POLICY CENTER FOR THE NEW SOUTH

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COVID-19 & Developing Countries—the Road to Recovery

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About the Policy for the New South

The Policy Center for the New South (PCNS) is a Moroccan think tank aiming to contribute to the improvement of economic and social public policies that challenge Morocco and the rest of Africa as integral parts of the global South.

The PCNS pleads for an open, accountable and enterprising "new South" that defines its own narratives and mental maps around the Mediterranean and South Atlantic basins, as part of a forward-looking relationship with the rest of the world. Through its analytical endeavours, the think tank aims to support the development of public policies in Africa and to give the floor to experts from the South. This stance is focused on dialogue and partnership, and aims to cultivate African expertise and excellence needed for the accurate analysis of African and global challenges and the suggestion of appropriate solutions.

As such, the PCNS brings together researchers, publishes their work and capitalizes on a network of renowned partners, representative of different regions of the world. The PCNS hosts a series of gatherings of different formats and scales throughout the year, the most important being the annual international conferences "The Atlantic Dialogues" and "African Peace and Security Annual Conference" (APSACO).

Finally, the think tank is developing a community of young leaders through the Atlantic Dialogues Emerging Leaders program (ADEL) a space for cooperation and networking between a new generation of decision-makers from the government, business and civil society sectors. Through this initiative, which already counts more than 300 members, the Policy Center for the New South contributes to intergenerational dialogue and the emergence of tomorrow's leaders.

Abstract

COVID-19 has ravaged nearly every country in the world, with the globalization of recent decades intensifying its spread. As of mid-2021, the world had spent $16.5 trillion—18% of global GDP—to fight the disease. And that amount does not even include the most important losses such as deaths, mental health effects, restrictions on human freedom, and other nonmonetary suffering. Nearly 90% of this spending was by developed economies, with the rest by emerging market and developing economies. As a result, developed countries are on their way to taming the pandemic. But at just $12.5 billion, or less than 0.0001% of the total, coronavirus-related spending by low-income countries amounts to virtually nothing.

This book shows that low- and middle-income countries still have a long way to go to control COVID. To survive the pandemic and restore economic growth, these countries must increase fiscal spending to vaccinate against and treat COVID-19 over the next two years. Because their ability to do so depends on individual country's circumstances, the book examines the fiscal space of selected low- and lower-middle-income countries and finds that most are not in a position to increase fiscal spending without jeopardizing debt solvency and sustainability. Thus, this book concludes that developing countries must bite the bullet and be willing to risk further debt stress to emerge from the crisis. The international community must be willing to accept these exceptional conditions and adopt measures to ease the pain and suffering of the developing world. The book also recommends policies for dealing with the long-term growth issues of developing countries.

Executive Summary

COVID-19 has hit the world economy hard, with global GDP falling more than 3.5% in 2020. The pandemic has inflicted widespread human misery and economic damages since it emerged from Wuhan, China in late 2019. By November 2021, more than 250 million people had been infected worldwide and over 5 million had died. Though the number of new infections has declined in recent months, the rapid spread of variants of the virus has rekindled fears about the reimposition of lockdowns and other measures to contain it.

Unlike previous global crises, COVID-19 spared no country. Both the developed and developing worlds suffered severe harm, creating a self-reinforcing contraction in global demand for goods and services. The more open a country's trade system, the greater the impact on its balance of payments and the deeper the effect on the national economy. Yet, COVID-19's effects on developing countries have been more severe, deepening inequality between the two worlds.

The pandemic arrived when trade tensions were mounting between China and the United States, and the developing world was facing a new wave of debt. Between January 2020 and June 2021 global spending to curb the virus was about $16.5 trillion (18% of world GDP)—which does not even include the most important losses such as deaths, mental health effects, restrictions on human freedom, and other nonmonetary suffering. Nearly 90% of this amount ($14.5 trillion) was spent by developed economies; the rest by emerging market and developing economies (simply referred to as developing countries in this summary). Low-income countries spent just $12.5 billion, or less than 0.0001% of the total. COVID-19 has had especially devastating impacts on vulnerable groups including women, young people, poor people, and informal sector workers.

Developed countries are projected to see GDP growth of 5.4% in 2021 and 4.0% in 2022, while developing countries are expected to grow 4.4% and 4.2%. But these forecasts assume that annual investment in 2020–22 will exceed that in 2019, especially in China. Excluding China, developing countries will face lower investment and growth. In particular, underlying these growth assumptions is the hope that COVID-19 vaccinations of the global population will be sufficient by the end of 2022 to achieve herd immunity before economic activity fully resumes. As of mid-2021, this hope remains optimistic given halting progress on vaccinations (35% for the world and less than 5% for Africa), emerging variants of the virus, and new waves of infections around the globe.

The countries hit hardest by the pandemic are those that have relied on tourism, services, or commodities for income. Unemployment, already high before COVID-19, worsened—particularly among women and young people—lowering per capita incomes and raising poverty and inequality. Both supply and demand factors have caused the sharp contraction in GDP. On the supply side, the contraction was mainly driven by a sharp decline in the services sector due to the collapse of tourism, reflecting strains on transportation due to closed roads, railroads, airports, ports, and border crossings. On the demand side, consumption and investment have fallen.

COVID-19 caught the world off guard. Emergency measures to save lives included closing borders and introducing lockdowns, quarantines, and stay-at-home orders. To maintain livelihoods, conventional and unconventional policies were developed to support businesses and workers during lockdowns and help them prepare for recovery when lockdowns were lifted. These included fiscal and monetary measures to support healthcare systems, income relief for businesses and households, and liquidity injections to stimulate economies.

