GROUP OF TWENTY

G-20 SURVEILLANCE NOTE

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Prepared by Staff of the

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EXECUTIVE SUMMARY

While global economic activity has picked up since June, there are signs that the recovery may be losing momentum, and the crisis is likely to leave deep, unequal scars. The virus has killed more than a million people and left tens of millions unemployed, especially among low-skilled workers, women, and youth. With infection rates still high in many parts of the world, social distancing continues to hold back momentum in the service sector. Global GDP is now projected to contract 4.4 percent in 2020 and stage an uneven and partial recovery next year. Moreover, persistent under-employment and school closures are likely to harm human capital; and excess bankruptcies may erode know-how and productivity. The surge in debt will add to challenges down the road. Alongside, uncertainty and risks are exceptionally high.

Policies should be focused on ending the crisis quickly and supporting a strong recovery.

- *End the health crisis.* The fastest end to the global crisis lies in multilateral collaboration on the development, production, and distribution of therapies and vaccines, which would lower supply risks and costs for all. Until effective vaccines are widely available, continued social distancing, contact tracing, and use of masks are essential to control the spread of the virus and will allow economic normalization to take place earlier.
- *Bridge the economy through the crisis and minimize scarring.* Extensive policy support has averted much worse outcomes and will need to be maintained until the crisis is behind us. In some economies, additional fiscal support beyond what has already been announced is warranted. Where fiscal space is insufficient, reallocations within the budget envelope may be necessary. As the impact of the crisis is better understood, focus will gradually need to shift toward (i) retraining and reskilling the jobless to facilitate employment in expanding sectors and (ii) supporting viable or strategic firms to minimize unnecessary bankruptcies. Monetary and financial sector policies should remain accommodative while maintaining stability.
- *Bolster medium-term growth and build resilience.* With large-scale public and private investment needs to rebuild from this crisis, now is an opportune time to address long-standing challenges. Enhancing access to opportunities, including through digitalization, can broaden inclusion and help lift the global growth potential. Mitigation of climate change, which requires zero net carbon emissions by 2050, can be done in a way that bolsters recovery and creates jobs.

Multilateral action is needed to end the crisis for everyone. A reduction in trade restrictions and an easing of broader trade tensions would help support the recovery. Efforts are also needed to strengthen the international financial safety net to ensure support is available for countries in need during this crisis and to reform the system of international taxation. Amid unprecedented debt levels, it is essential to make operational the common framework for debt resolution for economies with unsustainable sovereign debt.

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A MUTED RECOVERY AMID SCARS

A partial and uneven recovery continues, though there are signs that it may be losing momentum, broadly as envisaged in the October World Economic Outlook. Amid a resurgence of infections, the continued need for social distancing is weighing on growth. Essential fiscal spending and monetary support have averted even worse outcomes. However, poverty and inequality are worsening, and other deep scars from the pandemic, including loss of human capital, will likely weigh on the growth potential.

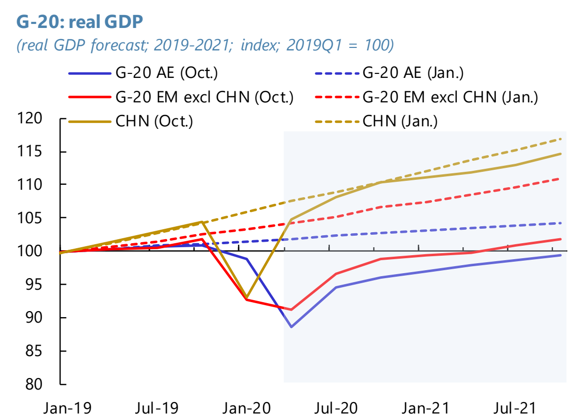
A. The Recovery Continues but Activity Is Likely Moderating

The pandemic has yet to be controlled. A recovery of economic activity has begun, but it is uneven across countries and with divergence across sectors amid continued need for social distancing.

1. **The pandemic has yet to come under control**. The virus has killed more than a million people, damaged livelihoods across the world, and continues to spread at a steady pace. In some economies with persistently high infection rates or renewed pickups in the number of new cases, lockdown relaxations have stalled or rules have been tightened anew. While several vaccines are in late-stage trials, developing and widely distributing these will take time.

2. **The recovery from the deep drop in output is continuing but it is uneven across countries**. Global economic activity has strengthened from its deep collapse in the first half of the year, as economies started to exit from lockdown restrictions. Yet, the October *World Economic Outlook* pointed to a deep recession for the year as a whole. Global growth in 2020 is now projected at -4.4 percent, followed by a partial recovery in 2021 (5.2 percent)—which is nonetheless insufficient to lift output above the 2019 level in most advanced and emerging market economies, excluding *China* (Figure 1, Table 1).This year will also see a divergence in incomes, with per-capita incomes in G-20 emerging market economies declining by more than in G-20 advanced economies. Moreover, the recovery is projected to vary in strength across economies. Notably, G-20 emerging market economies (excluding *China*) are projected to incur an output loss of more than 8 percent by end-2021 relative to the pre-pandemic trend—alongside a somewhat smaller loss (of around 4½ percent) in G-20 advanced economies.

Figure 1. Real GDP Projections

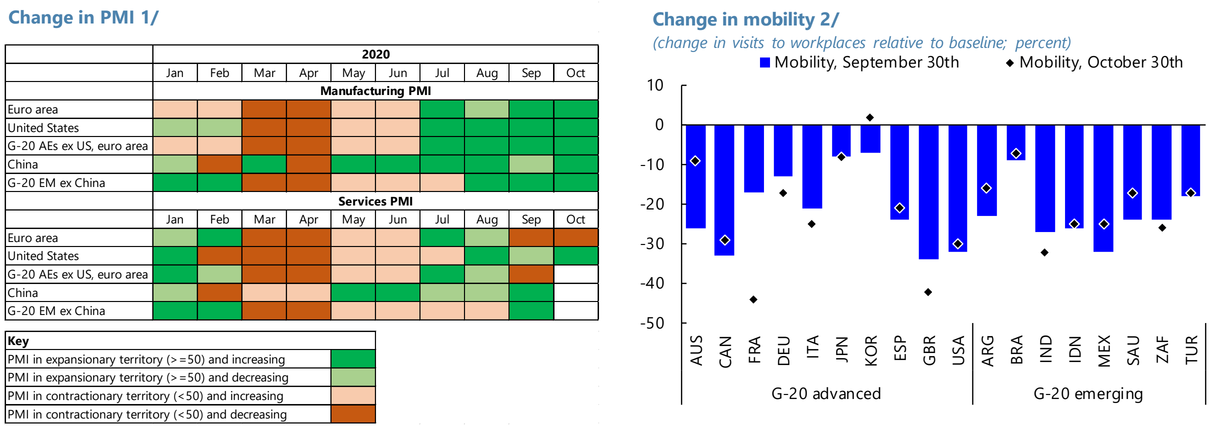


Sources: IMF, World Economic Outlook; and IMF staff calculations.
Data go through the fourth quarter of 2021. The sample includes G-19 countries plus ESP. ESP is a permanent invitee.
AE = advanced economies; EM = emerging market economies.

