.6	91.2	91.7	88.8	88.8	86.8	117.8	116.3	112.8	98.1

Note: The methodology and specific assumptions for each country are discussed in Box A1. The country group composites for fiscal data are calculated as the sum of the US dollar values for the relevant individual countries.

[1]Debt data refer to the end of the year and are not always comparable across countries. Gross and net debt levels reported by national statistical agencies for countries that have adopted the System of National Accounts 2008 (Australia, Canada, Hong Kong SAR, United States) are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans. Fiscal data for the aggregated major advanced economies and the United States start in 2001, and the average for the aggregate and the United States is therefore for the period 2001–07.

[2]Percent of potential GDP.

[3]Figures reported by the national statistical agency are adjusted to exclude items related to the accrual-basis accounting of government employees' defined-benefit pension plans.

[4]Nonconsolidated basis.

[5]Includes equity shares.

Table A9. Summary of World Trade Volumes and Prices

(Annual percent change, unless noted otherwise)

	Averages										Projections	
	2003–12	2013–22	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Trade in Goods and Services												
World Trade[1]												
Volume	5.6	2.8	3.6	3.8	2.9	2.3	5.6	3.9	0.9	–8.5	8.4	6.5
Price Deflator												
In US Dollars	5.1	–0.8	–0.6	–1.8	–13.3	–4.1	4.3	5.5	–2.6	–2.2	7.6	0.4
In SDRs	3.3	–0.3	0.1	–1.7	–5.9	–3.4	4.6	3.3	–0.2	–2.9	3.6	–0.4
Volume of Trade												
Exports												
Advanced Economies	4.5	2.6	3.1	3.8	3.7	2.0	4.8	3.6	1.3	–9.5	7.9	6.4
Emerging Market and Developing Economies	8.3	3.1	4.6	3.3	1.9	2.8	6.5	3.9	0.5	–5.7	7.6	6.0
Imports												
Advanced Economies	3.9	2.9	2.5	3.9	4.7	2.6	4.8	3.7	1.7	–9.1	9.1	6.4
Emerging Market and Developing Economies	9.8	2.8	5.1	4.3	–0.7	1.7	7.4	4.7	–1.0	–8.6	9.0	7.4
Terms of Trade												
Advanced Economies	–0.4	0.5	1.0	0.3	1.8	1.1	–0.2	–0.4	0.2	0.7	0.3	0.6
Emerging Market and Developing Economies	1.6	–0.6	–0.4	–0.6	–4.3	–1.4	1.5	1.1	–1.2	–1.3	0.6	0.2
Trade in Goods												
World Trade[1]												
Volume	5.7	3.0	3.3	3.0	2.3	2.1	5.6	3.8	0.3	–5.1	9.5	5.6
Price Deflator												
In US Dollars	5.3	–1.2	–1.2	–2.4	–14.5	–4.8	4.9	5.8	–3.2	–2.6	7.7	0.0
In SDRs	3.5	–0.7	–0.4	–2.3	–7.2	–4.2	5.2	3.6	–0.8	–3.4	3.8	–0.8
World Trade Prices in US Dollars[2]												
Manufactures	3.1	–0.9	–2.8	–0.4	–2.9	–5.1	0.1	2.0	0.4	–3.1	2.0	0.7
Oil	15.5	–6.3	–0.9	–7.5	–47.2	–15.7	23.3	29.4	–10.2	–32.7	41.7	–6.3
Nonfuel Primary Commodities	10.3	–0.3	–5.8	–5.5	–17.1	–0.4	6.4	1.3	0.8	6.7	16.1	–1.9
Food	6.8	–0.7	–0.3	–1.6	–16.9	1.5	3.8	–1.2	–3.1	1.7	13.9	–2.0
Beverages	9.2	–1.3	–13.7	20.1	–7.2	–3.1	–4.7	–8.2	–3.8	3.3	4.4	4.0
Agricultural Raw Materials	6.5	–1.7	–4.4	–7.5	–11.5	0.0	5.2	2.0	–5.4	–3.4	12.9	–2.7
Metal	15.3	0.3	–3.9	–12.2	–27.3	–5.3	22.2	6.6	3.7	3.5	32.1	–4.5
World Trade Prices in SDRs[2]												
Manufactures	1.4	–0.4	–2.1	–0.3	5.4	–4.5	0.4	–0.1	2.9	–3.9	–1.7	–0.2
Oil	13.5	–5.8	–0.1	–7.5	–42.7	–15.1	23.6	26.7	–8.0	–33.3	36.6	–7.1
Nonfuel Primary Commodities	8.5	0.2	–5.1	–5.5	–10.0	0.3	6.6	–0.8	3.3	5.8	11.8	–2.8
Food	5.0	–0.2	0.5	–1.5	–9.8	2.2	4.1	–3.3	–0.7	0.9	9.8	–2.8
Beverages	7.4	–0.8	–13.0	20.1	0.7	–2.5	–4.5	–10.1	–1.4	2.5	0.6	3.1
Agricultural Raw Materials	4.8	–1.2	–3.7	–7.5	–4.0	0.6	5.5	–0.1	–3.1	–4.2	8.8	–3.5
Metal	13.4	0.7	–3.1	–12.1	–21.1	–4.7	22.5	4.4	6.2	2.7	27.3	–5.3
World Trade Prices in Euros[2]												
Manufactures	0.0	–0.5	–5.9	–0.4	16.2	–4.8	–1.9	–2.5	6.0	–5.0	–4.4	–0.6
Oil	12.0	–5.9	–4.1	–7.6	–36.8	–15.4	20.8	23.7	–5.2	–34.0	32.8	–7.5
Nonfuel Primary Commodities	7.0	0.1	–8.9	–5.6	–0.7	–0.1	4.2	–3.1	6.4	4.6	8.7	–3.2
Food	3.5	–0.3	–3.5	–1.6	–0.5	1.8	1.7	–5.6	2.3	–0.3	6.7	–3.3
Beverages	5.9	–0.9	–16.4	20.0	11.1	–2.8	–6.6	–12.2	1.5	1.3	–2.2	2.6
Agricultural Raw Materials	3.3	–1.3	–7.5	–7.6	5.9	0.3	3.1	–2.5	–0.2	–5.2	5.8	–4.0
Metal	11.8	0.7	–7.0	–12.2	–12.9	–5.0	19.7	1.9	9.4	1.5	23.7	–5.7

Table A9. Summary of World Trade Volumes and Prices *(continued)*

(Annual percent change, unless noted otherwise)

	Averages										Projections	
	2003–12	2013–22	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Trade in Goods												
Volume of Trade												
Exports												
Advanced Economies	4.5	2.7	2.6	3.1	3.1	1.6	4.8	3.1	0.8	–6.3	9.4	5.6
Emerging Market and Developing Economies	8.1	3.1	4.5	2.7	1.4	2.7	6.5	3.9	–0.3	–2.6	7.6	5.1
Fuel Exporters	6.1	0.2	1.1	–0.8	2.5	0.9	0.6	–0.5	–3.8	–5.3	3.1	4.9
Nonfuel Exporters	8.7	3.7	5.6	3.7	1.1	3.1	7.6	4.7	0.4	–2.1	8.2	5.1
Imports												
Advanced Economies	4.0	3.0	2.3	3.3	3.7	2.3	4.8	3.7	0.6	–5.9	10.9	5.5
Emerging Market and Developing Economies	9.9	3.1	4.7	2.7	–0.4	2.1	7.2	4.9	–0.2	–4.7	9.3	6.5
Fuel Exporters	10.5	–0.2	5.8	4.2	0.1	–6.8	–1.0	–3.4	1.9	–10.7	5.2	4.2
Nonfuel Exporters	9.8	3.6	4.6	2.5	–0.5	3.6	8.5	6.0	–0.4	–4.0	9.8	6.8
Price Deflators in SDRs												
Exports												
Advanced Economies	2.4	–0.4	0.4	–1.9	–6.4	–2.2	4.3	2.8	–1.5	–2.2	3.6	0.0
Emerging Market and Developing Economies	6.2	–1.1	–1.1	–3.1	–9.0	–7.1	7.0	5.0	0.2	–4.8	5.0	–1.5
Fuel Exporters	10.7	–4.3	–1.7	–7.4	–30.2	–10.8	15.9	15.0	–4.0	–22.1	18.6	–4.1
Nonfuel Exporters	5.0	–0.3	–0.9	–1.9	–3.4	–6.3	5.4	3.1	1.0	–1.6	3.2	–1.1
Imports												
Advanced Economies	2.9	–0.9	–0.6	–2.0	–8.1	–3.5	4.5	3.5	–1.5	–3.2	3.2	–0.7
Emerging Market and Developing Economies	4.3	–0.7	–0.6	–2.7	–5.0	–5.5	5.8	3.7	0.5	–4.2	3.8	–1.7
Fuel Exporters	4.2	–0.4	–1.5	–2.8	–2.4	–3.8	3.5	1.5	2.7	–2.2	2.5	–1.4
Nonfuel Exporters	4.3	–0.7	–0.5	–2.7	–5.4	–5.8	6.2	4.0	0.2	–4.5	4.0	–1.7
Terms of Trade												
Advanced Economies	–0.5	0.5	1.0	0.2	1.8	1.4	–0.2	–0.7	0.0	1.0	0.4	0.6
Emerging Market and Developing Economies	1.8	–0.4	–0.5	–0.4	–4.3	–1.6	1.1	1.2	–0.3	–0.5	1.2	0.2
Regional Groups												
Emerging and Developing Asia	–1.2	0.9	1.1	2.5	8.5	0.2	–3.4	–2.4	1.1	4.8	–4.4	1.6
Emerging and Developing Europe	3.3	–1.1	–3.2	–0.7	–10.7	–5.8	2.8	4.4	0.3	–2.6	6.4	–0.8
Middle East and Central Asia	2.8	–0.3	–1.1	–2.5	–8.7	1.1	4.2	–0.1	0.0	0.0	5.1	–0.6
Latin America and the Caribbean	4.6	–3.1	–0.5	–4.0	–24.4	–5.8	10.0	11.1	–5.1	–16.5	13.6	–2.7
Sub-Saharan Africa	4.6	–1.1	–1.0	–3.1	–14.1	–1.8	8.4	3.8	–2.5	–2.6	5.4	–1.4
Analytical Groups												
By Source of Export Earnings												
Fuel	6.2	–3.9	–0.2	–4.7	–28.4	–7.4	12.0	13.3	–6.6	–20.3	15.7	–2.8
Nonfuel	0.6	0.4	–0.4	0.9	2.1	–0.6	–0.7	–0.8	0.8	3.0	–0.8	0.7
Memorandum												
World Exports in Billions of US Dollars												
Goods and Services	16,452	23,669	23,373	23,798	21,130	20,747	22,864	25,048	24,612	22,062	25,636	27,421
Goods	13,055	18,292	18,556	18,637	16,199	15,739	17,442	19,105	18,562	17,191	20,175	21,309
Average Oil Price[3]	15.5	–6.3	–0.9	–7.5	–47.2	–15.7	23.3	29.4	–10.2	–32.7	41.7	–6.3
In US Dollars a Barrel	70.22	63.11	104.07	96.25	50.79	42.84	52.81	68.33	61.39	41.29	58.52	54.83
Export Unit Value of Manufactures[4]	3.1	–0.9	–2.8	–0.4	–2.9	–5.1	0.1	2.0	0.4	–3.1	2.0	0.7

[1]Average of annual percent change for world exports and imports.
[2]As represented, respectively, by the export unit value index for manufactures of the advanced economies and accounting for 83 percent of the advanced economies' trade (export of goods) weights; the average of UK Brent, Dubai Fateh, and West Texas Intermediate crude oil prices; and the average of world market prices for nonfuel primary commodities weighted by their 2014–16 shares in world commodity imports.
[3]Percent change of average of UK Brent, Dubai Fateh, and West Texas Intermediate crude oil prices.
[4]Percent change for manufactures exported by the advanced economies.