All developing countries face a more daunting paradox of choices than before. On the one hand, they need to borrow continuously to manage the lingering pandemic and support their nascent economic recoveries. On the other hand, they face rising debt service costs while their exports slump and their weak economic growth has diminished creditors' confidence. Given the constrained space for budgetary maneuvering, the resulting fiscal deficits are increasingly being financed by central banks through direct advances and holding of more short-term treasury bills and long-term bonds. The fiscal burden on these banks is aggravated by the easing of monetary policies and injections of liquidity.

Until COVID-19 is controlled, near-term prospects for the recovery of developing countries are clouded with risks and uncertainties. Among the greatest likely challenges are the spread of new variants, limited access to or delays in the distribution of vaccines, restoration of supply (especially through global supply chains), and weaknesses in the recovery of consumer and business confidence causing protracted depression of domestic and external demand.

Developing Countries Have Limited Fiscal Space to Respond

Because the pandemic hits both the supply and demand sides of economies, its effects are far more serious than a typical economic shock. On the supply side, lockdowns and quarantines reduce labor supply and firm capacity utilization, while disruptions to global supply chains undermine the provision

of inputs—causing shortages and rising costs. On the demand side, the loss of income causes consumption and investment to drop. Workers in services such as tourism and hospitality are hit hardest, and informal workers suffer the most due to the need for close contact with customers. Low-income households fare worst due to limited access to healthcare and financial resources. Commodity exporters and tourism-dependent economies are also vulnerable.

Two types of fiscal measures are being used to support households and businesses during COVID-19. The first are above-the-line policies that directly raise budget deficits, such as cash transfers to low-income households, temporary enhancements of unemployment benefits, and wage subsidies or paid sick and family leave for workers who stay home to care for their children during school closures. These policies also include temporary government cashflow assistance or tax relief for people and firms affected by COVID-19. The second type are liquidity measures that do not directly affect budget deficits. For example, to help firms with liquidity, governments provide cashflow support in the form of loans, umbrella guarantees, and other support. These measures do not show up in budgets immediately but involve contingent liabilities outside budget revenue and spending.

Between January 2020 and June 2021 the world spent over $16.5 trillion on fiscal actions related to COVID-19, about $10.4 trillion of which was above-the-line spending (additional spending and forgone revenue) and $6.1 trillion for government loans, guarantees, and capital injections. Again, these COVID costs did not include the most important losses such as deaths, mental health effects, restrictions on human freedom, and other nonmonetary components. The size of financial support has varied by country depending on income level, political willingness, and the extent of the pandemic. Combined, global public debt has approached 98% of GDP. For developed countries the increase in fiscal deficits comes from both higher spending and declining revenue. For developing countries, the increase mainly reflects a collapse in fiscal revenue.

About 88% of this fiscal spending was incurred by the 57 high-income countries. For these economies, half the above-the-line support was devoted to protecting jobs and supporting household incomes. High-income countries spent 14% of GDP on average on COVID-19. Italy led in spending as a share of GDP (more than 46%), though the United States spent the most—nearly $6 trillion.

Low-income countries spent just $12.5 billion to cope with COVID-19, compared with $14.5 trillion by high-income countries, $1.5 trillion by upper-middle-income countries, and $408 billion by lower-middle-income countries. In developing countries as a whole, the most support went to public works and employment protection, though there has been substantial variation in the fiscal measures taken.

In response to the pandemic, and to varying degrees, all developing countries have mobilized resources to boost health spending, provide emergency funds for affected workers and companies in strategic sectors, adopt temporary tax reliefs and holidays, and provide government guarantees for loans from banks or central banks for strategic sectors.

Developing countries face difficult choices between increasing spending to fight the disease and protecting people during a time of fiscal constraints due to lower domestic revenue and external inflows. As a result, in addition to more accommodative monetary policy, countries have had to borrow more—domestically and externally.

Among developing countries, low-income countries face a particularly difficult situation. Faced with contractions in output, drops in commodity prices, and rising debt burdens, these countries could not afford the needed fiscal support, resulting in higher poverty and malnutrition. Many resorted to cutting capital spending, which will make it harder to grow after the pandemic.

In short, the budgetary needs to cope with COVID-19 in developing countries remain large, especially given emerging variants of the virus. In addition to vaccine and treatment budgets, governments are expected to continue to provide social protection—especially cash transfers to vulnerable populations. These needs will pose massive challenges to countries under tight financial constraints, especially those at risk of debt distress.

Thus, the fiscal outlook for developing countries is not promising. Risks are intertwined and reinforcing. The main sources include:

- Protracted economic downturns, such as further lockdowns, delays in vaccine access and availability, and new waves of infections caused by new variants.
- Tighter financing conditions, including rising international interest rates.
- Realization of contingent liabilities, as a significant part of global financial support has been through loans or guarantees, equity injections, and other quasi-fiscal operations.

Other risks include volatile commodity prices and rising social discontent caused partly by mental stress due to lockdowns.

Covid Vaccinations and Treatments are Urgently Needed

Until recently, fiscal spending by developing countries focused on issues unrelated to resolving the two main problems of COVID-19: vaccination and treatment. For the world to return to normalcy, all countries need to continue with vaccination efforts until at least 70% of the population is fully vaccinated. In addition, treatment of infected people needs to continue apace. As of October 2021, just 35% of the global population had been vaccinated—and in the developing world far less. Less than 5% of Africans have been vaccinated. And vaccines are more far more advanced than treatments. Though a variety of effective COVID-19 vaccines exist, developing countries face major challenges in accessing and distributing them. The main issue is ramping up production of these vaccines to satisfy global demand.