3. **Recent indicators are showing signs that the pace of the recovery may be slowing**. While trade has picked up, in particular in *China* where reopening occurred earlier and where the economy has rebounded, certain Purchasing Managers Indices point to weakening momentum in economic

activity in some economies. In particular, contact-intensive industries are being impacted by the continued need for social distancing (Figure 2). Nonetheless, growth in the *United States* in the third quarter turned out better than expected. Headline inflation remains muted in most economies, though certain essential products, including food, have become more expensive—with particular impact on the poorest.

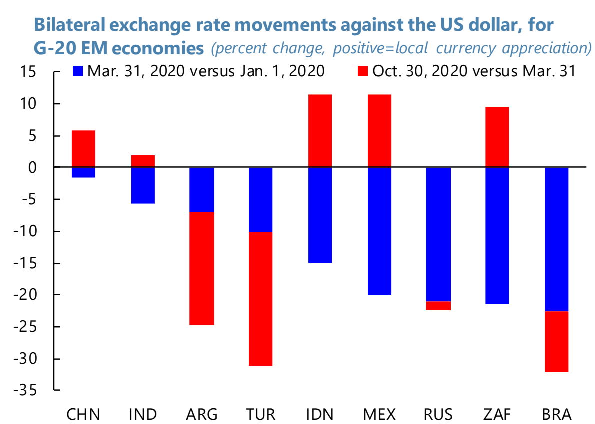
Figure 2. Growth Momentum and Mobility



Sources: Google via Haver Analytics; Haver Analytics; and IMF staff calculations.
Note: 1/ PMI: Purchasing Managers Index. Flash PMIs are used for October 2020 service PMI. G-20 AEs ex US, euro area includes AUS, CAN, FRA, DEU, ITA, JPN, KOR, GBR, and ESP (ESP is a permanent invitee). G-20 EM ex China includes BRA, IND, IDN, MEX, RUS, and TUR. For services PMIs: CAN, KOR, IDN, MEX, and TUR are excluded due to data availability.
2/ Mobility is the percent change in visits to workplaces relative to the period from Jan 3 to Feb 6, 2020. September 29th and October 27th are used for KOR and IDN, respectively.

4. **While financial conditions have continued to ease, it has also prompted a disconnect with the real economy**. Supported by decisive interventions of major central banks, which helped preserve stability, global financial conditions have eased, and sovereign and corporate bond yields have come down from their highs early on in the crisis. Some emerging market currencies have also regained value along with a return of portfolio capital flows (Figure 3). Nonetheless, capital flow volatility persists, and some emerging market economies face difficult financing conditions. Elevated market valuations alongside a recovery that is only partial have resulted in a disconnect between financial markets and the real economy, partly reflecting investor optimism about continued public support and a quick recovery.[1] While policy support has helped restore calm, vulnerabilities are building in the financial sector, as banks' capital buffers are eroded and non-bank financial institutions'

Figure 3. Exchange Rate Movements



Sources: Haver Analytics; and IMF staff calculations.

[1] IMF, *Global Financial Stability Report Update*, June 2020.

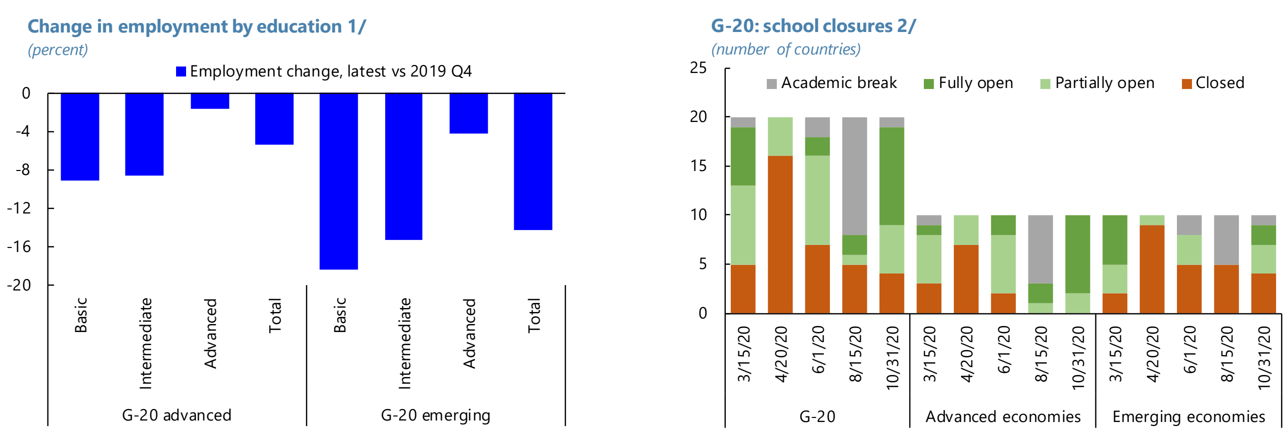
pre-existing fragilities are heightened. The non-financial corporate sector is increasingly vulnerable to loss of access to credit, especially by small and medium-sized enterprises.

B. The Crisis Will Leave Behind a Dire Legacy of Higher Inequality and Weaker Potential Output

Underlying the overall decline in economic activity is an uneven distribution of losses, with workers in some low- and medium-skilled occupations disproportionately hurt. Moreover, human capital is suffering, and bankruptcies will likely entail losses of know-how and capital—all of which are likely to leave scars.