Table A10. Summary of Current Account Balances

(Billions of US dollars)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022	2026
Advanced Economies	**241.9**	**240.2**	**285.7**	**375.3**	**480.2**	**389.5**	**342.1**	**175.8**	**124.3**	**262.6**	**521.1**
United States	–336.9	–367.8	–407.4	–394.9	–365.3	–449.7	–480.2	–646.4	–876.4	–733.8	–550.9
Euro Area	278.8	316.5	315.1	364.8	393.7	393.5	306.7	293.3	401.3	424.6	486.5
Germany	244.8	280.3	288.8	295.1	286.7	292.4	274.1	269.6	327.0	321.0	356.4
France	–14.3	–27.3	–9.0	–12.0	–19.9	–15.6	–18.1	–60.7	–61.7	–55.2	–30.0
Italy	23.7	41.1	26.1	48.7	50.5	52.2	59.8	68.3	73.6	74.8	80.6
Spain	27.6	23.3	24.2	39.1	36.4	27.4	29.8	8.6	14.1	30.4	28.7
Japan	45.9	36.8	136.4	197.9	203.5	176.9	188.1	165.8	195.0	181.0	212.0
United Kingdom	–136.2	–149.6	–147.4	–146.9	–100.4	–105.3	–87.6	–106.5	–121.5	–133.5	–142.3
Canada	–58.0	–41.9	–54.4	–47.2	–46.2	–40.3	–35.7	–31.8	–14.7	–26.0	–47.7
Other Advanced Economies[1]	343.6	355.1	356.8	336.3	333.1	334.9	351.9	397.9	460.2	464.8	465.9
Emerging Market and Developing Economies	**161.2**	**168.7**	**–58.8**	**–85.3**	**–10.2**	**–55.0**	**52.2**	**196.2**	**206.4**	**101.3**	**–217.2**
Regional Groups											
Emerging and Developing Asia	97.2	227.5	307.9	223.1	172.8	–49.9	130.5	359.0	236.0	178.0	–0.5
Emerging and Developing Europe	–59.0	–10.8	34.6	–8.0	–19.1	66.9	52.5	1.0	24.2	15.7	–14.3
Latin America and the Caribbean	–172.6	–186.1	–171.9	–100.9	–87.8	–131.3	–88.8	8.0	–0.5	–22.0	–87.3
Middle East and Central Asia	333.7	200.5	–138.5	–143.4	–39.4	103.7	21.0	–111.1	12.9	2.2	–37.3
Sub-Saharan Africa	–38.0	–62.3	–90.8	–56.0	–36.8	–44.4	–63.0	–60.7	–66.2	–72.6	–77.8
Analytical Groups											
By Source of Export Earnings											
Fuel	427.5	253.4	–141.5	–99.1	38.8	190.3	73.7	–93.2	51.4	42.5	7.3
Nonfuel	–266.3	–84.7	82.7	13.9	–49.1	–245.3	–21.6	289.4	155.0	58.8	–224.6
Of Which, Primary Products	–84.7	–51.2	–61.3	–42.2	–55.8	–74.6	–44.2	–2.4	–7.8	–21.6	–41.1
By External Financing Source											
Net Debtor Economies	–384.1	–353.5	–315.2	–222.4	–247.9	–337.4	–232.3	–77.9	–206.4	–249.8	–399.3
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2015–19	–61.9	–43.4	–51.4	–55.8	–47.0	–47.2	–46.9	–31.1	–48.1	–53.6	–46.4
Memorandum											
World	**403.1**	**408.9**	**226.9**	**290.1**	**469.9**	**334.5**	**394.2**	**371.9**	**330.7**	**363.9**	**303.9**
European Union	433.6	452.1	443.3	472.5	500.4	497.9	457.7	467.1	544.0	566.9	636.3
Middle East and North Africa	326.5	190.2	–122.2	–120.5	–20.9	119.5	40.8	–97.3	23.4	15.6	–9.7
Emerging Market and Middle-Income Economies	200.4	209.5	14.3	–43.6	25.8	2.8	114.4	269.0	276.6	183.6	–124.8
Low-Income Developing Countries	–39.2	–40.8	–73.1	–41.6	–36.1	–57.8	–62.2	–72.9	–70.2	–82.3	–92.4

Table A10. Summary of Current Account Balances *(continued)*

(Percent of GDP)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022	2026
Advanced Economies	**0.5**	**0.5**	**0.6**	**0.8**	**1.0**	**0.8**	**0.7**	**0.3**	**0.2**	**0.4**	**0.8**
United States	–2.0	–2.1	–2.2	–2.1	–1.9	–2.2	–2.2	–3.1	–3.9	–3.1	–2.0
Euro Area	2.1	2.3	2.7	3.0	3.1	2.9	2.3	2.3	2.8	2.7	2.7
Germany	6.6	7.2	8.6	8.5	7.8	7.4	7.1	7.1	7.6	7.0	6.8
France	–0.5	–1.0	–0.4	–0.5	–0.8	–0.6	–0.7	–2.3	–2.1	–1.8	–0.8
Italy	1.1	1.9	1.4	2.6	2.6	2.5	3.0	3.6	3.5	3.4	3.3
Spain	2.0	1.7	2.0	3.2	2.8	1.9	2.1	0.7	1.0	1.9	1.6
Japan	0.9	0.8	3.1	4.0	4.1	3.5	3.7	3.3	3.6	3.2	3.2
United Kingdom	–4.9	–4.9	–5.0	–5.4	–3.8	–3.7	–3.1	–3.9	–3.9	–4.0	–3.5
Canada	–3.1	–2.3	–3.5	–3.1	–2.8	–2.3	–2.1	–1.9	–0.8	–1.3	–1.9
Other Advanced Economies[1]	5.0	5.0	5.5	5.1	4.7	4.5	4.8	5.5	5.6	5.4	4.5
Emerging Market and Developing Economies	**0.5**	**0.5**	**–0.2**	**–0.3**	**0.0**	**–0.2**	**0.1**	**0.6**	**0.5**	**0.2**	**–0.4**
Regional Groups											
Emerging and Developing Asia	0.7	1.5	2.0	1.4	1.0	–0.3	0.6	1.7	1.0	0.7	0.0
Emerging and Developing Europe	–1.3	–0.3	1.0	–0.2	–0.5	1.7	1.3	0.0	0.6	0.4	–0.3
Latin America and the Caribbean	–2.9	–3.1	–3.3	–2.0	–1.6	–2.5	–1.7	0.2	0.0	–0.4	–1.4
Middle East and Central Asia	8.6	5.1	–3.9	–4.2	–1.1	2.7	0.5	–3.0	0.3	0.1	–0.7
Sub-Saharan Africa	–2.2	–3.5	–5.7	–3.8	–2.3	–2.6	–3.7	–3.7	–3.7	–3.7	–2.8
Analytical Groups											
By Source of Export Earnings											
Fuel	10.6	6.2	–3.9	–3.0	1.1	5.2	2.0	–2.8	1.4	1.1	0.1
Nonfuel	–1.0	–0.3	0.3	0.1	–0.2	–0.8	–0.1	0.9	0.5	0.2	–0.5
Of Which, Primary Products	–4.3	–2.7	–3.2	–2.3	–2.8	–3.8	–2.4	–0.1	–0.4	–1.1	–1.7
By External Financing Source											
Net Debtor Economies	–2.7	–2.4	–2.4	–1.6	–1.7	–2.2	–1.5	–0.5	–1.3	–1.5	–1.7
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2015–19	–6.9	–4.8	–5.9	–6.5	–6.0	–5.7	–5.2	–3.5	–4.9	–5.0	–3.3
Memorandum											
World	**0.5**	**0.5**	**0.3**	**0.4**	**0.6**	**0.4**	**0.5**	**0.4**	**0.4**	**0.4**	**0.2**
European Union	2.8	2.9	3.3	3.4	3.4	3.1	2.9	3.1	3.2	3.1	3.0
Middle East and North Africa	10.3	5.9	–4.3	–4.3	–0.7	3.8	1.2	–3.2	0.7	0.4	–0.2
Emerging Market and Middle-Income Economies	0.7	0.7	0.1	–0.2	0.1	0.0	0.3	0.8	0.8	0.5	–0.3
Low-Income Developing Countries	–2.1	–2.0	–3.8	–2.2	–1.8	–2.7	–2.8	–3.2	–2.8	–3.0	–2.4

Table A10. Summary of Current Account Balances *(continued)*

(Percent of exports of goods and services)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022	2026
Advanced Economies	**1.7**	**1.6**	**2.1**	**2.8**	**3.3**	**2.5**	**2.2**	**1.3**	**0.8**	**1.5**	**2.5**
United States	–14.6	–15.4	–17.9	–17.6	–15.3	–17.7	–19.0	–30.3	–35.8	–27.0	–16.3
Euro Area	8.2	8.9	9.7	11.2	11.1	10.2	8.0	8.5	. . .	. . .	. . .
Germany	14.4	15.8	18.3	18.5	16.5	15.6	15.1	16.2	16.8	15.4	14.6
France	–1.7	–3.1	–1.2	–1.5	–2.4	–1.7	–2.0	–8.1	–7.2	–6.1	–2.7
Italy	3.9	6.5	4.8	8.8	8.4	8.0	9.5	12.3	11.2	10.2	9.2
Spain	6.2	5.1	6.0	9.4	7.9	5.5	6.1	2.2	3.0	5.7	4.4
Japan	5.5	4.3	17.4	24.4	23.2	19.0	20.8	21.0	20.4	17.8	18.0
United Kingdom	–16.4	–17.3	–18.4	–19.2	–12.5	–11.9	–10.0	–14.5	–15.3	–15.0	–13.2
Canada	–10.4	–7.3	–11.0	–9.8	–8.9	–7.2	–6.4	–6.7	–2.4	–3.9	–6.2
Other Advanced Economies[1]	8.2	8.5	9.6	9.2	8.4	7.7	8.4	10.2	10.4	10.0	8.5
Emerging Market and Developing Economies	**1.8**	**2.1**	**–0.6**	**–1.1**	**–0.2**	**–0.6**	**0.6**	**2.4**	**2.1**	**1.0**	**–1.7**
Regional Groups											
Emerging and Developing Asia	2.5	5.7	8.1	6.1	4.2	–1.1	2.9	8.2	4.8	3.4	0.0
Emerging and Developing Europe	–4.0	–0.7	2.9	–0.7	–1.4	4.4	3.4	0.1	1.5	0.9	–0.7
Latin America and the Caribbean	–13.6	–14.9	–15.9	–9.6	–7.5	–10.3	–7.1	0.7	0.0	–1.6	–5.5
Middle East and Central Asia	18.8	12.8	–10.3	–11.8	–3.1	6.7	1.4	–10.0	0.9	0.2	–2.3
Sub-Saharan Africa	–7.9	–13.6	–26.3	–17.6	–10.0	–10.6	–15.4	–18.6	–16.7	–17.3	–14.8
Analytical Groups											
By Source of Export Earnings											
Fuel	22.3	14.9	–10.6	–8.3	2.8	12.4	5.1	–8.9	3.9	3.2	0.4
Nonfuel	–3.8	–1.2	1.3	0.2	–0.7	–3.2	–0.3	4.0	1.9	0.7	–2.0
Of Which, Primary Products	–17.6	–11.0	–15.3	–10.7	–12.5	–15.7	–9.5	–0.6	–1.5	–4.0	–6.2
By External Financing Source											
Net Debtor Economies	–9.3	–8.5	–8.6	–6.1	–6.0	–7.4	–5.0	–1.9	–4.4	–4.9	–6.1
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2015–19	–22.9	–17.3	–24.6	–29.0	–21.7	–18.8	–18.1	–13.9	–19.9	–20.0	–12.3
Memorandum											
World	**1.7**	**1.8**	**1.1**	**1.4**	**2.0**	**1.3**	**1.6**	**1.7**	**1.3**	**1.3**	**0.9**
European Union	6.2	6.3	6.9	7.2	7.0	6.3	5.9	6.6	6.6	6.4	5.9
Middle East and North Africa	20.9	13.8	–10.1	–11.0	–1.9	8.6	3.1	–9.9	1.9	1.2	–0.7
Emerging Market and Middle-Income Economies	2.4	2.7	0.3	–0.6	0.3	0.0	1.3	3.6	3.1	2.0	–1.1
Low-Income Developing Countries	–7.6	–7.7	–15.2	–8.6	–6.4	–9.1	–9.1	–11.7	–9.8	–10.6	–8.8