Vaccines are extremely effective at preventing severe infections (though fully vaccinated people can still suffer breakthrough infections). Treatments like monoclonal antibodies can keep mild cases from getting worse, but they are expensive, in limited supply, and can be administered intravenously only by medical professionals. A recent announcement by Merck and Ridgeback Biotherapeutics about the efficacy of their molnupiravir oral antiviral medicine could be a game changer, if approved by U.S. Food and Drug Administration (FDA). According to the World Health Organization (WHO), effective management of COVID-19 requires four components: vaccines, diagnostics, therapeutics, and health system links. The last component is to deliver vaccines and treatments. Unfortunately, developing countries have no choice in this matter. Economic activities cannot resume unless all four components are obtained and delivered.

Though COVID-19 does not seem to have ravaged Africa as much as it has other continents, its full effects are not yet known. The WHO has found that six of seven COVID-19 infections go undetected in Africa. Underreporting and lack of testing reflect limited healthcare resources, which make COVID tests and diagnoses hard to come by.

Financing large fiscal deficits is especially challenging for low-income countries given their limited market access and restricted ability to increase near-term revenues. Debt levels in these countries are projected to peak in 2021 and continue to climb in some. In 2020 actions were taken under the Group of 20 (G20) Debt and Debt Service Suspension Initiative (DSSI)—the first international effort after the emergence of COVID to help the poorest countries through grants, concessional loans, and debt relief to address the steep rise in their public debt. But these temporary relief actions do not address the root cause of debt problems.

Debt Problems Existed Before the Pandemic

Developing countries faced debt issues long before the pandemic. Over the past decade a growing number of low-income countries had fallen into debt distress. Moreover, the structure of international debt has changed. More private creditors are making loans to poor countries, while the role of official creditors—especially bilateral ones—has shrunk. Both creditors and debtors created this situation. For creditors, high returns and the relatively low debt burdens in low-income countries following the Heavily Indebted Poor Countries (HIPC) initiative created incentives for international lending. For debtors, funding from commercial creditors has become increasingly popular because such loans often come without the conditions usually attached to multilateral and bilateral loans. In addition, syndicated loans and public-private partnership project finance have grown.

Higher borrowing from non–Paris Club and commercial creditors has meant shorter maturities and higher refinancing risks. Since 2013–14 a surge in issuances of 10-year Eurobonds by many African countries as well as non–Paris Club loans (which have shorter maturities than typical multilateral concessional long-term loans) has caused bunching and created sovereign debt liabilities coming due in 2024–25—just as countries are expected to be recovering from the COVID-induced recession. This bunching in maturities elevates risks of debt distress. Developing countries need to begin debt resolution and restructuring negotiations before these risks materialize.

The past decade has also seen an increase in the share of private debt in developing countries' total debt, including private nonguaranteed as well as public and publicly guaranteed private debt. The presence of private creditors has implications for the incentives and ability to provide debt relief. This trend has occurred in both low- and middle-income countries, though more prominently in the latter. Among private creditors, bondholders are diverse and difficult to organize in case debt restructuring is needed.

Prior to the pandemic, the debt problems of developing countries reflected slow growth, unproductive use of debt, and borrowing on commercial terms at high costs and short maturities. The two components that directly affect debt ratios are the primary deficit (budget deficit net of interest payments) and the automatic debt dynamics term (GDP growth and interest rates). The first is more direct and can significantly affect debt ratios. The second can be a potent force if world economic growth slows down or if the international lending environment turns against borrowing countries.

Countries Need Individual Debt Sustainability Analyses

Though it is useful to discuss general debt trends of countries grouped by income level, a deeper understanding of the debt situation in developing countries can be gained only through detailed analysis of debt sustainability at the country level. Thus, this book focuses on the debt situation of Ethiopia and Zambia (two countries currently covered by the DSSI), Egypt, Morocco, and Tunisia. For comparison, it also includes Vietnam, which in 2019 had roughly the same debt and population as Egypt. In addition, the analysis includes Côte d'Ivoire, Ghana, Malaysia, the Philippines, and Thailand, though for brevity complete discussions are not included in the text.

For each country we first assess the current debt structure and the base case (before COVID-19) for key macroeconomic variables based on assumptions by international institutions. We then add the additional fiscal spending needed for COVID vaccination and treatment in 2021–23, together with non-health spending for the pandemic, to see how this spending will affect macroeconomic stability. This case is called Scenario 1. In addition, we examine a Scenario 2 in which the international environment worsens in the form of falling GDP and rising interest rates.

The debt analysis of these selected low- and lower-middle-income countries demonstrates two key points. First, the external debt of developing countries rose significantly in 2020 after COVID-19 emerged. Yet this increase is only the beginning because more fiscal spending will be needed to acquire and deploy vaccines and to treat infected populations. Most low- and lower-middle-income countries will be under debt stress, with the ratio of debt to GDP exceeding 65%. A few countries will experience liquidity problems, but most will face solvency problems that require addressing their debt burdens.

Second, developing countries face a stark choice between avoiding a collapse through vaccination at any cost and risking further debt distress. The debt situation will be made worse if global economic growth slows while borrowing costs rise as a result of tighter monetary policy in developed economies. Most developing countries will face serious debt difficulties if this combination of events occurs.

COVID-19 has increased external vulnerabilities and markedly reduced external buffers. The containment measures implemented to slow the pandemic's spread significantly eroded fiscal space. The shift in debt structure from official bilateral to private creditors—mainly Eurobond and commercial sources—to finance budget and current account deficits has raised the costs of debt service

and made it more sensitive to movements in interest and exchange rates. Some economies will have insufficient liquidity to meet financial obligations as the pandemic continues beyond 2021.