5. Workers in contact-intensive, low- and medium-skilled occupations have been particularly impacted by the crisis. The burden has fallen disproportionately on low- and medium-skilled workers, among which women and youth are overrepresented (Figure 4). Globally, 41 percent of the female labor force (35 percent for men) are employed in sectors hard hit by social distancing (e.g., retail, tourism, and hospitality).[2] Informal workers, who lack the protection provided by the safety nets in the formal sector, face particular challenges. Women are also more likely to leave the labor force and face a lasting hit to their skills and incomes, since they are more often responsible for increased care work at home amid school closures and illness. More generally, the most vulnerable individuals tend to have less access to health care and high-quality education, putting them at risk of prolonged strains. The impact of school closures is particularly adverse for the poorest that also rely on access to school meals for basic meals and nutrition. All these trends are exacerbating pre-existing inequalities and pushing up poverty. As a result, the number of people living below US$ 1.90 per day is set to rise by about 90 million this year.[3]

Figure 4. Scars on People and the Economy



Source: ILOSTAT; UNESCO; and IMF staff calculations.
1/ Employment for ages 15–64. Basic: primary and lower secondary education; intermediate: upper-secondary and post-secondary non-tertiary education; advanced: above post-secondary non-tertiary education. G-20 advanced economys aggregated based on CAN, FRA, ITA, KOR, ESP, GBR, USA; emerging market aggregate based on BRA, MEX, TUR, ZAF. CAN, KOR, USA: latest is 2020Q3; Q2 for all others.
2/ Schools openings for online learning classified as "Partially open." Sample includes G-19 plus ESP. ESP is a permanent invitee.

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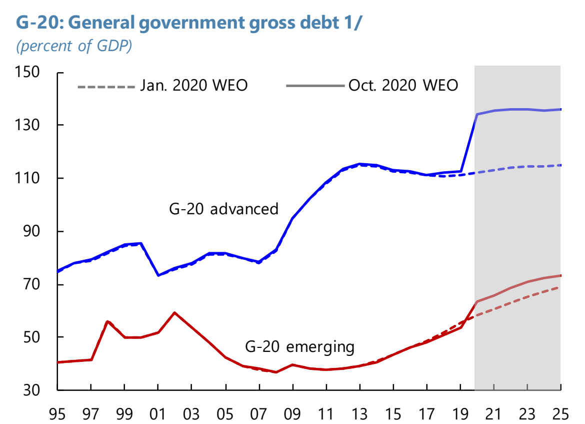
[2] ILO, 2020, "The COVID-19 Response: Getting Gender Equality Right for a Better Future for Women at Work."

[3] IMF, 2020, Fiscal Monitor, Chapter 1, October.

6. **The impacts of the crisis on potential output are likely to be long-lasting**. Following the severe contraction this year, per-capita incomes are now projected at below pre-pandemic trends for several years.

- *Human capital will likely be adversely impacted, weighing on medium-term productivity.* While much is still to be learned about adjustments to the post-pandemic world, the likely needed shift of resources from sectors that might take a long time to recover (e.g., tourism) to expanding ones (e.g., e-commerce) will likely come with structural unemployment amid skill-mismatches, deteriorating the human capital of people with extended job loss. Prolonged large-scale school closures are also likely in some economies, leaving lasting scars on human capital development.
- *Insufficient health resources in developing countries is affecting the treatment of other diseases, which could also weigh on human capital over time.* According to the WHO, supply disruptions and the need to reallocate resources towards managing COVID-19 are hindering the treatment of non-communicable diseases, such as cancer and diabetes, and reducing vaccination rates.[4] The latter risks leaving the population more at risk of infections from otherwise preventable diseases, such as measles.
- *Bankruptcies would adversely impact productivity, which is also under threat from adjustments related to disease containment efforts.* Although policy support is currently staving off widespread bankruptcies, if failures of otherwise viable firms increase, the loss of organizational capital and know-how in the economy will likely weigh on productivity. Surviving businesses will incur costs related to ensuring a safe reopening, possibly at the expense of their efficiency.
- *Debt levels are rising to unprecedented levels, which could crowd out borrowing and investment down the road.* New debt issuance has allowed economies to support people and jobs and helped prevent much worse outcomes. However, it is also raising debt levels. Necessary efforts to mitigate the crisis alongside shrinking output are projected to raise sovereign debt this year by 16 percentage points of GDP in G-20 advanced economies and by about 6 percentage points of GDP in G-20 emerging market economies, relative to pre-COVID projections (Figure 5). At the same time, corporate debt issuance in 2020 is further heightening private debt—and this is occurring on the back of non-financial corporate and household debt that were already at historic

Figure 5. Public-Sector Debt



Sources: IMF, World Economic Outlook; IMF staff calculations.
1/ Includes G-19 plus ESP. ESP is a permanent invitee.

[4] WHO and UNICEF, 2020, "Immunization Coverage: Are We Losing Ground?" and WHO, 2020, "The Impact of the COVID-19 Pandemic on Noncommunicable Disease Resources and Services: Results of a Rapid Assessment."

levels before the crisis. If not addressed once the recovery has firmly taken hold, high debt burdens could eventually raise borrowing costs and crowd out investment.

7. **Much uncertainty surrounds the legacies of the crisis, and the global economic recovery is subject to sizable risks**. On the upside, faster-than-expected containment of the virus or the development of better treatments would allow for a quicker return to normal activity, limit scars, and boost growth. On the downside, if new outbreaks worsen and necessitate more stringent mobility restrictions, or the development, production, and widespread distribution of vaccines and treatments is delayed, social distancing will persist for longer. In turn, growth will be lower, public debt higher, and the scars on the long-term potential of the economy more severe. The uncertain duration and efficacy of continued policy support adds to difficulties. In this context, a premature withdrawal of policy support would put the mending process at risk. Add to this a number of adverse risks. For example, financing conditions could tighten again, turning corporate liquidity pressures into insolvencies. Rising defaults could place banks and non-bank financial institutions under pressure. Geopolitical tensions, increased social unrest, weather-related natural disasters, and trade and technology tensions could all disrupt growth.