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

Table A11. Advanced Economies: Current Account Balance

(Percent of GDP)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022	2026
Advanced Economies	**0.5**	**0.5**	**0.6**	**0.8**	**1.0**	**0.8**	**0.7**	**0.3**	**0.2**	**0.4**	**0.8**
United States	–2.0	–2.1	–2.2	–2.1	–1.9	–2.2	–2.2	–3.1	–3.9	–3.1	–2.0
Euro Area[1]	2.1	2.3	2.7	3.0	3.1	2.9	2.3	2.3	2.8	2.7	2.7
Germany	6.6	7.2	8.6	8.5	7.8	7.4	7.1	7.1	7.6	7.0	6.8
France	–0.5	–1.0	–0.4	–0.5	–0.8	–0.6	–0.7	–2.3	–2.1	–1.8	–0.8
Italy	1.1	1.9	1.4	2.6	2.6	2.5	3.0	3.6	3.5	3.4	3.3
Spain	2.0	1.7	2.0	3.2	2.8	1.9	2.1	0.7	1.0	1.9	1.6
The Netherlands	9.8	8.2	6.3	8.1	10.8	10.8	9.9	10.0	9.0	8.9	8.3
Belgium	1.0	0.8	1.4	0.6	0.7	–0.8	0.3	–0.7	–0.9	–1.5	–0.4
Austria	1.9	2.5	1.7	2.7	1.4	1.3	2.8	2.3	2.4	2.5	2.2
Ireland	1.6	1.1	4.4	–4.2	0.5	6.0	–11.4	4.6	7.0	6.9	6.0
Portugal	1.6	0.2	0.2	1.2	1.3	0.6	0.4	–1.2	–0.6	0.3	0.3
Greece	–2.6	–2.4	–1.5	–2.4	–2.6	–3.6	–2.2	–7.4	–6.6	–3.5	–3.5
Finland	–1.8	–1.3	–0.9	–2.0	–0.8	–1.9	–0.2	0.8	1.5	1.4	0.7
Slovak Republic	1.9	1.1	–2.1	–2.7	–1.9	–2.2	–2.7	–0.4	–1.2	–2.0	–1.6
Lithuania	0.8	3.2	–2.8	–0.8	0.6	0.3	3.3	7.9	6.2	4.8	–0.6
Slovenia	3.3	5.1	3.8	4.8	6.2	5.8	5.6	7.3	6.9	6.6	4.9
Luxembourg	5.4	5.2	5.1	4.9	4.9	4.8	4.6	4.4	4.9	4.9	4.6
Latvia	–2.8	–1.6	–0.6	1.6	1.3	–0.3	–0.6	3.0	0.5	0.2	–1.7
Estonia	0.3	0.7	1.8	1.2	2.3	0.9	2.0	–1.0	0.4	–0.5	–0.3
Cyprus	–1.5	–4.1	–0.4	–4.2	–5.3	–3.9	–6.3	–10.3	–8.5	–6.1	–3.7
Malta	2.6	8.5	2.7	–0.6	4.8	5.6	4.6	–0.6	0.2	1.2	3.5
Japan	0.9	0.8	3.1	4.0	4.1	3.5	3.7	3.3	3.6	3.2	3.2
United Kingdom	–4.9	–4.9	–5.0	–5.4	–3.8	–3.7	–3.1	–3.9	–3.9	–4.0	–3.5
Korea	5.6	5.6	7.2	6.5	4.6	4.5	3.6	4.6	4.2	4.0	4.3
Canada	–3.1	–2.3	–3.5	–3.1	–2.8	–2.3	–2.1	–1.9	–0.8	–1.3	–1.9
Australia	–3.4	–3.1	–4.6	–3.3	–2.6	–2.1	0.7	2.5	2.4	1.0	–1.2
Taiwan Province of China	9.7	11.3	13.6	13.1	14.1	11.6	10.6	14.1	14.5	14.4	12.7
Switzerland	11.4	8.1	10.3	9.0	7.2	6.7	6.7	3.8	6.7	7.5	7.5
Singapore	15.7	18.0	18.7	17.6	17.3	15.4	14.3	17.6	14.6	14.4	13.5
Sweden	5.2	4.2	3.3	2.4	3.0	2.6	5.1	5.2	5.0	4.7	3.5
Hong Kong SAR	1.5	1.4	3.3	4.0	4.6	3.7	6.0	6.5	5.5	5.0	4.0
Czech Republic	–0.5	0.2	0.4	1.8	1.5	0.4	–0.3	3.5	0.9	0.1	0.3
Israel	2.9	4.2	5.4	3.5	2.9	2.7	3.1	4.9	4.1	3.8	2.9
Norway	10.3	10.8	8.0	4.5	4.6	8.0	2.5	2.5	5.4	4.8	3.0
Denmark	7.8	8.9	8.2	7.8	8.0	7.0	8.9	7.9	8.0	7.8	7.6
New Zealand	–3.2	–3.1	–2.9	–2.2	–3.0	–4.2	–3.3	–0.8	–2.1	–2.1	–2.8
Puerto Rico	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Macao SAR	39.3	32.7	23.3	26.5	30.8	33.1	33.6	–34.2	7.3	29.5	29.7
Iceland	6.3	4.4	5.6	8.1	4.2	3.8	6.4	1.0	1.0	1.7	2.0
San Marino	. . .	. . .	. . .	. . .	–0.1	–1.9	6.3	1.9	1.1	1.1	0.3
Memorandum											
Major Advanced Economies	–0.7	–0.6	–0.5	–0.2	0.0	–0.2	–0.3	–0.9	–1.1	–0.8	–0.2
Euro Area[2]	2.9	3.0	3.4	3.6	3.6	3.5	3.0	3.1	3.3	3.3	3.3

[1]Data corrected for reporting discrepancies in intra-area transactions.
[2]Data calculated as the sum of the balances of individual euro area countries.

Table A12. Emerging Market and Developing Economies: Current Account Balance

(Percent of GDP)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022	2026
Emerging and Developing Asia	**0.7**	**1.5**	**2.0**	**1.4**	**1.0**	**–0.3**	**0.6**	**1.7**	**1.0**	**0.7**	**0.0**
Bangladesh	1.6	0.8	1.8	1.9	–0.5	–3.5	–1.7	–1.5	0.4	–1.7	–1.9
Bhutan	–25.6	–27.1	–27.9	–30.3	–24.0	–19.1	–21.1	–12.2	–8.8	–11.9	2.3
Brunei Darussalam	20.9	31.9	16.7	12.9	16.4	6.9	6.6	1.0	0.6	3.1	7.9
Cambodia	–8.5	–8.6	–8.7	–8.5	–7.9	–12.2	–15.8	–12.5	–18.0	–14.6	–6.3
China	1.5	2.2	2.7	1.8	1.6	0.2	1.0	2.0	1.6	1.3	0.5
Fiji	–8.9	–5.8	–3.5	–3.6	–6.7	–8.4	–12.7	–16.8	–11.7	–7.4	–4.9
India	–1.7	–1.3	–1.0	–0.6	–1.8	–2.1	–0.9	1.0	–1.2	–1.6	–2.5
Indonesia	–3.2	–3.1	–2.0	–1.8	–1.6	–2.9	–2.7	–0.4	–1.3	–1.4	–1.6
Kiribati	–5.5	31.1	32.8	10.8	37.6	38.1	43.9	6.8	10.7	11.2	12.1
Lao P.D.R.	–26.5	–23.3	–22.4	–11.0	–10.6	–12.0	–6.5	–5.7	–7.5	–7.2	–6.6
Malaysia	3.4	4.3	3.0	2.4	2.8	2.2	3.4	4.4	3.8	3.7	3.4
Maldives	–4.3	–3.7	–7.5	–23.6	–21.6	–28.4	–26.9	–24.4	–19.3	–20.0	–4.8
Marshall Islands	–6.7	2.0	15.6	13.5	5.2	4.0	–25.4	2.2	2.6	0.4	–2.7
Micronesia	–9.9	6.1	4.5	7.2	10.3	21.0	15.2	2.9	3.0	5.9	–2.6
Mongolia	–37.6	–15.8	–8.1	–6.3	–10.1	–16.8	–15.4	–4.4	–11.8	–13.8	–7.4
Myanmar	–1.2	–4.5	–3.5	–4.2	–6.8	–4.7	–2.8	–3.5	–2.6	–2.2	–2.4
Nauru	49.5	25.2	–21.3	2.0	12.7	–4.6	10.6	4.2	10.5	2.1	0.6
Nepal	2.9	4.0	4.4	5.5	–0.3	–7.1	–6.9	–0.9	–6.2	–4.2	–2.9
Palau	–14.1	–17.8	–8.5	–13.4	–18.7	–15.2	–26.6	–32.6	–37.0	–33.7	–27.9
Papua New Guinea	–31.7	13.7	24.5	28.4	28.4	24.4	20.1	13.9	21.7	21.8	17.8
Philippines	4.0	3.6	2.4	–0.4	–0.7	–2.6	–0.9	3.2	–0.4	–2.2	–2.2
Samoa	–1.5	–9.1	–2.8	–4.5	–1.9	0.9	3.0	1.2	–6.5	–10.9	–2.0
Solomon Islands	–3.0	–3.7	–2.7	–3.5	–4.3	–3.1	–9.8	–1.7	–10.0	–15.1	–10.4
Sri Lanka	–3.4	–2.5	–2.3	–2.1	–2.6	–3.2	–2.2	–1.4	–2.3	–2.2	–1.6
Thailand	–2.1	2.9	6.9	10.5	9.6	5.6	7.0	3.3	0.5	2.6	3.2
Timor-Leste	171.4	75.6	12.8	–33.0	–17.7	–12.3	6.6	–15.3	–30.8	–47.6	–41.0
Tonga	–9.6	–6.3	–10.1	–6.5	–6.4	–6.3	–0.9	–3.8	–18.6	–16.5	–14.9
Tuvalu	–14.5	–6.0	–33.3	21.8	–29.2	38.1	–43.6	22.8	–9.0	–22.7	–8.4
Vanuatu	–3.5	6.5	–1.6	0.8	–6.4	9.4	13.1	–0.4	–6.1	–4.9	–4.9
Vietnam	3.6	3.7	–0.9	0.2	–0.6	1.9	3.8	2.2	2.4	1.9	0.0
Emerging and Developing Europe	**–1.3**	**–0.3**	**1.0**	**–0.2**	**–0.5**	**1.7**	**1.3**	**0.0**	**0.6**	**0.4**	**–0.3**
Albania	–9.3	–10.8	–8.6	–7.6	–7.5	–6.8	–8.0	–9.6	–8.7	–8.3	–7.4
Belarus	–10.0	–6.6	–3.3	–3.4	–1.7	0.0	–2.0	0.1	–0.3	–1.7	–1.8
Bosnia and Herzegovina	–5.3	–7.4	–5.1	–4.8	–4.8	–3.4	–3.1	–3.5	–4.9	–4.3	–3.5
Bulgaria	1.3	1.2	0.1	3.2	3.5	1.0	3.0	0.1	1.4	1.2	0.8
Croatia	–1.1	0.3	3.3	2.1	3.4	1.8	2.8	–3.5	–2.3	–1.6	0.7
Hungary	3.5	1.2	2.3	4.5	2.0	0.3	–0.2	–0.2	–0.4	–0.3	–0.2
Kosovo	–3.4	–6.9	–8.6	–7.9	–5.4	–7.6	–5.5	–7.5	–6.4	–6.1	–5.0
Moldova	–5.2	–6.0	–6.0	–3.5	–5.7	–10.5	–9.4	–6.5	–7.0	–8.1	–7.1
Montenegro	–11.4	–12.4	–11.0	–16.2	–16.1	–17.0	–15.0	–25.9	–18.7	–12.0	–9.2
North Macedonia	–1.6	–0.5	–2.0	–2.9	–1.0	–0.1	–3.3	–3.5	–3.2	–2.8	–1.9
Poland	–1.8	–2.6	–0.9	–0.8	–0.4	–1.3	0.5	3.5	2.0	1.3	0.1
Romania	–0.8	–0.2	–0.6	–1.4	–2.8	–4.4	–4.7	–5.1	–5.0	–4.7	–4.0
Russia	1.5	2.8	5.0	1.9	2.0	7.0	3.8	2.2	3.9	3.3	2.1
Serbia	–5.7	–5.6	–3.5	–2.9	–5.2	–4.8	–6.9	–4.3	–5.7	–5.5	–5.0
Turkey[1]	–5.8	–4.1	–3.2	–3.1	–4.8	–2.8	0.9	–5.1	–3.4	–2.2	–1.7
Ukraine[1]	–9.2	–3.9	1.7	–1.5	–2.2	–3.3	–2.7	4.3	–2.5	–3.6	–3.8
Latin America and the Caribbean	**–2.9**	**–3.1**	**–3.3**	**–2.0**	**–1.6**	**–2.5**	**–1.7**	**0.2**	**0.0**	**–0.4**	**–1.4**
Antigua and Barbuda	. . .	0.3	2.2	–2.4	–7.8	–14.5	–6.8	–12.7	–25.0	–15.1	–6.5
Argentina	–2.1	–1.6	–2.7	–2.7	–4.8	–5.2	–0.9	1.0	2.3	1.3	0.4
Aruba	–12.0	–4.8	3.9	4.6	1.0	–0.5	2.5	–16.3	–13.7	–3.8	1.3
The Bahamas	–14.3	–19.7	–13.8	–8.9	–12.6	–8.6	3.9	–17.6	–22.5	–16.8	–7.1
Barbados	–8.4	–9.2	–6.1	–4.3	–3.8	–4.0	–3.1	–7.4	–11.7	–8.4	–3.2
Belize	–4.6	–8.2	–10.1	–9.2	–8.6	–8.0	–9.2	–8.0	–7.7	–7.4	–7.2
Bolivia	3.4	1.7	–5.8	–5.6	–5.0	–4.5	–3.3	–2.5	–3.7	–4.2	–4.7
Brazil	–3.2	–4.1	–3.0	–1.3	–0.7	–2.2	–2.7	–0.9	–0.6	–0.8	–1.7
Chile	–4.8	–2.0	–2.4	–2.0	–2.3	–3.9	–3.7	1.4	0.3	–0.6	–0.9
Colombia	–3.3	–5.3	–6.6	–4.5	–3.4	–4.1	–4.4	–3.3	–3.8	–3.9	–3.9