Fiscal spending by developing countries to cope with COVID has been much lower than in developed ones because of resource constraints and lack of access to vaccines and treatments. But until COVID-19 is under control, these countries will have no way to recover. So, spending on COVID vaccines and treatments will be a priority in 2022–23. In addition, priority has to be placed on protecting workers, especially informal ones.

Should governments borrow domestically or externally to finance this extra spending? In countries with nascent capital markets, policymakers may not have many choices but to borrow from abroad. Developing countries should take advantage of the International Monetary Fund's new Special Drawing Rights allocation for COVID-19, which countries do not have to repay, supplemented by loans from international organizations that offer longer maturities and lower borrowing costs. A large portion of the potential increase in fiscal spending should be used for cash transfers to help vulnerable groups hit hardest by COVID-19: poor people and informal workers (especially in services) who cannot avoid physical contact with customers.

Policies to Ensure Strong, Sustainable, Inclusive Growth

Many policies in place or designed before COVID-19 are no longer valid. Developing countries should focus on priority policy actions covering the short term (2021–23), to survive the pandemic, and the medium term (2023–25), to ensure full economic recovery. And the groundwork should be laid to address long-term growth issues (beyond 2025).

To manage COVID-19, the top priority for policymakers is to control its spread by acquiring the best vaccines and vaccinating at least 70% of their populations, and acquiring and distributing medications to treat it. Along with adequate testing and decent health system links, these policy actions are not negotiable. In the medium term, efforts should focus on reforming healthcare systems, particularly decision making and implementation and delivery mechanisms.

The second area of urgency is to resume domestic production, especially for global supply chains requiring exports. Lockdowns have decimated the labor force in many countries, leading many migrant workers to return to rural

areas. The first step is to bring workers back to factories by providing incentives such as relocation bonuses, housing subsidies, and transport grants. Such efforts obviously need to be combined with policies that reduce administrative restrictions on or impediments to workers' movement. Governments should work with private firms to ease any constraints they are facing to get back to output levels prior to COVID-19.

In the medium term, governments should encourage the development of personal protective equipment and medical industries, improve worker skills through training and technical assistance programs, provide incentives for domestic companies to link with foreign ones, and review laws on foreign direct investment to foster higher-value activities. Some countries might also need to implement stimulus packages for nontradable goods and services, since most unskilled workers are informal—especially in services and domestic trade. Such packages could provide grants to all households and reduce or delay charges and taxes for small and medium-size enterprises.

At the same time, it is crucial that developing countries restore the long-term growth potential of their economies by completing ongoing infrastructure investments, especially in roads, ports, and the like; accelerating reforms in education and training systems, with a view toward replacing traditional teaching methods with online services; undertaking digital transformations to foster innovations; cutting red tape in economic decision making; placing annual budgets under medium-term frameworks so that unexpected spending can be made in any period without jeopardizing macroeconomic stability; and boosting labor productivity, which dropped in developing countries between the 2008 global financial crisis and the arrival of COVID-19—partly due to the reallocation of labor to services. Pandemic-induced economic disruptions have reduced productivity even more, especially in Sub-Saharan Africa. Policies to raise agricultural productivity—such as strengthening infrastructure and land property rights—would likely pay large dividends.

Equally important are policies to support structural transformation, which could contribute even more to Sub-Saharan productivity growth. Facilitating structural transformation in the region's low-income countries requires creating jobs in modern, industrial sectors. The binding constraints on African competitiveness in manufacturing are limited industrial land, input industries, finance, trade logistics, worker skills, and infrastructure. Solutions drawn from East Asia's experiences could help ease these constraints.

Middle-income countries in general face different issues. They need to create jobs for unskilled and semiskilled workers as well as jobs that create more added value in global value chains. They also need to actively promote innovation to move to the next stage of economic development.

A comprehensive and coordinated approach to deliver the above policy agenda includes three types of policy reforms: short-term, medium-term, and long-term actions.

Short-term actions

- Quickly acquire and deploy reputable COVID-19 vaccines for at least 70% of the population and acquire and deliver medications for treating the disease. No country can be considered safe without these efforts, along with adequate testing and health system links.
- Restore domestic supply—especially global supply chains for exports—to the levels before the virus emerged.
- Continue social distancing and other practices such as mask wearing, hand washing, and restricting large public gatherings.
- Avoid premature reopenings or stop-start containments, which undermine productivity because furloughs and reduced working hours tend to lead to permanent job losses.
- Implement demand stimulus packages if needed.
- Protect lives and livelihoods by extending social safety nets and protection programs through cash transfers, food aid, unemployment assistance, and free treatment for informal workers, women, youth, and poor people.
- Ensure the liquidity of the financial system and timely support for firms.
- Search and raise funding for large additional, unplanned fiscal spending. Institute debt management systems that foster long-term debt sustainability through debt reprofiling or restructuring.
- Develop capacity for debt sustainability analysis that can publish debt reports at fixed intervals, working with multilateral institutions and with bilateral and private creditors to promote prudent decision making by borrowers and lenders alike.
- Strengthen coordination of fiscal, monetary, and exchange rate policies to monitor the direction, speed, and magnitude of capital flows and their economic effects.
- Conduct thorough public expenditure reviews to establish a core protected group of investment projects needed to restore economic growth, and focus on making capital projects more efficient through procedures that enhance project identification and implementation.