CHOOSE THE PATH TOWARD THE STRONGEST FUTURE

The intertwined goals for the G-20 are to (i) end the health crisis; (ii) bridge economies through the crisis and minimize scars; and (iii) bolster medium-term growth and build resilience. Actions that can address multiple goals should be strongly embraced.

A. End the Health Crisis

While individual economies can limit the spread of the virus through containment, ending the crisis requires multilateral cooperation to support the development, production, and distribution of tests, therapies, and vaccines.

8. **Policymakers can help control the pandemic by minimizing the spread of the virus**. In all economies, individual containment measures can be effective in helping to control the pandemic until medical solutions to end it are widely available. Smart containment includes social distancing (including limits on large gatherings), testing, contact tracing, isolation of cases, and the use of masks.

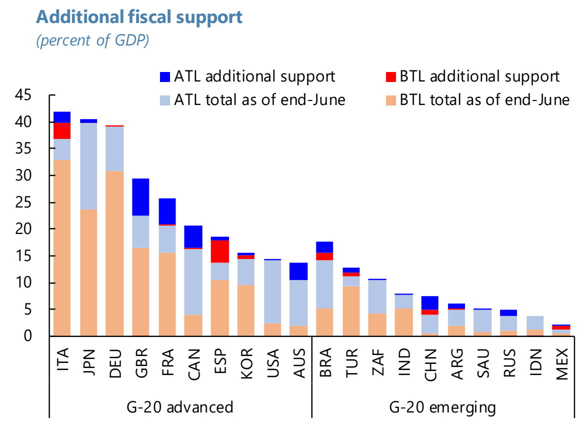
9. **Ending the crisis and ensuring the quickest return to normal activity requires cooperation on the development and distribution of tests, treatments, and vaccines**. A multilateral strategy for production, purchase, and distribution of therapeutics and vaccines—both within and across borders—would help distribute the risk associated with any single vaccine not successfully passing trials and reduce the cost per dose. Cooperation would also be essential to ensure that global supply chains remain intact—not only to facilitate the distribution of the vaccines themselves but also to ensure the availability of necessary inputs for their production. Retaliatory trade restrictions stemming from vaccine exclusion would hurt the recovery in all economies.

B. Support the Economy Through the Crisis and Limit the Scars

While sizable policy support has already been provided, the crisis is not yet over. Continued support for individuals is essential to preserve livelihoods today and over the longer term, including by minimizing scars to human capital. Support for firms to help bridge the time until social distancing is no longer required can help avoid excess bankruptcies and preserve jobs, though they will need to be increasingly targeted to avoid hindering the reallocation of resources to expanding sectors.

10. Monetary and fiscal policy support has been deployed in many G-20 economies. Amid severe declines in economic activity, unprecedented monetary policy easing and swift actions by financial regulators have helped maintain the flow of credit and safeguard financial stability. Alongside, total crisis-related fiscal support by the G-20 has amounted to about US$11½ trillion (including about US$¾ trillion in accelerated spending and deferred revenue) as of early November, helping to support health care capacity, sustain livelihoods, and preserve jobs (Figure 6).[5] Yet, partly reflecting fiscal space considerations, the size of support has varied markedly across countries, including within advanced and emerging market economy groups.

Figure 6. Fiscal Support During the Crisis



Source: Country authorities and IMF staff calculations.
Note: ATL: Above-the-line; BTL: Below-the-line. Additional support is since end-June, as of November 5, 2020. ATL support includes accelerated spending and deferred revenue, including within the fiscal year.

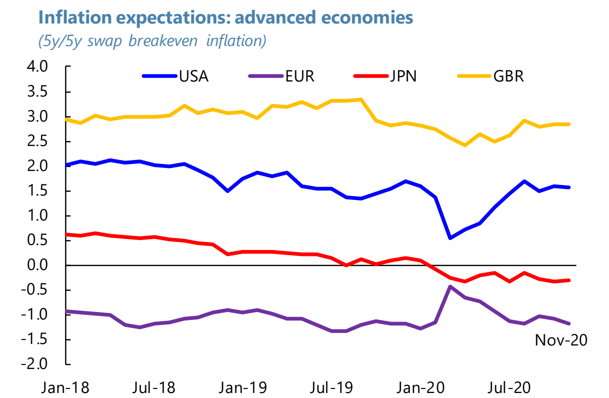
11. Fiscal lifelines are now gradually expiring in several economies. Fiscal balances are projected to improve markedly next year, mostly reflecting a projected discretionary withdrawal of support as some temporary relief measures expire (Figure 7). For example, while millions are still out of work and many businesses remain shuttered, some employment support programs are expiring or are set to be significantly reduced by year-end, putting livelihoods at further risk.

12. Going forward, monetary policy should remain accommodative and complemented with appropriate financial sector policies. Continued accommodative monetary policy will be needed in most G-20 economies as employment generally remains weak and inflation expectations subdued, even signaling deflation risk in some cases (Figure 8). Should financial conditions tighten suddenly, monetary policy should be further loosened where space is available and other financial sector policies deployed to maintain stability and promote liquidity (e.g., by using the inherent flexibility of the regulatory framework and encouraging the use of capital, liquidity, and macroprudential buffers). Liquidity support to financial institutions and core funding markets may be needed to maintain market functioning and liquidity. Economies utilizing unconventional monetary

[5] See IMF's 2020 G-20 Report on Strong, Sustainable, Balanced, and Inclusive Growth for further details.