Table A12. Emerging Market and Developing Economies: Current Account Balance *(continued)*

(Percent of GDP)

									Projections		
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2026
Latin America and the Caribbean (continued)	**–2.9**	**–3.1**	**–3.3**	**–2.0**	**–1.6**	**–2.5**	**–1.7**	**0.2**	**0.0**	**–0.4**	**–1.4**
Costa Rica	–4.8	–4.7	–3.4	–2.1	–3.6	–3.2	–2.3	–2.6	–3.2	–3.0	–2.7
Dominica	. . .	–5.4	–4.7	–7.7	–8.9	–44.9	–26.7	–18.8	–28.0	–18.5	–9.7
Dominican Republic	–4.1	–3.2	–1.8	–1.1	–0.2	–1.4	–1.4	–1.9	–2.1	–2.2	–2.7
Ecuador	–1.0	–0.7	–2.2	1.1	–0.1	–1.2	0.0	0.5	1.9	2.0	1.4
El Salvador	–6.9	–5.4	–3.2	–2.3	–1.9	–4.7	–2.1	–1.5	–4.1	–3.4	–4.8
Grenada	. . .	–11.6	–12.5	–11.0	–14.4	–15.9	–15.9	–17.2	–23.4	–15.8	–11.9
Guatemala	–4.2	–3.3	–1.2	1.0	1.1	0.8	2.4	5.0	2.3	1.7	–0.6
Guyana	–9.9	–6.7	–3.4	1.5	–4.9	–29.2	–34.2	–13.5	–11.2	–3.7	11.2
Haiti	–3.9	–5.1	–1.8	–3.2	–4.2	–4.4	–1.7	5.5	–0.9	0.0	–0.4
Honduras	–9.5	–6.9	–4.7	–3.1	–1.2	–5.8	–1.4	2.8	–2.2	–2.4	–3.6
Jamaica	–9.5	–8.0	–3.0	–0.3	–2.7	–1.6	–2.0	–0.8	–4.1	–3.5	–2.7
Mexico	–2.5	–1.9	–2.7	–2.3	–1.8	–2.1	–0.3	2.5	1.8	1.0	–0.9
Nicaragua	–12.6	–8.0	–9.9	–8.5	–7.2	–1.9	6.0	3.3	0.9	–0.6	–4.2
Panama	–9.0	–13.4	–9.0	–7.8	–5.9	–7.6	–5.0	–0.6	–3.9	–3.7	–2.5
Paraguay	1.6	–0.1	–0.4	3.6	3.1	0.0	–0.6	1.6	0.7	0.0	0.1
Peru	–5.1	–4.5	–5.0	–2.6	–1.3	–1.7	–1.5	0.5	–0.4	–0.7	–1.8
St. Kitts and Nevis	. . .	0.1	–8.7	–12.7	–11.2	–5.7	–2.1	–8.1	–9.9	–8.7	–7.9
St. Lucia	. . .	–2.5	0.0	–6.5	–1.0	2.2	4.8	–16.3	–19.8	–6.8	1.7
St. Vincent and the Grenadines	. . .	–26.1	–15.3	–13.9	–11.6	–12.0	–9.6	–13.7	–15.9	–12.9	–8.9
Suriname	–3.8	–7.9	–16.4	–5.1	2.2	–3.4	–12.1	11.4	–1.5	–2.6	–2.7
Trinidad and Tobago	20.4	15.0	8.2	–3.5	6.3	6.8	4.4	–1.8	5.6	5.9	4.4
Uruguay	–3.2	–3.0	–0.3	0.7	0.0	–0.5	1.4	–1.4	–2.2	–1.5	–2.4
Venezuela	1.8	2.4	–5.0	–1.4	6.1	8.8	8.4	–3.5	–0.8	–2.3	. . .
Middle East and Central Asia	**8.6**	**5.1**	**–3.9**	**–4.2**	**–1.1**	**2.7**	**0.5**	**–3.0**	**0.3**	**0.1**	**–0.7**
Afghanistan	1.4	6.6	3.8	9.0	7.6	12.2	11.7	10.7	10.0	8.3	3.7
Algeria	0.4	–4.4	–16.4	–16.5	–13.0	–9.5	–10.0	–10.5	–7.7	–8.7	–6.2
Armenia	–7.3	–7.8	–2.7	–1.0	–1.5	–6.9	–7.2	–4.6	–6.7	–6.6	–5.8
Azerbaijan	16.6	13.9	–0.4	–3.6	4.1	12.8	9.1	–0.9	1.1	0.5	0.3
Bahrain	7.4	4.6	–2.4	–4.6	–4.1	–6.5	–2.1	–9.6	–4.0	–4.2	–5.1
Djibouti	–30.8	23.9	29.2	–1.0	–4.8	14.2	13.0	2.9	–2.0	–0.7	2.8
Egypt	–2.2	–0.9	–3.7	–6.0	–6.1	–2.4	–3.6	–3.1	–4.0	–4.0	–2.5
Georgia	–5.6	–10.2	–11.8	–12.5	–8.1	–6.8	–5.5	–12.3	–11.5	–8.0	–5.6
Iran	5.8	2.8	0.4	3.2	3.3	5.9	0.6	–0.7	1.2	1.2	1.2
Iraq	1.1	2.6	–6.4	–7.5	–4.7	4.5	0.5	–14.8	0.0	–0.6	–2.2
Jordan	–10.2	–7.1	–9.0	–9.7	–10.6	–6.9	–2.1	–8.1	–8.3	–4.0	–2.6
Kazakhstan	0.8	2.8	–3.3	–5.9	–3.1	–0.1	–4.0	–3.6	–1.0	–1.5	–2.8
Kuwait	40.3	33.4	3.5	–4.6	8.0	14.1	16.4	0.8	8.6	8.2	3.6
Kyrgyz Republic	–13.9	–17.0	–15.9	–11.6	–6.2	–12.1	–9.9	–8.2	–8.2	–7.0	–3.3
Lebanon[1]	–28.0	–28.8	–19.9	–23.5	–26.3	–28.2	–26.5	–14.3	. . .	. . .	. . .
Libya[1]	0.0	–78.4	–54.3	–24.6	8.0	1.8	2.3	–11.4	3.9	0.2	3.0
Mauritania	–17.2	–22.2	–15.5	–11.0	–10.0	–13.8	–10.5	–11.6	–11.3	–11.6	–2.6
Morocco	–7.6	–5.9	–2.1	–4.1	–3.4	–5.3	–4.1	–2.2	–3.8	–4.0	–3.7
Oman	6.6	5.2	–15.9	–19.1	–15.6	–5.4	–5.4	–10.0	–6.4	–2.7	–1.8
Pakistan	–1.1	–1.3	–1.0	–1.8	–4.0	–6.1	–4.9	–1.1	–1.5	–1.8	–2.9
Qatar	30.4	24.0	8.5	–5.5	4.0	9.1	2.4	–3.4	7.1	7.9	5.8
Saudi Arabia	18.1	9.8	–8.7	–3.7	1.5	9.2	4.8	–2.1	2.8	1.9	–1.3
Somalia	–13.6	–8.3	–8.3	–9.3	–9.7	–7.5	–10.5	–13.3	–12.2	–11.9	–12.4
Sudan	–11.0	–5.8	–8.5	–6.5	–9.6	–13.0	–15.6	–17.5	–11.2	–13.5	–8.5
Syria[2]	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Tajikistan	–10.4	–3.4	–6.1	–4.2	2.2	–5.0	–2.3	–2.3	–2.2	–2.1	–2.0
Tunisia	–9.7	–9.8	–9.7	–9.3	–10.3	–11.1	–8.4	–6.8	–9.5	–9.4	–8.8
Turkmenistan	–7.3	–6.1	–15.6	–20.2	–10.4	5.5	1.3	–0.5	0.8	–0.1	–2.7
United Arab Emirates	18.8	13.5	4.9	3.7	7.1	9.6	8.4	3.1	7.1	6.3	6.8
Uzbekistan	2.4	3.3	1.3	0.4	2.5	–7.1	–5.8	–5.4	–6.4	–5.9	–4.8
West Bank and Gaza	–14.8	–13.6	–13.9	–13.9	–13.2	–13.2	–10.4	–9.0	–10.5	–10.8	–10.2
Yemen	–3.1	–0.7	–6.2	–2.9	–0.2	–2.0	–3.9	–2.4	–8.5	–7.8	–6.5

Table A12. Emerging Market and Developing Economies: Current Account Balance *(continued)*