Medium-term actions

- Provide fiscal support and introduce policies to formalize the informal sector through training for workers and businesses to narrow mismatches in skills.
- Adapt education systems to have a technological bias. Investing in science, technology, engineering, and mathematics (STEM) fields and problem-solving skills will groom the workforce for the future. Such investments will also trigger the adoption of new technology and the emergence of new service industries to support diversification.
- Invest in network infrastructure that expands internet connectivity economywide so that everyone—children, adults, workers, businesses—can benefit from online learning. Doing so will also boost managerial and production productivity in small and medium-size enterprises through technological and financial innovation, and more efficient trade through ecommerce and financial inclusion across all sectors. In addition, it will create a lot of jobs and could disproportionately benefit youth and women. Digital transformation is already the hallmark of most upper-middle-income countries. Lower-middle-income countries could invest in it to leapfrog and catch up.
- Deepen domestic bond markets while taking into account the risks of foreign ownership of treasury bills and bonds, reflecting the "on and off" impacts of market sentiment that may lead to capital flight under changing market conditions such as interest rate changes in developed countries. Capital flows should be carefully managed and create incentives for more stable, long-term flows such as foreign direct investment.
- Closely monitor and review guarantees, subnational debt, financial liabilities of state-owned enterprises, and other contingent debt. An inability of state enterprises or subnational governments to roll over maturing principal debt obligations may require central governments to step in.
- For middle-income countries, invest in more functional, efficient healthcare systems to cope with future pandemics and ease government burdens. Unlike most low-income countries, where affordability and implementation are major constraints, middle-income countries could consider universal health insurance to cut government spending.

Long-term actions

- Promote economic and export diversification through trade policy reforms and fiscal investments in public goods and industrial clusters for non-extractive goods and services. Doing so is key to inclusive, sustainable growth and large-scale job creation in economies dependent on natural resources.
- Improve economic resilience to exogenous shocks and future challenges including climate change and food and water security.
- Invest in public goods needed to reduce regional disparities and foster inclusive growth. Formalizing informal businesses, expanding digitization, and developing skilled workforces in the medium term will help narrow regional disparities in middle-income countries.
- Deepening regional integration in the context of the African Continental Free Trade Area (AfCFTA) agreement.

Considerations for the International Community

- The Debt Service Suspension Initiative (DSSI) was the first attempt to help the poorest countries confront COVID-19. It suspended debt service payments from 73 low- and lower-middle-income countries to bilateral official creditors between May 2020 and June 2021. But this temporary relief did not fundamentally address these countries' debt issues—though it provided more time to assess and address debt sustainability for each country.
- Private creditors have not yet participated in the DSSI and are reluctant to accept lower payments from debtors. Concerns deterring debtor countries from requesting private creditors to participate include reputation issues, credit rating downgrades, and legal risks. Participation by private creditors would enhance DSSI benefits for participating countries, but a requirement for comparable treatment from private creditors could stunt such participation. The lack of private creditor participation in the initiative raises concerns that official debt service suspension would partly benefit private creditors. This issue is particularly important if DSSI support would defer the recognition of unsustainable debts. The G20 could consider options to mitigate such concerns in the context of the DSSI.
- The DSSI is insufficient to deal with the magnitude and urgency of the

debt problems facing developing countries. First, because it provides only temporary relief, the problems will come back. It could even make them worse if more countries are downgraded and fall into debt crises. The total amount of relief provided by the DSSI is just $5 billion. Second, the initiative fails to distinguish appropriately between countries with liquidity problems and those with solvency problems. Third, serious debt service problems also will likely also occur in middle-income countries. Finally, the DSSI does not address the liquidity problems of the public sector or of private businesses in developing countries—essential to resuming growth as soon as possible.

- Africa's debt issues cannot be resolved without addressing the debt owed to China by African countries such as Ethiopia and Zambia. During 2000–19, the Chinese government, Chinese banks, and Chinese companies lent more than $150 billion to Africa. About 10 African countries have debt problems with China even though Chinese lending was concentrated in Angola, Djibouti, Ethiopia, Kenya, and Zambia. All these countries face serious debt issues. Chinese lenders are opportunistic in modifying standard contract tools to maximize their repayment prospects and to protect a broad range of Chinese interests in borrowing countries. The terms and conditions of Chinese lending are opaque, and contracts are confidential.

- The only feasible way to deal with Africa's debt problem is to have a concerted effort by all lenders—bilateral and commercial, Chinese and non-Chinese—under the leadership of an international institution like the IMF or the World Bank to agree on a common, orderly framework for debt workouts. Doing so will require more transparency in sovereign lending, including but not confined to loans between governments. This will also require that private and emerging creditors are open to accepting haircuts on loan repayments.

- A change in the financial architecture is also needed so that a long-term resolution of the debt problem can be found. This would provide more certainty to the macroeconomic and investment policies needed to restore economic growth in developing countries. For those that are insolvent, there is no way out except for creditors to take a substantial reduction in debt principal. It is not clear that innovative debt workouts such as auctions to buy debt at below-face-value prices, or debt-nature swaps, would work for private creditors such as bondholders or commercial banks. And unlike with official creditors, the broad distribution of bondholders and investors makes it hard to reach timely decisions.

- The international community needs to fully recognize the desperate situation of indebted countries and take prompt, decisive actions to help restore growth. Another round of the Heavily Indebted Poor Countries (HIPC)

initiative may be needed. Debt relief could be linked directly to acquisition and deployment of COVID-19 vaccines and treatment medications. As noted, one important resource is the IMF's recently allocated Special Drawing Rights (SDRs) worth $650 billion to support the global recovery from COVID-19.

- Multilateral development banks must provide additional liquidity, perhaps through higher leverage in capital markets, and bilateral creditors need to do their share. Commercial creditors could take a longer view of the debt situation: by allowing more debt relief now, prospects are better for getting money back in the long run.