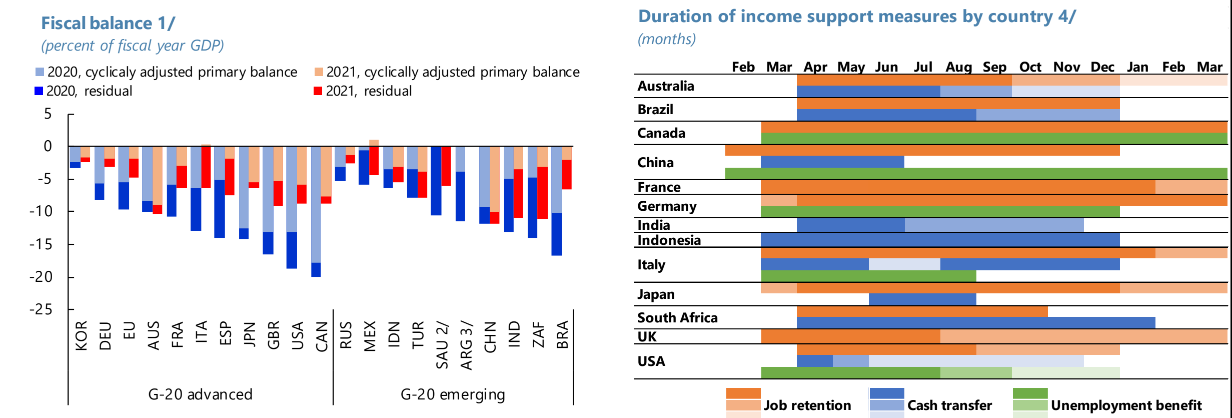
policy as a relatively new or infrequent tool should clearly communicate their objectives and the consistency of tools with price stability goals. In many economies, continued access to bilateral central bank swap lines can help maintain access to liquidity and financial stability. In economies that are facing inflationary pressures, some withdrawal of monetary policy support may be warranted (e.g., *Argentina, Turkey*). Further strengthening of macroprudential toolkits would bolster preparedness for future shocks.

Figure 8. Inflation Expectations



Sources: Bloomberg; and IMF staff calculations.

Figure 7. Fiscal Support Over Time



Sources: Haver Analytics; IMF World Economic Outlook; and IMF staff calculations.
1/ Residual: portion of fiscal balance unexplained by cyclically-adjusted primary balance. For oil exporting countries, oil exports can affect the measured fiscal stance. See also IMF's 2020 G-20 Report on Strong, Sustainable, Balanced, and Inclusive Growth.
2/ SAU: bars show the overall fiscal balance only without breaking down the share of the cyclically-adjusted primary balance.
3/ ARG: only 2020 is shown.
4/ Cash transfers include economic support payments, income supplements, food and electricity subsidies, social and distress grants, in-kind transfers (for IND), and emergency aid programs to households. Colors indicate the kind and scale of support programs within countries over time and are not comparable across countries.

13. Policymakers must ensure continued support for vulnerable groups through the crisis. In some economies, weak employment and growth dynamics alongside a projected sizable tightening of fiscal policy point to the need for further fiscal support beyond what is currently budgeted (e.g., *India, United States)*. In some other economies, providing further direct support in the near term would help stem the decline in incomes and rise in poverty (e.g., *Mexico*). In economies where high borrowing costs pose a constraint to spending, a reallocation of resources within the budget envelope may need to be considered.

- *Continued support for individuals is vital to help address immediate needs as well as the transition to new jobs.* Targeted support for the most vulnerable must be maintained through the crisis to the extent possible. As the recovery kicks in and as many low-skilled people have lost their jobs, training and reskilling of displaced workers as well as job search assistance is needed to support their movement to jobs that fit the needs of the post-pandemic world and help shorten unemployment episodes.

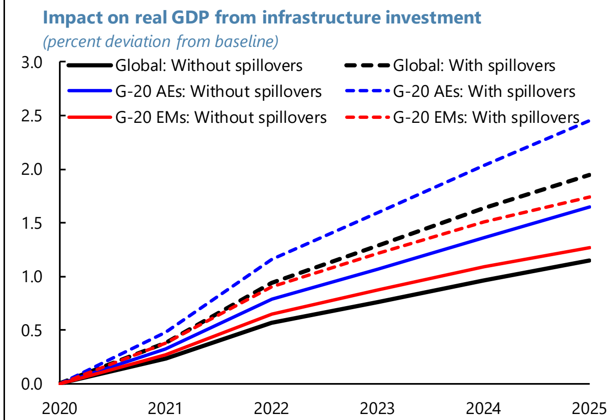
- *Support for firms must be maintained to avoid the destruction of jobs, capital, and know-how, and should become increasingly targeted toward viable firms*. To help preserve employment relationships and avoid widespread bankruptcies, continued support for firms is essential. However, support should be increasingly targeted (e.g., toward viable firms and over time discourage uptake by firms that can manage on their own; equity injections to systemic firms). To facilitate the transformation to the post-pandemic world, reforms that support efficient and rapid out-of-court agreements, restructuring, and bankruptcy procedures would help ensure that resources are not lost or left idle for too long.

14. Investing in inclusive reforms today can minimize scarring and help set the stage for robust and durable growth once the pandemic is under control. Detailed policy needs will vary critically by country and depend on initial reform gaps. As such, no size fits all. Yet, common for all is the need to leverage smart policy packages that can serve multiple purposes—namely promoting a strong, inclusive recovery that can also lift the medium-term growth trajectory.

- *Promoting investment in the digital economy can limit erosion of human capital and strengthen inclusion*. Increased digitization would be beneficial in most G-20 economies and would have multiple benefits. For instance, digitization can help improve government service provision, expand access to remote learning for students where necessary, and help firms expand their consumer base as social distancing persists.
- *Product market reforms to ease barriers to entry for new firms would also help lift innovation and investment*. Firm failures risk further raising market concentration, which could depress innovation, investment, and ultimately growth. Reducing regulatory barriers to entry (e.g., administrative burdens on start-ups or regulatory protections of incumbents) and promoting openness to trade and foreign direct investment can be helpful and should be implemented alongside strong competition law and policy (e.g., well-calibrated intellectual property rights that incentivize innovation without undermining technological diffusion).

15. Once the pandemic comes under better control, a synchronized infrastructure investment push could be undertaken to invigorate growth, limit scarring, and address climate goals. Where slack remains high, public-sector investment can help move economies toward full employment while strengthening private-sector productivity and potential output. While the appropriate size of any stimulus would depend on the economic and fiscal legacies of the pandemic, public infrastructure investment in the G-20 economies with the largest degree of fiscal space could help lift growth domestically and abroad, through trade linkages that strongly amplify the impact when spare capacity is high (Figure 9). For instance, in a context of widespread spare capacity and accommodative monetary policy, the level of global real GDP would increase by close to 2 percent by 2025 if economies with fiscal space increase infrastructure investment spending by ½ percent of GDP in 2021, raise it to 1 percent of GDP in 2022, and keep it at that level until 2025, and economies with fiscal space at risk spend about a third of that amount (dashed black line in Figure 9). The benefits of an infrastructure push are particularly large when carried out in a synchronized way and when spare capacity is large and widespread.[6] As an illustration, if countries were to undertake the spending on their own, rather than simultaneously, the boost to global GDP would instead be just below 1.2 percent in 2025 (as signified by the solid black line in Figure 9, corresponding to the case without spillovers). Put differently, it would take about two thirds more spending to get the same output impact in the absence of cross-border spillovers—that is, if countries acted alone. The program should ideally prioritize green investments (such as efficient mass transit projects, smart electricity grids, retrofitting of buildings to enhance energy efficiency) and job-intensive infrastructure maintenance. Selecting high-quality projects and implementing them efficiently—essential from a fiscal sustainability perspective—require strong public sector administrative capacity and governance.