(Percent of GDP)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022	2026
Sub-Saharan Africa	**–2.2**	**–3.5**	**–5.7**	**–3.8**	**–2.3**	**–2.6**	**–3.7**	**–3.7**	**–3.7**	**–3.7**	**–2.8**
Angola	6.1	–2.6	–8.8	–4.8	–0.5	7.0	5.7	–0.6	0.8	0.5	–0.5
Benin	–5.4	–6.7	–6.0	–3.0	–4.2	–4.6	–4.0	–4.7	–4.5	–3.8	–3.9
Botswana	8.9	15.4	7.8	7.7	5.3	0.6	–7.6	–10.3	–4.5	–3.3	0.3
Burkina Faso	–10.0	–7.2	–7.6	–6.1	–5.0	–4.1	–3.3	–3.7	–4.5	–4.8	–5.9
Burundi	–20.6	–15.6	–11.5	–11.1	–11.7	–11.4	–11.7	–13.3	–15.7	–14.5	–13.6
Cabo Verde	–4.9	–9.1	–3.2	–3.8	–7.8	–5.2	–0.4	–13.8	–10.6	–6.4	–2.6
Cameroon	–3.5	–4.0	–3.8	–3.2	–2.7	–3.6	–4.4	–5.3	–4.4	–3.2	–1.6
Central African Republic	–2.9	–13.3	–9.1	–5.3	–7.8	–8.0	–4.9	–7.9	–6.8	–5.9	–5.5
Chad	–9.1	–8.9	–13.8	–10.4	–7.1	–1.4	–4.9	–8.8	–6.6	–6.3	–4.5
Comoros	–4.0	–3.8	–0.3	–4.3	–2.1	–2.3	–4.3	–0.4	–3.5	–3.0	–4.1
Democratic Republic of the Congo	–9.5	–4.8	–3.9	–4.1	–3.3	–3.6	–4.2	–4.0	–3.4	–3.4	–3.4
Republic of Congo	10.8	1.0	–39.0	–48.7	–3.3	1.5	2.3	–3.8	–0.2	–2.1	–1.4
Côte d'Ivoire	–1.0	1.0	–0.4	–0.9	–2.0	–3.6	–2.7	–3.6	–3.6	–3.4	–2.4
Equatorial Guinea	–2.4	–4.3	–16.4	–13.0	–5.8	–5.4	–6.3	–8.4	–3.6	–4.4	–18.0
Eritrea	2.3	17.3	20.8	15.3	24.0	15.4	12.1	10.7	13.9	13.5	10.4
Eswatini	10.8	11.6	13.0	7.9	6.2	1.3	4.3	7.0	4.9	2.0	4.8
Ethiopia	–6.1	–6.6	–11.7	–9.2	–8.5	–6.5	–5.3	–4.6	–3.6	–3.9	–3.2
Gabon	7.3	7.6	–5.6	–10.4	–7.1	–3.3	–1.8	–5.1	–0.3	–0.2	1.1
The Gambia	–6.7	–7.3	–9.9	–9.2	–7.4	–9.5	–5.3	–5.5	–12.0	–12.6	–7.7
Ghana	–9.0	–7.0	–5.8	–5.2	–3.4	–3.1	–2.8	–3.3	–2.8	–4.9	–3.8
Guinea	–12.5	–12.9	–12.9	–31.9	–6.7	–20.3	–13.7	–12.1	–13.2	–12.4	–10.3
Guinea-Bissau	–4.3	0.5	1.8	1.4	0.3	–3.6	–8.6	–10.1	–6.5	–5.4	–3.6
Kenya	–8.8	–10.4	–6.9	–5.8	–7.2	–5.7	–5.8	–4.8	–5.3	–5.4	–5.6
Lesotho	–5.3	–5.2	–4.0	–6.7	–2.6	–1.4	–8.0	–15.5	–16.9	–25.1	–2.6
Liberia	–29.7	–49.4	–35.2	–26.6	–28.9	–22.3	–19.6	–18.1	–19.2	–20.7	–20.6
Madagascar	–6.5	–0.3	–1.6	0.5	–0.4	0.7	–2.2	–6.5	–5.0	–4.4	–3.6
Malawi	–8.4	–8.2	–17.2	–18.5	–25.6	–20.5	–17.1	–19.8	–20.7	–18.9	–15.8
Mali	–2.9	–4.7	–5.3	–7.2	–7.3	–4.9	–4.8	–2.0	–4.1	–4.4	–6.8
Mauritius	–6.2	–5.4	–3.6	–4.0	–4.6	–3.9	–5.4	–11.3	–14.7	–6.6	–4.5
Mozambique	–40.5	–36.5	–37.4	–32.2	–19.7	–29.6	–20.4	–60.6	–68.9	–83.2	–26.5
Namibia	–4.2	–11.1	–12.8	–16.0	–4.2	–3.3	–1.7	–0.6	–3.4	–2.9	–0.2
Niger	–11.3	–12.1	–15.3	–11.4	–11.4	–12.6	–12.3	–13.3	–17.0	–10.7	–6.3
Nigeria	3.7	0.2	–3.1	0.7	2.8	0.9	–3.8	–3.7	–2.2	–1.8	–0.8
Rwanda	–7.5	–11.3	–12.6	–15.2	–9.5	–10.4	–12.4	–12.2	–12.5	–11.4	–7.6
São Tomé and Príncipe	–14.5	–20.7	–12.0	–6.1	–13.2	–12.3	–12.5	–17.4	–15.5	–9.3	–7.2
Senegal	–8.3	–7.0	–5.7	–4.2	–7.3	–8.8	–7.8	–11.0	–12.8	–11.7	–4.5
Seychelles	–11.9	–23.1	–18.6	–20.6	–20.1	–18.4	–17.0	–29.1	–36.9	–34.9	–20.9
Sierra Leone	–14.9	–9.3	–24.1	–9.4	–21.8	–18.6	–22.2	–15.0	–14.1	–14.9	–11.3
South Africa	–5.8	–5.1	–4.6	–2.9	–2.5	–3.5	–3.0	2.2	–0.4	–1.5	–2.8
South Sudan	–3.9	4.6	8.6	15.8	–3.6	1.5	–23.3	–4.5	–11.9	0.2	–3.7
Tanzania	–10.7	–9.8	–7.7	–4.2	–2.6	–3.0	–2.2	–2.7	–4.3	–4.0	–2.9
Togo	–9.0	–6.8	–7.6	–6.7	–1.3	–1.9	–2.5	–3.7	–3.4	–3.4	–2.8
Uganda	–5.7	–6.5	–6.1	–2.8	–4.8	–5.7	–5.7	–9.1	–8.4	–5.7	–7.7
Zambia	–0.8	2.1	–2.7	–3.3	–1.7	–1.3	0.6	1.5	6.5	5.6	0.9
Zimbabwe[1]	–13.2	–11.6	–7.6	–3.6	–1.7	–8.3	4.4	4.7	4.4	1.7	0.6

[1]See country-specific notes for Lebanon, Libya, Turkey, Ukraine, and Zimbabwe in the "Country Notes" section of the Statistical Appendix.
[2]Data for Syria are excluded for 2011 onward owing to the uncertain political situation.

Table A13. Summary of Financial Account Balances

(Billions of US dollars)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	Projections 2022
Advanced Economies										
Financial Account Balance	249.5	300.3	345.2	423.6	462.0	325.0	319.8	–2.8	136.3	286.4
Direct Investment, Net	175.5	241.8	1.0	–319.0	331.2	–128.2	–75.9	40.5	29.8	79.9
Portfolio Investment, Net	–553.8	57.8	193.3	483.7	17.6	431.0	220.3	67.5	–209.9	–107.0
Financial Derivatives, Net	74.8	2.0	–86.2	34.6	20.8	54.1	30.3	79.8	42.4	38.6
Other Investment, Net	400.1	–141.3	10.8	45.6	–152.0	–159.5	78.9	–494.0	144.1	150.3
Change in Reserves	153.2	140.0	226.6	178.5	244.5	127.6	66.2	303.5	129.9	124.6
United States										
Financial Account Balance	–400.1	–297.1	–333.1	–363.6	–334.1	–419.7	–395.5	–766.1	–877.8	–735.3
Direct Investment, Net	104.7	135.7	–209.4	–174.6	38.4	–412.8	–163.2	–53.5	–153.9	–161.1
Portfolio Investment, Net	–30.7	–114.9	–53.5	–195.0	–221.4	32.2	–133.4	–296.5	–341.3	–162.4
Financial Derivatives, Net	2.2	–54.3	–27.0	7.8	24.0	–20.4	–38.3	–13.2	–11.9	–12.6
Other Investment, Net	–473.2	–259.9	–37.0	–4.0	–173.4	–23.7	–65.3	–409.4	–370.7	–399.1
Change in Reserves	–3.1	–3.6	–6.3	2.1	–1.7	5.0	4.7	6.5	0.0	0.0
Euro Area										
Financial Account Balance	379.1	368.7	319.2	308.8	395.4	354.3	239.4	337.9	. . .	. . .
Direct Investment, Net	9.9	88.6	281.1	119.7	54.4	164.0	–80.6	–137.2	. . .	. . .
Portfolio Investment, Net	–65.8	84.4	91.4	542.2	407.6	239.9	–52.5	548.0	. . .	. . .
Financial Derivatives, Net	2.0	49.7	126.3	13.4	25.8	47.5	–3.1	11.1	. . .	. . .
Other Investment, Net	424.8	141.4	–191.5	–383.6	–90.9	–126.9	372.1	–97.8	. . .	. . .
Change in Reserves	8.3	4.6	11.8	17.1	–1.4	29.6	3.6	13.8	. . .	. . .
Germany										
Financial Account Balance	300.2	319.3	260.1	289.0	319.8	279.9	230.1	289.9	327.0	321.0
Direct Investment, Net	26.8	87.3	68.5	48.0	43.7	5.2	62.3	29.3	36.2	49.4
Portfolio Investment, Net	210.0	179.9	210.5	220.0	231.9	185.7	106.6	48.9	138.6	111.0
Financial Derivatives, Net	31.7	51.2	33.7	31.7	12.4	27.3	25.1	112.4	46.9	28.7
Other Investment, Net	30.6	4.3	–50.2	–12.5	33.3	61.2	36.7	99.5	105.3	131.8
Change in Reserves	1.1	–3.4	–2.5	1.9	–1.4	0.5	–0.6	–0.1	0.0	0.0
France										
Financial Account Balance	–19.2	–10.3	–0.8	–18.6	–36.1	–27.6	–32.3	–71.1	–59.3	–52.7
Direct Investment, Net	–13.9	47.2	7.9	41.8	11.1	67.5	4.7	19.5	25.8	29.6
Portfolio Investment, Net	–79.3	–23.8	43.2	0.2	30.3	11.1	–104.1	–35.1	–27.5	–23.7
Financial Derivatives, Net	–22.3	–31.8	14.5	–17.6	–1.4	–30.5	4.1	–48.0	–30.4	–19.7
Other Investment, Net	98.2	–2.9	–74.2	–45.4	–72.7	–87.9	59.8	–12.2	–32.2	–44.3
Change in Reserves	–1.9	1.0	8.0	2.5	–3.4	12.3	3.2	4.6	5.1	5.4
Italy										
Financial Account Balance	32.4	73.0	43.1	36.2	53.8	31.5	53.7	80.2	75.3	76.6
Direct Investment, Net	0.9	3.1	2.0	–12.3	0.5	–4.9	1.4	24.4	–6.3	–6.6
Portfolio Investment, Net	–5.1	–2.2	105.7	154.8	95.0	142.0	–57.4	130.9	–41.4	–55.0
Financial Derivatives, Net	4.0	–1.9	1.2	–3.6	–8.2	–3.2	2.8	–3.5	–1.6	–0.5
Other Investment, Net	30.5	75.2	–66.5	–101.4	–36.5	–105.5	103.2	–76.2	124.6	138.8
Change in Reserves	2.0	–1.3	0.6	–1.3	3.0	3.1	3.6	4.6	0.0	0.0
Spain										
Financial Account Balance	41.2	22.8	31.8	39.2	40.0	39.3	27.9	13.0	37.1	53.6
Direct Investment, Net	–14.1	14.2	33.4	12.4	14.1	–15.8	11.2	–2.6	4.4	4.4
Portfolio Investment, Net	–85.0	–8.8	12.0	64.9	37.1	28.3	–56.8	49.1	37.1	39.6
Financial Derivatives, Net	1.4	1.3	4.2	2.8	8.7	–0.9	–9.3	0.0	0.0	0.0
Other Investment, Net	138.0	10.9	–23.3	–50.1	–24.0	25.1	82.0	–33.6	–4.3	9.6
Change in Reserves	0.9	5.2	5.5	9.1	4.1	2.6	0.8	0.0	0.0	0.0