- Given the dire, urgent need for additional fiscal spending by developing countries to deal with COVID-19, it is essential for international organizations to be far more flexible and understanding when using traditional debt burden and debt service ratios when lending.

- The shift to Eurobond issuances by developing countries has raised the question of how to prepare for debt restructuring should the need arise. A collective action clause allowing for a supermajority of bondholders to agree to debt restructuring that is legally binding on all holders of the bond—including those who vote against the restructuring—is needed to avoid holdouts. Most bondholders opposed such clauses in the 1980s and 1990s, fearing that it gave debtors too much power. But after the experiences of Argentina and Ecuador, collective action clauses have become more common because they are now seen as potentially warding off more drastic action while facilitating coordination among bondholders. In this context it is crucial to share experiences aimed at fostering collaboration and voluntary exchange of information with creditors.

- There is a need for a debt workout framework for the middle-income countries. No such framework exists at the moment. Such a framework would require efforts from all sides. From creditors, continued support to help lower-middle-income countries overcome COVID-19—including, where relevant, debt relief linked to COVID-19 vaccines and treatment medications as well as investment in the health sector. Debtors need to develop and implement a medium-term debt framework to ensure continued sustainability of both domestic and external debt. Over the long term, governments of these countries should develop the skills needed to be more engaged with issuance advisers in managing bond negotiations for lower interest rates. They should also be more active in exercising their choice of accepting or rejecting investors' bids.

Chapter 1

Economic Performance of Developing Countries During the Pandemic

COVID-19 has hit the world economy hard, with global GDP falling more than 3.5% in 2020. The pandemic has inflicted widespread human misery and economic damages since it emerged from Wuhan, China in late 2019. By November 2021, more than 250 million people had been infected worldwide and over 5 million had died. Though the number of new infections has declined in recent months, the rapid spread of variants of the virus has rekindled fears about the reimposition of lockdowns and other measures to contain it.

Unlike previous global crises, COVID-19 spared no country. Both the developed and developing worlds suffered severe harm, creating a self-reinforcing contraction in global demand for goods and services. The more open a country's trade system, the greater the impact on its balance of payments and the deeper the effect on the national economy. Yet, COVID-19's effects on developing countries have been more severe, deepening inequality between the two worlds.

Macroeconomic Performance

For analytical purposes and following the practice of international institutions, we define the emerging market and developing economies[1] (EMDEs) as all those not classified as developed economies. As of mid-2021, data is available for 147 EMDEs, compared to 35 advanced economies, of which seven are considered major (Annex 1A). Of these 147 EMDEs, 89 are considered commodity exporters, 28 of which are energy exporters.

Growth and Prospects

Table 1.01 shows GDP growth for each country group for the period 2018–2023. EMDE's output loss in 2020 (-1.7%) was less than half the loss of the developed economies (-4.7%). However, excluding China, which grew at 2.3%, this loss was almost as large (Table 1.1). Sub-Saharan Africa's loss was moderate at -2.4%. While the EMDE's prospects for recovery in 2021 and 2022 exceed that of the other groups, the expected growth rates are also very much similar to the developed countries, if China is excluded.

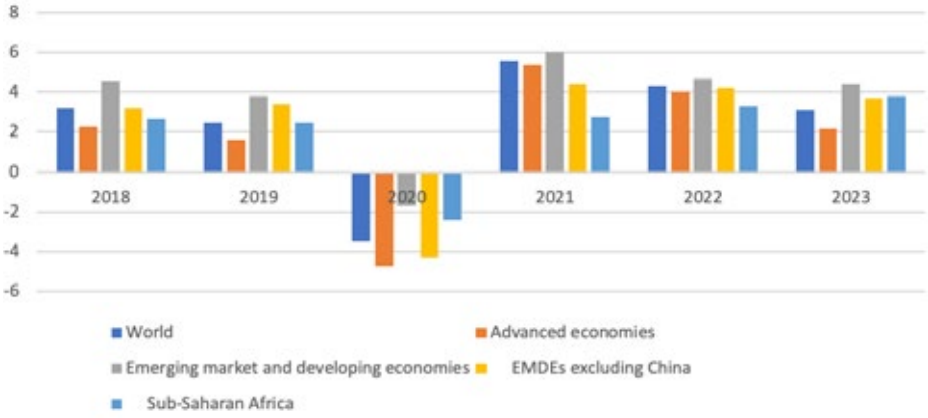
1. The use of economies instead of countries avoids all the political issues involving sovereignty.

Table 1.01 GDP Annual Growth by Country Groups, 2018–2023

	2018	2019	2020	2021	2022	2023
World	3.2	2.5	-3.5	5.6	4.3	3.1
Advanced economies	2.3	1.6	-4.7	5.4	4.0	2.2
Emerging market and developing economies	4.6	3.8	-1.7	6.0	4.7	4.4
EMDEs excluding China	3.2	3.4	-4.3	4.4	4.2	3.7
Sub-Saharan Africa	2.7	2.5	-2.4	2.8	3.3	3.8

Source: World Bank 2021a.