Figure 9. Impact of Infrastructure Boost



Sources: IMF staff calculations.
Note: AEs: advanced economies; EMs: emerging market economies. All scenarios assume accommodative monetary policy. Economies with substantial and some fiscal space increase infrastructure spending by ½ percent of GDP in 2021, increasing to 1 percent of GDP in 2022 and keeping it at that level until 2025. After 2025, public infrastructure spending returns to baseline over the next two years. Economies with fiscal space at risk increase infrastructure spending by one third of that. Economies with no fiscal space do not increase spending. Fiscal space is as in the IMF's 2020 G-20 Report on Strong, Sustainable, Balanced, and Inclusive Growth. The case without spillovers is a GDP-weighted average impact of each country raising infrastructure spending individually. The case with spillovers is the GDP-weighted average impact of all countries raising infrastructure spending simultaneously.

C. Leverage Opportunities of Today to Address Challenges of Tomorrow

In addition to addressing the acute crisis-related needs and minimizing scars, reforms to address pre-pandemic unevenness in access to opportunities and build resilience are needed to support inclusiveness and growth. In this respect, measures such as support for female labor force participation (e.g., expanded access to childcare) and investments to ensure a green future can have multiple benefits, helping to lift growth today as well as paving the way for long-term strong, sustainable, and resilient growth.

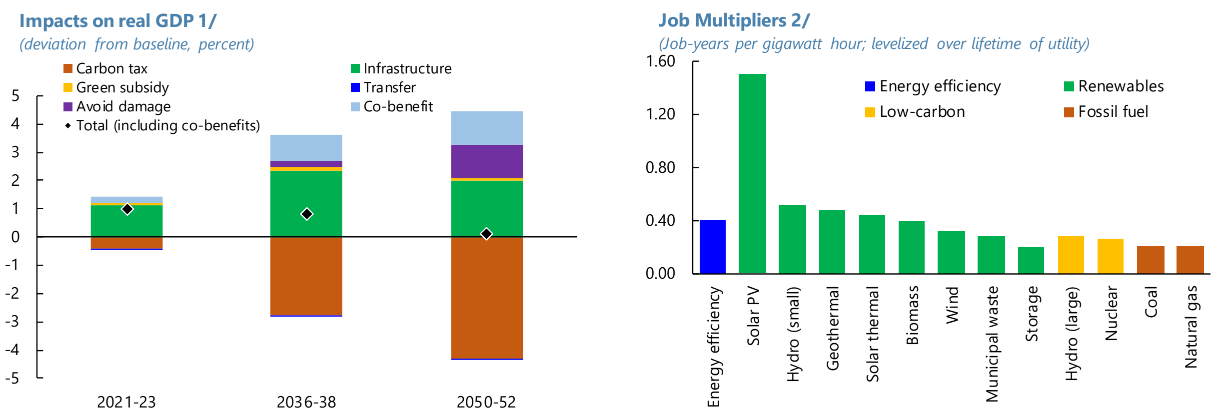
16. Enhancing access to opportunities has become increasingly urgent as disparities have widened further during the crisis. Reforming labor markets (e.g., easing occupational licensing requirements) would enhance access to jobs for all. Greater access to childcare and parental leave would help women re-enter the labor force, while investing in health care, access to clean water and sanitation, early childhood development, and high-quality education would close gaps in children's

[6] Simultaneous fiscal easing generates particularly impactful cross-border demand spillovers when spare capacity is high and monetary policy remains accommodative. This is because, unlike higher domestic infrastructure spending that increases both supply and demand, higher foreign infrastructure spending only generates higher demand, and thus has a significantly higher impact on output when monetary policy is accommodative.

starting points and support human capital development. Complementary efforts will be needed to increase financial inclusion by encouraging the development of low-cost services and enhancing the use of fintech.

17. With large-scale investment needs in the coming years, now is the time to invest in a green, resilient, and sustainable future. Some economies have already taken advantage of crisis-related stimulus to enact a more sustainable future (e.g., *China*, *European Union*, *France*, *Germany*, *Korea*, *Saudi Arabia*, *Spain*, *United Kingdom*). However, amid daunting challenges ahead, more is needed (Box 1). In this respect, investments today can help ensure that new investment paves the way for a low-carbon economy and that climate change mitigation commitments are implemented more broadly. This means increasing dependence on renewable energy, enhancing energy efficiency, and retrofitting buildings to improve energy conservation. Investment in these sectors, which were growing rapidly even prior to the pandemic, will also help with the post-pandemic reorganization of economies, providing investment opportunities for firms and jobs for the unemployed or underemployed. Amid low oil prices and depressed demand for fuel during a prolonged period of working from home and limited leisure travel, prompted by the pandemic, it may also be an opportune time to introduce carbon pricing in some economies. Staff analysis finds that a comprehensive policy strategy to mitigate climate change through a green investment push and gradually rising carbon prices could help create jobs and lift growth (Figure 10).[7]

Figure 10. Economic Impact of Mitigation Policies



Sources International energy Agency; Organisation for Economic Co-operation and Development; Worldwide Patent Statistical Database; Wei, Patadia, and Kammen (2010); World Economic Outlook, Chapter 3, October 2020; and IMF staff calculations.
1/ Three-year averages, based on simulations using the G-cubed Model of McKibbin and Wilcoxen (1999, 2013) and Liu and others (2020). The policy package aims to reduce emissions by 80 percent in every country/region by 2050 and includes: (1) gradually rising carbon taxes, (2) green infrastructure investment (over the first decade) and a subsidy to renewables production, and (3) compensatory transfers to households.
2/ Each bar in Jobs Multiplier shows the total number of job-years generated per GWh of capacity. This includes both direct and indirect jobs, and barring energy efficiency, exclude induced job-effects (for example, induced by changing relative prices). The jobs created, both in the initial phase of asset creation and in the subsequent operation and maintenance of new capacities, are averaged (levelized) over a typical lifespan of a utility. PV = photovoltaic, GWh = gigawatt hour.