Table A13. Summary of Financial Account Balances *(continued)*

(Billions of US dollars)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	Projections 2022
Japan										
Financial Account Balance	–4.3	58.9	180.9	266.8	168.3	182.9	227.0	168.3	191.2	177.6
Direct Investment, Net	144.7	118.6	133.3	137.5	154.9	133.6	215.8	106.9	160.0	170.7
Portfolio Investment, Net	–280.6	–42.2	131.5	276.5	–50.6	92.2	87.1	36.1	–4.5	–27.3
Financial Derivatives, Net	58.1	34.0	17.7	–16.1	30.4	0.9	3.3	8.6	8.6	8.6
Other Investment, Net	34.8	–60.1	–106.7	–125.4	10.0	–67.9	–104.7	5.8	15.6	14.0
Change in Reserves	38.7	8.5	5.1	–5.7	23.6	24.0	25.5	10.9	11.5	11.5
United Kingdom										
Financial Account Balance	–127.4	–141.6	–158.2	–163.3	–87.5	–113.5	–105.8	–109.0	–124.4	–136.0
Direct Investment, Net	–11.2	–176.1	–106.0	–297.4	46.1	–23.9	–51.6	–43.4	31.2	26.7
Portfolio Investment, Net	–284.6	15.9	–230.1	–203.8	–126.2	–359.8	42.1	–54.2	–169.5	–181.2
Financial Derivatives, Net	63.4	31.2	–128.6	29.3	13.3	11.2	11.3	13.6	5.5	5.9
Other Investment, Net	97.2	–24.4	274.3	299.8	–29.4	234.2	–106.6	–27.7	–3.2	0.3
Change in Reserves	7.8	11.7	32.2	8.8	8.8	24.8	–1.1	2.7	11.6	12.4
Canada										
Financial Account Balance	–57.2	–43.1	–51.8	–45.4	–44.2	–35.0	–38.6	–32.1	–11.3	–16.3
Direct Investment, Net	–12.0	1.3	23.6	33.5	53.4	19.2	31.1	24.8	28.7	42.8
Portfolio Investment, Net	–34.8	–32.8	–36.2	–103.6	–74.9	3.5	–2.4	–64.9	–0.9	–14.7
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	–15.2	–16.9	–47.8	19.1	–23.5	–56.1	–65.9	8.7	–39.1	–44.4
Change in Reserves	4.7	5.3	8.6	5.6	0.8	–1.5	–1.3	–0.7	0.0	0.0
Other Advanced Economies[1]										
Financial Account Balance	376.0	297.2	297.6	322.5	302.8	334.2	318.7	352.6	463.3	468.9
Direct Investment, Net	31.2	–6.1	–102.5	–80.8	–163.0	16.0	–71.5	–4.1	–39.4	–3.4
Portfolio Investment, Net	139.6	175.9	337.2	242.9	151.4	363.1	308.1	262.1	237.8	258.5
Financial Derivatives, Net	–33.5	–22.3	–11.9	3.4	–5.5	32.2	22.9	3.5	17.6	17.0
Other Investment, Net	137.7	38.2	–101.0	6.8	106.9	–126.7	28.5	–174.1	154.1	109.2
Change in Reserves	101.3	111.5	176.0	150.2	213.1	49.5	30.7	265.3	93.2	87.7
Emerging Market and Developing Economies										
Financial Account Balance	–26.7	13.5	–306.0	–406.5	–245.8	–225.5	–158.3	145.6	266.9	146.6
Direct Investment, Net	–484.0	–428.5	–346.4	–258.7	–312.3	–374.9	–359.5	–342.5	–402.4	–440.8
Portfolio Investment, Net	–148.3	–88.4	129.5	–54.9	–206.4	–95.4	–67.6	–28.0	–110.0	–157.5
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	62.8	405.5	469.3	383.1	102.3	121.3	94.6	418.5	214.5	217.6
Change in Reserves	542.3	112.4	–565.0	–469.4	166.4	119.4	171.1	85.4	546.4	503.5

Table A13. Summary of Financial Account Balances *(continued)*

(Billions of US dollars)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022
Regional Groups										
Emerging and Developing Asia										
Financial Account Balance	27.8	153.5	69.9	–28.1	–55.9	–259.1	–81.6	261.8	237.4	177.4
Direct Investment, Net	–271.2	–201.6	–139.6	–26.2	–108.5	–169.7	–152.3	–183.2	–202.3	–209.3
Portfolio Investment, Net	–64.6	–125.2	81.6	31.1	–70.1	–99.6	–74.2	–66.1	–114.5	–153.8
Financial Derivatives, Net	–2.1	0.8	0.6	–4.6	2.2	4.6	–2.5	12.1	11.7	11.7
Other Investment, Net	–83.3	281.5	458.3	353.0	–79.9	–18.4	47.3	318.7	97.6	121.7
Change in Reserves	445.5	196.4	–331.5	–382.4	200.1	24.9	100.2	180.4	445.6	407.7
Emerging and Developing Europe										
Financial Account Balance	–66.6	–29.1	65.5	3.9	–19.2	99.3	63.4	16.4	50.1	43.3
Direct Investment, Net	–15.4	0.5	–22.0	–45.4	–28.8	–25.9	–46.9	–23.9	–41.0	–51.4
Portfolio Investment, Net	–38.0	23.2	55.0	–7.6	–34.6	13.1	–3.5	23.6	–11.8	–8.9
Financial Derivatives, Net	–0.9	5.8	5.0	0.4	–2.5	–2.9	1.5	–4.6	0.2	5.4
Other Investment, Net	–4.6	64.0	35.5	21.0	30.7	67.3	18.9	26.5	49.5	46.9
Change in Reserves	–7.6	–122.7	–7.9	35.6	16.2	47.6	93.4	–4.4	53.2	51.3
Latin America and the Caribbean										
Financial Account Balance	–197.4	–192.7	–191.3	–103.9	–101.7	–149.7	–106.7	1.7	1.1	–19.9
Direct Investment, Net	–151.4	–136.3	–136.1	–124.8	–121.3	–148.8	–114.3	–92.4	–104.4	–115.7
Portfolio Investment, Net	–100.0	–107.9	–46.8	–49.2	–38.0	–12.8	2.9	–1.4	3.6	5.6
Financial Derivatives, Net	1.8	6.8	1.4	–2.9	3.9	4.0	4.9	5.9	8.0	8.3
Other Investment, Net	39.7	5.0	18.8	51.9	36.2	–5.8	32.3	78.5	65.1	59.2
Change in Reserves	12.5	39.8	–28.6	21.0	17.1	13.7	–32.3	11.1	28.9	22.6
Middle East and Central Asia										
Financial Account Balance	263.7	159.9	–184.2	–217.7	–32.5	110.3	19.0	–96.4	29.2	7.0
Direct Investment, Net	–22.7	–42.7	–10.7	–29.2	–16.4	–8.6	–18.8	–21.7	–25.7	–30.0
Portfolio Investment, Net	75.3	130.4	61.6	–11.9	–41.4	5.4	25.7	6.0	16.4	7.3
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	121.7	65.9	–52.5	–41.9	106.2	83.7	10.2	4.2	20.4	7.5
Change in Reserves	89.5	6.9	–182.4	–134.3	–80.6	30.0	2.5	–84.7	18.3	22.5
Sub-Saharan Africa										
Financial Account Balance	–54.2	–78.2	–65.9	–60.7	–36.5	–26.2	–52.5	–37.9	–50.9	–61.2
Direct Investment, Net	–23.4	–48.3	–38.0	–33.1	–37.3	–21.8	–27.1	–21.4	–28.9	–34.4
Portfolio Investment, Net	–21.1	–9.0	–21.9	–17.4	–22.2	–1.5	–18.4	9.9	–3.7	–7.7
Financial Derivatives, Net	–0.8	–1.5	–0.4	0.9	0.3	–0.5	0.2	0.2	0.2	0.3
Other Investment, Net	–10.7	–10.9	9.2	–0.8	9.2	–5.4	–14.1	–9.5	–18.1	–17.6
Change in Reserves	2.4	–7.9	–14.6	–9.3	13.6	3.2	7.3	–17.0	0.5	–0.7

Table A13. Summary of Financial Account Balances *(continued)*

(Billions of US dollars)

	2013	2014	2015	2016	2017	2018	2019	2020	Projections 2021	2022
Analytical Groups										
By Source of Export Earnings										
Fuel										
Financial Account Balance	308.8	187.5	–179.5	–177.9	29.6	194.6	71.5	–73.2	55.2	44.9
Direct Investment, Net	–2.5	–28.5	–9.7	–17.5	10.2	14.2	–4.5	–9.5	–14.6	–16.2
Portfolio Investment, Net	76.6	138.0	67.6	–9.7	–34.0	9.3	19.8	–5.6	30.9	18.2
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	156.8	95.5	–17.9	3.7	130.9	128.4	44.4	34.3	30.7	30.9
Change in Reserves	77.8	–17.1	–219.6	–154.4	–77.5	42.4	11.9	–92.7	7.9	11.7
Nonfuel										
Financial Account Balance	–335.5	–174.1	–126.5	–228.5	–275.4	–420.1	–229.8	218.8	211.7	101.7
Direct Investment, Net	–481.6	–400.0	–336.6	–241.2	–322.5	–389.1	–355.0	–333.0	–387.8	–424.6
Portfolio Investment, Net	–225.0	–226.4	62.0	–45.2	–172.3	–104.7	–87.4	–22.5	–140.8	–175.7
Financial Derivatives, Net	–2.0	11.9	6.7	–6.2	3.9	5.2	4.1	13.5	20.1	25.6
Other Investment, Net	–94.0	310.1	487.1	379.4	–28.5	–7.1	50.2	384.2	183.8	186.8
Change in Reserves	464.5	129.6	–345.4	–315.1	243.9	77.0	159.2	178.2	538.6	491.8
By External Financing Source										
Net Debtor Economies										
Financial Account Balance	–411.5	–352.0	–287.7	–230.0	–268.2	–322.0	–240.4	–44.2	–146.2	–205.4
Direct Investment, Net	–268.4	–274.3	–287.4	–285.7	–269.7	–311.3	–285.4	–228.0	–273.9	–306.6
Portfolio Investment, Net	–176.6	–187.5	–24.2	–54.8	–115.0	–11.7	–30.1	–23.1	–68.2	–82.0
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	–40.8	–4.8	40.6	29.4	4.8	–9.6	–40.7	27.5	33.0	45.7
Change in Reserves	73.2	105.6	–14.3	94.1	108.0	11.8	118.0	182.2	160.0	129.7
Net Debtor Economies by Debt-Servicing Experience										
Economies with Arrears and/or Rescheduling during 2015–19										
Financial Account Balance	–55.4	–34.8	–45.5	–59.2	–41.6	–35.3	–43.9	–22.4	–30.9	–49.7
Direct Investment, Net	–25.7	–23.3	–25.2	–26.3	–25.6	–27.4	–27.2	–18.7	–22.7	–29.0
Portfolio Investment, Net	–11.8	–4.4	1.2	–8.6	–29.4	–12.8	–11.1	5.2	–11.1	–12.4
Financial Derivatives, Net	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .	. . .
Other Investment, Net	–17.6	–0.4	–21.1	–28.5	9.7	–2.0	1.2	4.5	–5.2	–12.6
Change in Reserves	–0.1	–6.5	–0.1	4.5	4.1	7.2	–6.3	–12.9	8.6	4.8
Memorandum										
World										
Financial Account Balance	222.9	313.8	39.2	17.1	216.2	99.5	161.5	142.9	403.2	433.0

Note: The estimates in this table are based on individual countries' national accounts and balance of payments statistics. Country group composites are calculated as the sum of the US dollar values for the relevant individual countries. Some group aggregates for the financial derivatives are not shown because of incomplete data. Projections for the euro area are not available because of data constraints.