Figure 1.01 GDP Annual growth 2018-2023

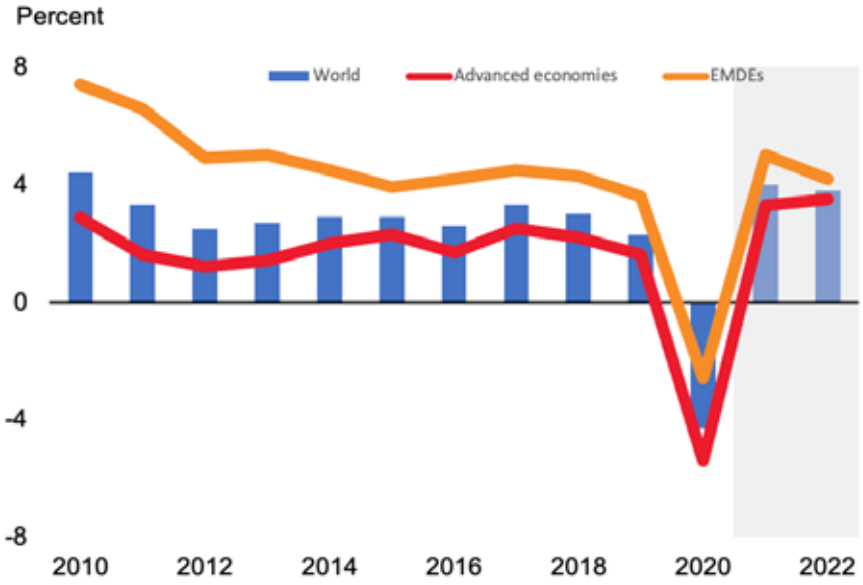


Even before the pandemic, the growth rate of EMDEs declined from 6–7% per annum in 2010–2011 to 3–4% per annum (p.a.) in 2018–2019 (Figure 1.02). Excluding China, the EMDE's GDP grew by about 3% in 2018–2019 and contracted by 4.3% in 2020 (Table 1.01). Between 2010 and 2019, the EMDE's growth rates declined by about 6%[2] p.a., while the developed countries grew by about .6% p.a., and the global GDP declined by about 3% p.a.

The pandemic arrived at a time when trade tensions were mounting between the U.S. and China, and the developing world was facing a new wave of debt. The loss of lives and livelihoods, sharp fall in oil and other commodities prices, and the complete collapse of tourism and remittances have resulted in a harsh blow to the global economy. Needless to say, the impact on vulnerable groups, including women, youth, the poor, and workers in the informal sector has been devastating.

2. Calculated using least squares method.

Figure 1.02 Global Growth by Country Groups

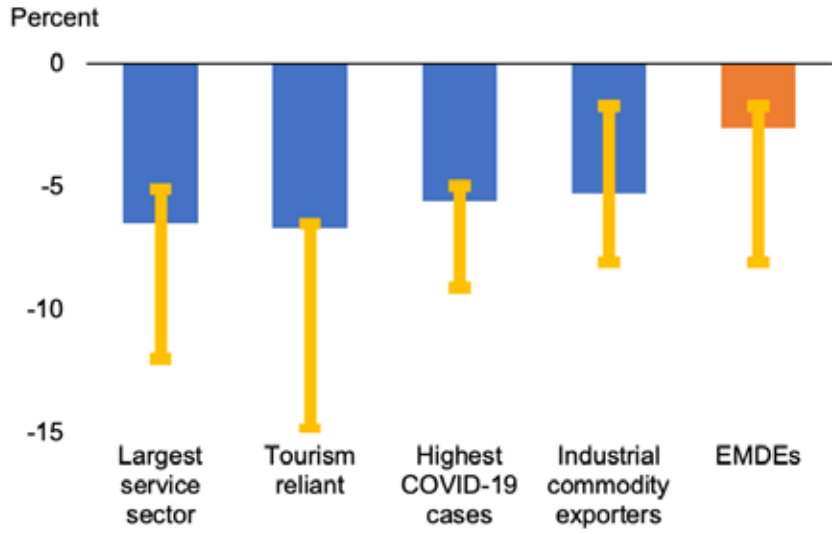


Source: World Bank 2021a.

The world growth is projected to rebound to 5.6 % in 2021 and continue to rise by 4.3% in 2022 and 3.1% in 2023. Developed countries are expected to grow by 5.4% and 4.0% in 2021 and 2022, respectively, while EMDEs are to grow at 4.4 and 4.2%, respectively (Figure 1.01). However, this forecast is based on the assumption that investment levels over 2020–2022 will rise above the 2019 level, especially in China. Excluding China, EMDEs will face a lower level of both investments and GDP growth. In particular, underlying this growth assumption is the hope that COVID-19 vaccination will occur for at least 70% of the world population by the end of 2022 so that herd immunity can be reached before economic activities are resumed. As of mid-2021, this hope remains optimistic given the new variants that are emerging and new waves of infections around the world.

The countries most severely affected by the pandemic are those that rely on tourism and/or services as a source of income and exports (Figure 1.03) and those that rely on industrial commodity exports.

Figure 1.03 GDP Growth in 2020 by EMDE Category



Sources: World Bank 2021a; Johns Hopkins University; World Bank; World Tourism Organization.