[7] IMF, World Economic Outlook, Chapter 3, October 2020.

Box 1. Status of Climate-Change Mitigation in G-20 Economies[1/]

G-20 economies collectively account for about 80 percent of global carbon emissions. *China*, *United States*, the *EU*, and *India* are the top emitters of carbon, contributing about 60 percent of the world total, though at varying degrees in per-capita terms. The *United States* has relatively high emissions on a per-capita basis, whereas the EU has a relatively low emissions intensity of GDP.

An emissions pathway consistent with limiting future global warming to 1.5° to 2°C—the key goal of the 2015 Paris Agreement—would require cutting global fossil fuel carbon dioxide (CO_2) and other greenhouse gases by 25–50 percent below 2018 levels by 2030, with continued rapid emissions reduction thereafter, toward zero net emissions globally by 2050. G-20 economies and other parties have made pledges to cut their emissions, or emissions intensity, and these are due for revision ahead of COP26 in Glasgow, November 2021. Even if fully implemented, however, current pledges would only cut global emissions in 2030 by about 8 percent below 2018 levels—far less than needed even for the 2°C target.

Carbon pricing should be the centerpiece of mitigation efforts, as it provides the critical price signal for redirecting activity, investment, and innovation towards low-carbon technologies. It also raises energy prices and reduces energy intensity overall, which weighs on output. Carbon pricing could raise significant revenues—typically around 0.5–2 percent of GDP for a $50 tax in 2030. Given the massive economic downturn triggered by the Covid-19 pandemic, carbon price increases would need to be gradual and be part of a comprehensive package that also includes an employment-creating green investment push and assistance for vulnerable groups.[2/]

Carbon prices implicit in countries' mitigation pledges vary considerably due to differences in the stringency of their pledges and in the price responsiveness of emissions. For example, emissions are the most responsive to pricing in countries that consume a lot of coal (e.g., *China*, *India*, *South Africa*). Carbon pricing schemes have been implemented in various G-20 economies, though their coverage and price levels generally fall well short of what is required.

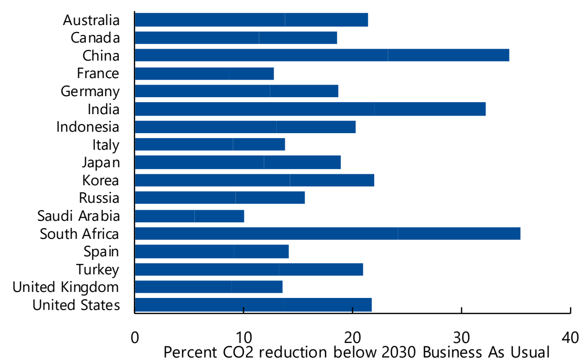
Mitigation Pledges for G-20 Economies

Country	Paris mitigation pledge
Argentina	Reduce GHGs 15% (30%) below BAU in 2030
Australia	Reduce GHGs 26–28% below 2005 by 2030
Brazil	Reduce GHGs 37% below 2005 by 2025
Canada	Reduce GHGs 30% below 2005 by 2030
China	Reduce CO_2/GDP 60–65% below 2005 by 2030
France	Reduce GHGs 55% below 1990 by 2030
Germany	Reduce GHGs 55% below 1990 by 2030
India	Reduce GHG/GDP 33–35% below 2005 by 2030
Indonesia	Reduce GHGs 29% (41%) below BAU in 2030
Italy	Reduce GHGs 55% below 1990 by 2030
Japan	Reduce GHGs 25.4% below 2005 by 2030
Korea	Reduce GHGs 37% below BAU in 2030
Mexico	Reduce GHGs 25% (40%) below BAU in 2030
Russia	Reduce GHGs 25–30% below 1990 by 2030
Saudi Arabia	Reduce GHGs 130 million tons below BAU by 2030
South Africa	Reduce GHGs 398–614 million tons in 2025 and 2030
Spain	Reduce GHGs 55% below 1990 by 2030
Turkey	Reduce GHGs up to 21% below BAU by 2030
United Kingdom	Reduce GHGs 57% below 1990 by 2030
United States	Reduce GHGs 26–28% below 2005 by 2025

Note: BAU: Business As Usual (no new mitigation measures). Targets conditional on international funding, technology transfer, and capacity building in parentheses. Pledges of EU, JPN, UK have been updated since the original submissions for the Paris Agreement. ESP is a permanent invitee.

Effect of $50 per ton carbon price on emissions

(percent)



Sources: IMF staff calculations.
Note: Chart shows reductions in CO_2 emissions relative to 2030 projections under business-as-usual assumptions.

To enhance international coordination, the Paris Agreement could be complemented by a carbon price floor among large emitters.[3/] This arrangement could (i) be highly effective in curbing emissions; (ii) be easier to negotiate with a few players; (iii) address free rider issues through simultaneous action; (iv) involve lower price requirements or transfers for developing countries; and (v) be flexible enough to accommodate alternative policies with equivalent emissions outcomes to the floor price.

[1/] This Box was prepared by Ian Parry and Danielle Minnett.
[2/] IMF, World Economic Outlook, Chapter 3, 2020, October.
[3/] IMF, Fiscal Monitor, 2019, October.

18. Once employment is firmly picking up, increased attention will be needed on withdrawing fiscal support to ensure debt sustainability. The timing of such withdrawal would depend critically on how quickly the health crisis is controlled. An early approval and widespread distribution of effective vaccines and/or therapies, allowing activity across all sectors to strengthen sooner, would facilitate quicker fiscal consolidation, while continuing to be mindful of protecting vulnerable groups. In some economies, revenues could be generated through additional progressive taxation if necessary.[8]

D. Support the World Beyond the G-20

Multilateral efforts are vital to help the poorest economies through the crisis. Moreover, focus must be maintained on strengthening rules-based trade, an international system of taxation where everyone pays their fair share, and a stronger global financial safety net. Without these, the global economy will face a much more challenging road ahead.