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

Table A14. Summary of Net Lending and Borrowing

(Percent of GDP)

	Averages								Projections		
	2003–12	2007–14	2015	2016	2017	2018	2019	2020	2021	2022	Average 2023–26
Advanced Economies											
Net Lending and Borrowing	–0.6	–0.2	0.6	0.8	1.0	0.7	0.6	0.3	0.2	0.5	0.7
Current Account Balance	–0.6	–0.2	0.6	0.8	1.0	0.8	0.7	0.3	0.2	0.4	0.7
Savings	21.8	21.6	22.9	22.6	23.2	23.1	22.9	22.3	22.6	22.8	23.1
Investment	22.3	21.7	21.8	21.6	22.0	22.3	22.3	22.0	22.4	22.4	22.5
Capital Account Balance	0.0	0.0	0.0	0.0	0.0	–0.1	–0.1	0.0	0.0	0.0	0.0
United States											
Net Lending and Borrowing	–4.3	–3.2	–2.3	–2.1	–1.8	–2.2	–2.3	–3.1	–3.9	–3.1	–2.2
Current Account Balance	–4.2	–3.1	–2.2	–2.1	–1.9	–2.2	–2.2	–3.1	–3.9	–3.1	–2.2
Savings	17.0	17.1	20.1	18.7	19.2	19.1	18.6	17.8	17.5	18.1	18.9
Investment	21.1	20.1	21.2	20.4	20.5	21.0	21.0	21.0	21.6	21.4	21.3
Capital Account Balance	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Euro Area											
Net Lending and Borrowing	0.0	0.4	2.9	3.1	2.9	2.6	2.1	2.3	. . .	. . .	. . .
Current Account Balance	–0.1	0.3	2.7	3.0	3.1	2.9	2.3	2.3	2.8	2.7	2.8
Savings	22.7	22.6	23.8	24.3	24.9	25.2	25.3	24.4	24.9	25.2	25.7
Investment	22.0	21.3	20.4	20.7	21.3	21.8	22.3	21.4	21.7	22.0	22.5
Capital Account Balance	0.1	0.1	0.2	0.0	–0.2	–0.3	–0.2	0.0	. . .	. . .	. . .
Germany											
Net Lending and Borrowing	5.4	6.4	8.6	8.6	7.7	7.4	7.1	7.0	7.6	7.0	6.9
Current Account Balance	5.4	6.4	8.6	8.5	7.8	7.4	7.1	7.1	7.6	7.0	6.9
Savings	25.7	26.8	28.3	28.5	28.6	29.0	28.5	27.4	29.1	28.7	29.1
Investment	20.3	20.4	19.7	20.0	20.8	21.6	21.4	20.4	21.5	21.7	22.2
Capital Account Balance	0.0	0.0	0.0	0.1	–0.1	0.0	0.0	–0.1	0.0	0.0	0.0
France											
Net Lending and Borrowing	–0.2	–0.7	–0.4	–0.4	–0.8	–0.5	–0.6	–2.2	–2.0	–1.7	–0.9
Current Account Balance	–0.2	–0.7	–0.4	–0.5	–0.8	–0.6	–0.7	–2.3	–2.1	–1.8	–1.0
Savings	22.4	22.1	22.3	22.1	22.7	23.3	23.5	21.4	22.7	22.9	23.3
Investment	22.6	22.8	22.7	22.6	23.4	23.9	24.2	23.7	24.8	24.6	24.3
Capital Account Balance	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.1
Italy											
Net Lending and Borrowing	–1.5	–1.1	1.8	2.4	2.6	2.5	2.9	3.5	3.6	3.4	3.4
Current Account Balance	–1.6	–1.2	1.4	2.6	2.6	2.5	3.0	3.6	3.5	3.4	3.3
Savings	19.2	18.4	18.5	20.2	20.6	21.0	21.0	21.1	21.4	22.1	22.6
Investment	20.8	19.5	17.1	17.6	18.1	18.5	18.0	17.5	17.9	18.7	19.4
Capital Account Balance	0.1	0.1	0.4	–0.2	0.1	0.0	–0.1	–0.1	0.1	0.1	0.1
Spain											
Net Lending and Borrowing	–4.9	–2.7	2.7	3.4	3.0	2.4	2.5	1.0	2.5	3.4	2.5
Current Account Balance	–5.4	–3.1	2.0	3.2	2.8	1.9	2.1	0.7	1.0	1.9	1.7
Savings	20.5	19.2	21.0	21.9	22.2	22.4	22.9	20.9	21.3	23.1	23.2
Investment	25.9	22.3	19.0	18.8	19.4	20.5	20.8	20.2	20.3	21.2	21.5
Capital Account Balance	0.5	0.4	0.6	0.2	0.2	0.5	0.3	0.3	1.6	1.5	0.8
Japan											
Net Lending and Borrowing	3.0	2.3	3.0	3.8	4.1	3.5	3.6	3.3	3.6	3.1	3.2
Current Account Balance	3.1	2.3	3.1	4.0	4.1	3.5	3.7	3.3	3.6	3.2	3.3
Savings	27.9	26.6	28.2	28.8	29.3	29.1	29.4	28.8	29.0	28.1	27.8
Investment	24.8	24.2	25.2	24.8	25.2	25.6	25.8	25.5	25.4	24.9	24.5
Capital Account Balance	–0.1	–0.1	–0.1	–0.1	–0.1	0.0	–0.1	0.0	–0.1	–0.1	–0.1
United Kingdom											
Net Lending and Borrowing	–2.8	–3.6	–5.1	–5.5	–3.8	–3.8	–3.1	–4.0	–4.0	–4.1	–3.7
Current Account Balance	–2.8	–3.6	–5.0	–5.4	–3.8	–3.7	–3.1	–3.9	–3.9	–4.0	–3.6
Savings	14.1	12.9	12.7	12.4	14.4	14.1	15.2	13.1	13.5	14.1	14.4
Investment	16.9	16.5	17.7	17.8	18.2	17.8	18.3	17.0	17.4	18.1	18.0
Capital Account Balance	0.0	0.0	–0.1	–0.1	–0.1	–0.2	0.0	–0.1	–0.1	–0.1	–0.1

Table A14. Summary of Net Lending and Borrowing *(continued)*

(Percent of GDP)

	Averages								Projections		
	2003–12	2007–14	2015	2016	2017	2018	2019	2020	2021	2022	Average 2023–26
Canada											
Net Lending and Borrowing	–0.5	–2.1	–3.5	–3.1	–2.8	–2.3	–2.1	–1.9	–0.8	–1.3	–1.8
Current Account Balance	–0.5	–2.2	–3.5	–3.1	–2.8	–2.3	–2.1	–1.9	–0.8	–1.3	–1.8
Savings	22.6	21.9	20.3	19.7	20.7	20.9	20.9	20.2	22.8	22.9	22.9
Investment	23.1	24.0	23.8	22.8	23.6	23.2	23.0	22.1	23.6	24.2	24.7
Capital Account Balance	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other Advanced Economies[1]											
Net Lending and Borrowing	4.0	4.1	5.1	5.1	4.7	4.7	4.8	5.5	5.6	5.4	4.8
Current Account Balance	4.0	4.2	5.5	5.1	4.7	4.5	4.8	5.5	5.6	5.4	4.8
Savings	30.4	30.5	31.0	30.4	30.7	30.3	30.1	31.3	31.6	31.2	30.8
Investment	26.1	26.1	25.2	25.2	25.7	25.8	25.2	25.4	25.5	25.4	25.6
Capital Account Balance	0.0	–0.1	–0.4	0.0	0.1	0.2	0.0	0.0	0.0	0.0	0.1
Emerging Market and Developing Economies											
Net Lending and Borrowing	2.6	1.7	0.0	–0.2	0.0	–0.1	0.2	0.7	0.7	0.4	–0.1
Current Account Balance	2.5	1.6	–0.2	–0.3	0.0	–0.2	0.1	0.6	0.5	0.2	–0.2
Savings	31.6	32.7	31.6	31.2	31.7	32.5	32.5	33.2	33.6	33.3	32.8
Investment	29.4	31.4	32.3	31.6	32.0	32.9	32.6	32.9	33.2	33.4	33.3
Capital Account Balance	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Regional Groups											
Emerging and Developing Asia											
Net Lending and Borrowing	3.5	2.8	2.0	1.4	1.0	–0.3	0.6	1.7	1.0	0.7	0.3
Current Account Balance	3.4	2.7	2.0	1.4	1.0	–0.3	0.6	1.7	1.0	0.7	0.3
Savings	41.3	43.1	41.1	39.9	40.0	39.8	39.6	40.7	40.4	40.1	39.0
Investment	38.2	40.4	39.2	38.5	39.1	40.1	39.0	39.0	39.5	39.5	39.0
Capital Account Balance	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Emerging and Developing Europe											
Net Lending and Borrowing	–0.3	–0.9	1.7	0.1	–0.2	2.2	1.8	0.7	1.2	1.0	0.4
Current Account Balance	–0.4	–1.0	1.0	–0.2	–0.5	1.7	1.3	0.0	0.6	0.4	0.0
Savings	23.1	23.1	24.7	23.5	24.1	25.5	24.2	23.6	24.0	23.8	24.0
Investment	23.3	24.0	23.6	23.7	24.5	23.5	22.7	23.5	23.4	23.4	23.9
Capital Account Balance	0.1	0.2	0.7	0.3	0.3	0.5	0.5	0.7	0.6	0.7	0.5
Latin America and the Caribbean											
Net Lending and Borrowing	–0.2	–1.6	–3.2	–2.0	–1.6	–2.4	–1.7	0.2	0.0	–0.4	–1.1
Current Account Balance	–0.3	–1.7	–3.3	–2.0	–1.6	–2.5	–1.7	0.2	0.0	–0.4	–1.1
Savings	20.9	20.2	16.4	16.6	16.3	16.9	17.2	17.4	18.3	18.3	18.2
Investment	21.2	22.0	21.0	18.3	18.2	19.4	18.9	17.6	18.4	18.9	19.5
Capital Account Balance	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle East and Central Asia											
Net Lending and Borrowing	8.9	8.2	–3.6	–3.9	–1.1	2.8	0.6	–2.9	0.4	0.2	–0.4
Current Account Balance	9.1	8.3	–3.9	–4.2	–1.1	2.7	0.5	–3.0	0.3	0.1	–0.5
Savings	36.0	36.0	24.8	24.2	26.9	29.4	29.0	24.8	28.0	27.4	26.6
Investment	28.5	29.5	30.1	29.5	29.8	28.4	30.6	30.3	28.7	28.4	28.2
Capital Account Balance	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Sub-Saharan Africa											
Net Lending and Borrowing	1.7	–0.4	–5.3	–3.4	–1.9	–2.2	–3.3	–3.3	–3.2	–3.2	–2.7
Current Account Balance	0.4	–1.2	–5.7	–3.8	–2.3	–2.6	–3.7	–3.7	–3.7	–3.7	–3.1
Savings	21.5	20.9	17.6	18.5	18.9	19.4	19.8	18.4	18.6	19.2	20.6
Investment	21.3	22.3	23.0	21.8	21.2	21.9	23.6	22.1	22.2	22.9	23.6
Capital Account Balance	1.3	0.8	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4

Table A14. Summary of Net Lending and Borrowing *(continued)*

(Percent of GDP)

	Averages								Projections		
	2003–12	2007–14	2015	2016	2017	2018	2019	2020	2021	2022	Average 2023–26
Analytical Groups											
By Source of Export Earnings											
Fuel											
Net Lending and Borrowing	11.8	10.2	–3.8	–2.9	1.1	5.2	2.0	–2.7	1.4	1.1	0.4
Current Account Balance	12.0	10.4	–3.9	–3.0	1.1	5.2	2.0	–2.8	1.4	1.1	0.3
Savings	38.6	37.7	24.3	24.9	27.8	31.9	31.4	26.6	30.2	29.5	28.3
Investment	28.0	29.2	31.5	28.1	28.9	28.5	31.7	32.6	30.0	29.8	29.3
Capital Account Balance	0.2	0.1	–0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nonfuel											
Net Lending and Borrowing	1.1	0.3	0.5	0.1	–0.1	–0.7	0.0	1.1	0.6	0.3	–0.1
Current Account Balance	0.9	0.2	0.3	0.1	–0.2	–0.8	–0.1	0.9	0.5	0.2	–0.2
Savings	30.5	31.9	32.6	32.0	32.1	32.6	32.6	33.9	33.9	33.7	33.3
Investment	29.7	31.7	32.4	32.0	32.3	33.4	32.7	32.9	33.6	33.7	33.7
Capital Account Balance	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
By External Financing Source											
Net Debtor Economies											
Net Lending and Borrowing	–1.1	–2.0	–2.0	–1.5	–1.5	–2.0	–1.3	–0.3	–1.0	–1.2	–1.4
Current Account Balance	–1.4	–2.3	–2.4	–1.6	–1.7	–2.2	–1.5	–0.5	–1.3	–1.5	–1.6
Savings	23.6	23.6	22.4	22.4	22.6	22.8	22.8	22.7	22.7	22.9	23.5
Investment	25.1	25.8	24.8	24.1	24.4	25.0	24.4	23.3	24.1	24.4	25.1
Capital Account Balance	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2
Net Debtor Economies by Debt-Servicing Experience											
Economies with Arrears and/or Rescheduling during 2015–19											
Net Lending and Borrowing	–1.9	–3.9	–5.4	–6.2	–5.5	–5.3	–5.0	–3.1	–4.6	–4.7	–3.3
Current Account Balance	–2.8	–4.7	–5.9	–6.5	–6.0	–5.7	–5.2	–3.5	–4.9	–5.0	–3.6
Savings	19.4	17.3	12.6	12.1	13.3	14.2	13.5	11.5	12.4	12.7	15.0
Investment	22.4	22.1	19.0	19.3	19.8	20.1	19.2	15.4	18.0	18.4	18.9
Capital Account Balance	0.9	0.8	0.5	0.3	0.5	0.4	0.3	0.3	0.3	0.3	0.3
Memorandum											
World											
Net Lending and Borrowing	0.3	0.4	0.3	0.4	0.6	0.4	0.4	0.5	0.4	0.4	0.4
Current Account Balance	0.2	0.4	0.3	0.4	0.6	0.4	0.5	0.4	0.4	0.4	0.3
Savings	24.7	25.5	26.4	25.9	26.5	26.8	26.8	26.7	27.0	27.1	27.3
Investment	24.5	25.1	25.9	25.4	25.9	26.5	26.4	26.3	26.7	26.8	27.1
Capital Account Balance	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0

Note: The estimates in this table are based on individual countries' national accounts and balance of payments statistics. Country group composites are calculated as the sum of the US dollar values for the relevant individual countries. This differs from the calculations in the April 2005 and earlier issues of the *World Economic Outlook*, in which the composites were weighted by GDP valued at purchasing power parities as a share of total world GDP. The estimates of gross national savings and investment (or gross capital formation) are from individual countries' national accounts statistics. The estimates of the current account balance, the capital account balance, and the financial account balance (or net lending/net borrowing) are from the balance of payments statistics. The link between domestic transactions and transactions with the rest of the world can be expressed as accounting identities. Savings (S) minus investment (I) is equal to the current account balance (CAB) (S – I = CAB). Also, net lending/net borrowing (NLB) is the sum of the current account balance and the capital account balance (KAB) (NLB = CAB + KAB). In practice, these identities do not hold exactly; imbalances result from imperfections in source data and compilation as well as from asymmetries in group composition due to data availability.
[1]Excludes the Group of Seven (Canada, France, Germany, Italy, Japan, United Kingdom, United States) and euro area countries.

Table A15. Summary of World Medium-Term Baseline Scenario

	Averages				Projections		Averages	
	2003–12	2013–22	2019	2020	2021	2022	2019–22	2023–26
				Annual Percent Change				
World Real GDP	**4.2**	**3.1**	**2.8**	**–3.3**	**6.0**	**4.4**	**2.4**	**3.4**
Advanced Economies	1.7	1.8	1.6	–4.7	5.1	3.6	1.4	1.6
Emerging Market and Developing Economies	6.6	4.1	3.6	–2.2	6.7	5.0	3.2	4.6
Memorandum								
Potential Output								
Major Advanced Economies	1.7	1.2	1.4	–1.4	2.8	2.2	1.2	1.4
World Trade, Volume[1]	**5.6**	**2.8**	**0.9**	**–8.5**	**8.4**	**6.5**	**1.6**	**3.8**
Imports								
Advanced Economies	3.9	2.9	1.7	–9.1	9.1	6.4	1.8	3.2
Emerging Market and Developing Economies	9.8	2.8	–1.0	–8.6	9.0	7.4	1.5	4.8
Exports								
Advanced Economies	4.5	2.6	1.3	–9.5	7.9	6.4	1.3	3.3
Emerging Market and Developing Economies	8.3	3.1	0.5	–5.7	7.6	6.0	2.0	4.6
Terms of Trade								
Advanced Economies	–0.4	0.5	0.2	0.7	0.3	0.6	0.4	0.1
Emerging Market and Developing Economies	1.6	–0.6	–1.2	–1.3	0.6	0.2	–0.4	–0.6
World Prices in US Dollars								
Manufactures	3.1	–0.9	0.4	–3.1	2.0	0.7	0.0	1.7
Oil	15.5	–6.3	–10.2	–32.7	41.7	–6.3	–5.4	–2.0
Nonfuel Primary Commodities	10.3	–0.3	0.8	6.7	16.1	–1.9	5.2	0.1
Consumer Prices								
Advanced Economies	2.0	1.3	1.4	0.7	1.6	1.7	1.3	1.9
Emerging Market and Developing Economies	6.4	4.8	5.1	5.1	4.9	4.4	4.9	3.9
Interest Rates				*Percent*				
Real Six-Month LIBOR[2]	0.2	–0.7	0.5	–0.5	–1.5	–1.4	–0.7	–1.1
World Real Long-Term Interest Rate[3]	1.4	0.1	–0.2	–0.3	–0.8	–0.7	–0.5	–0.4
Current Account Balances				*Percent of GDP*				
Advanced Economies	–0.6	0.6	0.7	0.3	0.2	0.4	0.4	0.7
Emerging Market and Developing Economies	2.5	0.2	0.1	0.6	0.5	0.2	0.4	–0.2
Total External Debt								
Emerging Market and Developing Economies	28.3	30.7	30.5	32.6	31.5	30.9	31.4	29.9
Debt Service								
Emerging Market and Developing Economies	9.2	11.0	11.0	11.4	11.0	10.8	11.0	10.7

[1]Data refer to trade in goods and services.
[2]London interbank offered rate on US dollar deposits minus percent change in US GDP deflator.
[3]GDP-weighted average of 10-year (or nearest-maturity) government bond rates for Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States.

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IMF EXECUTIVE BOARD DISCUSSION OF THE OUTLOOK, APRIL 2021

The following remarks were made by the Chair at the conclusion of the Executive Board's discussion of the Fiscal Monitor, Global Financial Stability Report, *and* World Economic Outlook *on March 25, 2021.*

Executive Directors broadly agreed with the assessment of the global economic outlook, risks, and policy priorities. They welcomed the better-than-anticipated performance in the second half of 2020, which helped to dampen the sharp drop in global growth. Directors acknowledged that the synchronized, extraordinary policy support deployed across economies has played a critical role in helping mitigate the crisis and foster the conditions for recovery. However, they agreed that the shock may have persistent effects. Medium-term output losses in emerging market and developing economies in general are likely to be larger than those in advanced economies compared to pre-pandemic projections, although emerging market economies as a whole will continue to grow faster than advanced economies. Directors noted that the crisis has also likely worsened inequalities within countries, with young people, women, and those with lower levels of education being hit harder.

Directors noted that uncertainties around the baseline projections remain large. The economic recovery depends heavily on the path of the health crisis, including the effective deployment of vaccines and treatments and the potential evolution of the virus. Other factors include the effectiveness of policy actions in forestalling economic scarring, developments in financial conditions and commodity prices, and the ability of economies to adjust to the shock. The impact of additional fiscal support and whether pent up savings built up during the pandemic translate into sharp increases in demand pose an upside risk.

Directors emphasized that accelerating vaccinations and distributing vaccines at affordable cost to all countries remains the key priority. The macroeconomic policy responses will need to be tailored by country, depending on the stage of the epidemic locally, the strength of their recovery, available policy space, and the structural characteristics of their economies. Prioritizing health spending, providing well-targeted fiscal support, and maintaining accommodative monetary policy as warranted, while monitoring financial stability risks, remain key while the pandemic continues. As the recovery progresses, policymakers would need to emphasize measures that limit scarring from the crisis, shrink inequality, and boost productive capacity (such as public investment). The transition from support measures would need to be managed carefully to avoid sudden cliffs that could derail the recovery. Particular attention to reallocation in labor markets will be important. The IMF's tailored policy advice will be crucial.

Directors stressed that until the pandemic is brought under control globally, fiscal policy must remain flexible and supportive of health systems, the worst-affected households and viable firms, and the economic recovery. The need and scope for fiscal support varies across economies, depending on the effect of the pandemic and the ability of countries to access low-cost borrowing. The targeting of measures must be enhanced and tailored to countries' administrative capacity, and fiscal transparency and governance practices should be improved.

Directors stressed the need to balance the risks from large and growing public and private debt with those from premature withdrawal of fiscal support, which could slow the recovery. Credible medium-term fiscal frameworks can help set a path for rebuilding fiscal buffers at a pace contingent on the strength of the recovery. Enhancing debt transparency and management will also be important, and some countries may require debt relief or other treatment. Directors agreed that fiscal policies should enable a green, digital, and inclusive transformation of the economy, while long-standing weaknesses in public finances should be tackled once the recovery is firmly in place. Policies should reduce gaps in access to quality public services, such as social protection, more and better health care, and education. Strengthening tax capacity, gradually expanding the base for corporate and personal income taxes and ensuring a more progressive tax system, along

with improvements in spending efficiency, can help mobilize additional resources for basic services and for the Sustainable Development Goals.

Directors agreed that decisive policy action eased financial conditions and helped contain financial stability risks. They noted, however, that the support measures may also have unintended consequences. An extended period of extremely easy financial conditions could result in stretched valuations that may worsen financial vulnerabilities and put growth at risk. A multispeed recovery between advanced and emerging market economies poses a risk that financial conditions in emerging market and developing economies may tighten markedly, especially if advanced economies move toward policy normalization and rates rise rapidly. In this context, clear guidance from advanced economy central banks, together with sound policies in emerging markets, will be important in preventing financial disruption in those economies. Some Directors also noted that emerging market economies may need to resort to policy tools considered in the Integrated Policy Framework. Directors noted that in many economies the corporate sector is overindebted and weakened, especially smaller firms.

Directors agreed that ongoing support remains necessary to complete the recovery. Most Directors noted the need to prevent financial vulnerabilities from turning into legacy issues by tightening selected macroprudential policy tools to tackle pockets of elevated vulnerabilities, while avoiding a broad tightening of financial conditions. Some Directors also emphasized the need to further develop tools targeting nonbank financial institutions.

Directors highlighted that emerging market and developing economies with market access should take advantage of easy financing conditions while they can. They agreed that corporate balance sheet repair is a priority, and they noted staff's analysis that firms facing temporary liquidity risks may need policy support while nonviable firms would need resolution. Directors observed that the ability of banks to lend will be crucial for the success of the recovery.

Directors emphasized the importance of continued international cooperation to overcome the pandemic and strengthen the recovery. In addition to ramping up production and ensuring access to vaccines worldwide, ensuring that financially constrained countries have adequate access to international liquidity will be important. Collective solutions are also essential in the areas of climate change, international tax policy, and international trade. The IMF will continue to play a critical role.

MORE FROM THE IMF ON INEQUALITY SINCE THE COVID-19 PANDEMIC

The IMF analyzes inequality trends and supports countries in designing policies to tackle inequality. The following include selected cross-country publications on inequality since the start of the COVID-19 pandemic.

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