19. Continued liquidity support for poorer countries should be a priority for the G-20. The IMF continues to support the global financial safety net through an expanded lending toolkit, including a new credit line for members with strong policy frameworks and fundamentals; approval of new Flexible Credit Line arrangements; unprecedented levels of new financing through traditional lending facilities; a temporary increase in access to emergency financing facilities; and modifications to the Catastrophe Containment and Relief Trust (CCRT) to provide immediate debt service relief to its poorest members. The G-20 Debt Service Suspension Initiative (DSSI), providing a temporary debt service suspension to the poorest countries, has been welcome. The IMF and the World Bank will review the economic and financial situation in the spring regarding the need for a further extension. Further support from the international community in the form of debt relief, grants, and concessional financing, including from private creditors, will help economies conserve international liquidity and direct scarce resources to health spending and economic relief for their populations until the crisis subsides.

20. A robust recovery relies on global leadership that promotes multilateral cooperation and protects its benefits. While the COVID-19 crisis has brought to the fore many new, critical policy priorities, a number of pre-existing ones will still need to be addressed. Combining well-coordinated national policies with joint measures at the global level will help ensure a strong, sustainable recovery.

- *A more open, stable, and transparent rules-based trading system is needed*. In the immediate term, the G-20 should refrain from imposing or intensifying trade restrictions and promptly remove those put in place since the start of the year on all medical goods and services as well as on any goods and services related to vaccine manufacturing and distribution. The *United Kingdom* and the *European Union* should ratify a trade deal to avoid new trade barriers. Tariff and nontariff barriers that have been imposed in recent years should be reversed. Leadership by the G-20 is critical for reforming and modernizing the WTO. National climate policies should be designed and implemented to meet climate goals without resorting to discriminating or trade-distorting

[8] IMF Fiscal Monitor, Chapter 1, October 2020.

measures. Such actions would help strengthen the global trading system as well as ensure access to foreign markets, thereby helping to boost external demand and supporting the recovery in individual economies—ultimately benefiting all.

- *The global financial safety net should be reinforced.* A stronger safety net is essential to ensure it is proportional to the liquidity needs now and in future episodes of stress. Further extensions of swap lines would be helpful in this regard. There is also scope for exploring options for better using existing special drawing rights.

- *The common framework for debt resolution should quickly be made operational.* The common framework will help support swift and comprehensive debt restructuring for countries with debt challenges. For the framework to be effective, transparency of debt remains of the essence.

- *The system for taxing multinational enterprises should reduce the scope for tax avoidance.* Reforms to the international taxation system should be done in an equitable manner that addresses profit-shifting, tax competition, and the role of digitalization. They should also make sure corporates pay their fair share in market jurisdictions where they do business to help support opportunities of future generations. Significant progress made by the G-20/OECD project on Base Erosion and Profit Shifting and by the Inclusive Framework, which has broadened the scope of cooperation to non-OECD countries, is welcome. However, much remains to be done to find sustainable global solutions that ensure fairness, inclusiveness, and broad consensus in order to stem the threat of countries implementing unilateral measures.

Table 1. Real GDP Growth

(annual percent change)

	Year over Year					
			Projections (Oct. 2020)		Deviations (from Jun. 2020)	
	2018	2019	2020	2021	2020	2021
World	**3.5**	**2.8**	**-4.4**	**5.2**	**0.5**	**-0.2**
Advanced Economies	2.2	1.7	-5.8	3.9	2.2	-0.9
Euro area	1.8	1.3	-8.3	5.2	1.9	-0.8
Emerging Market and Developing Economies	4.5	3.7	-3.3	6.0	-0.3	0.1
G-20 1/	3.6	2.9	-4.1	5.4	0.7	-0.3
Advanced G-20 2/	2.1	1.6	-5.6	3.7	2.4	-0.9
Emerging G-20 3/	5.0	4.0	-2.8	6.8	-0.3	0.3
Argentina	-2.6	-2.1	-11.8	4.9	-1.9	1.0
Australia	2.8	1.8	-4.2	3.0	0.3	-1.0
Brazil	1.3	1.1	-5.8	2.8	3.3	-0.8
Canada	2.0	1.7	-7.1	5.2	1.3	0.3
China	6.7	6.1	1.9	8.2	0.9	0.0
France	1.8	1.5	-9.8	6.0	2.7	-1.3
Germany	1.3	0.6	-6.0	4.2	1.8	-1.2
India 4/	6.1	4.2	-10.3	8.8	-5.8	2.8
Indonesia	5.2	5.0	-1.5	6.1	-1.2	0.0
Italy	0.8	0.3	-10.6	5.2	2.2	-1.1
Japan	0.3	0.7	-5.3	2.3	0.5	-0.1
Korea	2.9	2.0	-1.9	2.9	0.2	-0.1
Mexico	2.2	-0.3	-9.0	3.5	1.5	0.2
Russia	2.5	1.3	-4.1	2.8	2.5	-1.3
Saudi Arabia	2.4	0.3	-5.4	3.1	1.4	0.0
South Africa	0.8	0.2	-8.0	3.0	0.0	-0.5
Spain 5/	2.4	2.0	-12.8	7.2	0.0	0.9
Turkey	3.0	0.9	-5.0	5.0	0.0	0.0
United Kingdom	1.3	1.5	-9.8	5.9	0.4	-0.4
United States	3.0	2.2	-4.3	3.1	3.7	-1.4
European Union	2.3	1.7	-7.6	5.0	1.7	-0.7

Source: IMF, *World Economic Outlook Update*, October 2020.
1/ G-20 aggregates exclude the European Union.
2/ Includes *Australia*, *Canada*, *France*, *Germany*, *Italy*, *Japan*, *Korea*, *United Kingdom*, and *United States*.
3/ Includes *Argentina*, *Brazil*, *China*, *India*, *Indonesia*, *Mexico*, *Russia*, *Saudi Arabia*, *South Africa*, and *Turkey*.
4/ For *India*, data and forecasts are presented on a fiscal year basis, with FY 2020/21 starting in Aril 2020.
5/ *Spain* is a permanent invitee.