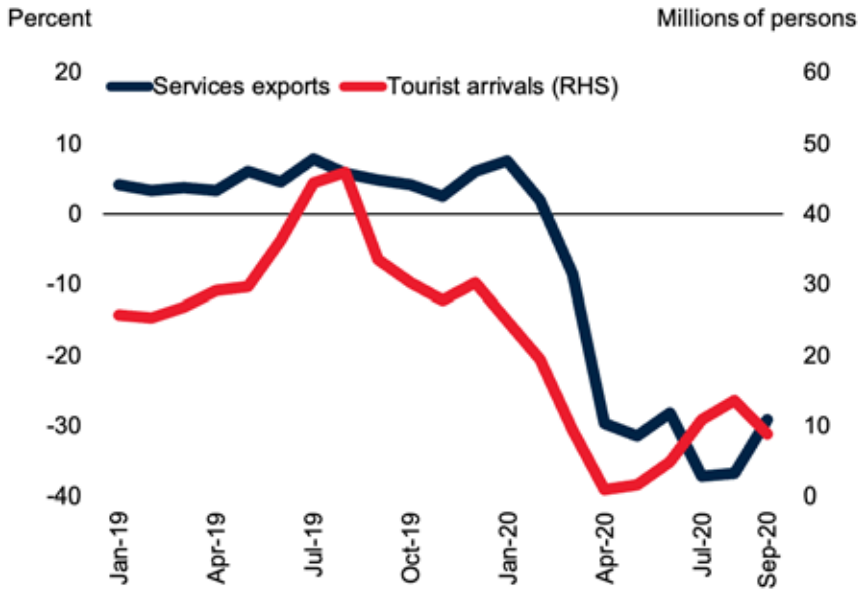
Note: EMDEs = emerging market and developing economies. "Industrial commodity exporters" indicate EMDEs that export either energy or metals. "Largest service sector" includes EMDEs in the top quartile of services as a share of the economy. "Tourism reliant" includes EMDEs in the top quartile of inbound tourism expenditure as a share of GDP. "Highest COVID-19 cases" include countries in the top quartile of COVID-19 cases per capita. Data for 2020 are estimates. Aggregates were calculated using 2020 U.S. dollar GDP at 2010 prices and market exchange rates. Yellow vertical lines indicate the interquartile range. Sample includes 113 EMDEs.

The collapse in both oil price and demand in 2020 induced a fiscal ripple effect on oil-exporting countries. The fall in prices and demand for non-oil commodities (phosphate, iron ore, manganese) also decreased revenues in some developing countries, such as Morocco, Mauritania, and Tunisia. Unemployment, which was already high prior to COVID-19, worsened, particularly among youth and females, resulting in lower per capita income and higher poverty rates and inequality.

The pandemic exposed the structural weaknesses inherent in low- and middle-income countries, including a high degree of dependency on natural resource extraction for exports and low productivity due to pervasive informality. The sharp

contraction in GDP comes from both supply and demand factors. On the supply side, the contraction was driven mainly by the sharp decline in the service sector—due to the collapse of tourism and transportation as roads, railroads, airports, and ports were closed, and border crossings were prohibited. For example, the number of tourist arrivals in a sample of 18 EMDEs fell from 46 million in July 2019 to 1 million in April 2020 (Figure 1.04). Additionally, the growth of service exports fell sharply by 30% in April 2020 and by 37% in July 2020.

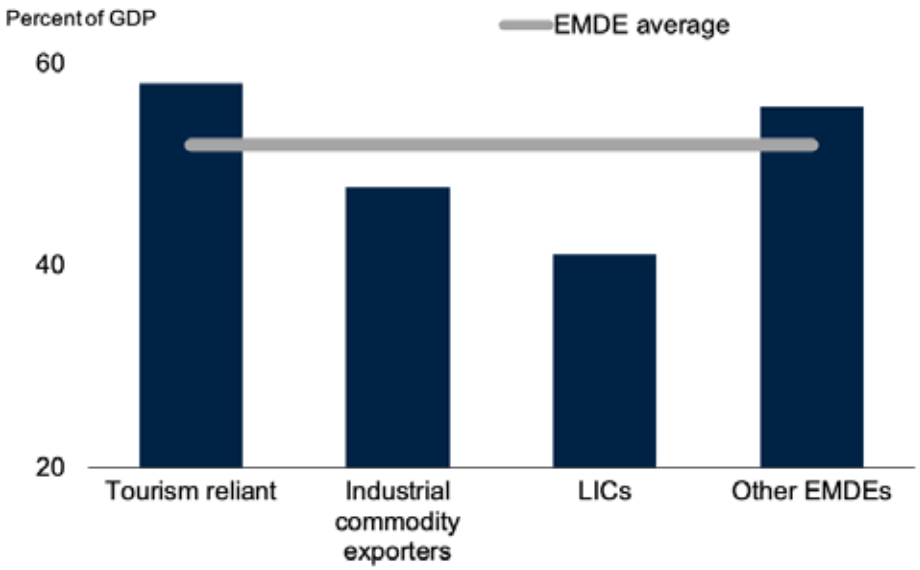
Figure 1.04 EMDE Commercial Services—Exports and Tourist Arrivals, excluding China



Sources: World Bank 2021a; Haver Analytics; World Bank; World Trade Organization.
Note: Figure shows the year-over-year growth of commercial services exports measured in millions of U.S. dollars. The sample includes 18 EMDEs for services exports and 27 EMDEs for tourist arrivals. Last observation was September 2020.

The share of services in GDP is large in all EMDE countries (Figure 1.05). On average, this share amounted to about 52% of GDP in 2019 but reached 58% for the tourism-dependent countries (Figure 1.05). On the demand side, the sharp contraction induced by the pandemic was driven largely by the decline in fixed investment expenditures (Figure 1.03 above). This decline was the most serious (-11%) for EMDEs, excluding China. It is expected to continue in 2021 and 2022, dashing any hope for a quick growth recovery for these countries.

Figure 1.05 Share of Services in GDP by EMDE Groups, 2019



Source: World Bank 2021a; World Tourism Organization.
Note: EMDEs = emerging market and developing economies; LICs = low-income countries. "Industrial commodity exporters" indicate EMDEs that export either energy or metals. "Tourism reliant" includes EMDEs in the top quartile of inbound tourism expenditure as a share of GDP. Figure shows services measured as value added as a share of GDP. Grey horizontal line indicates the simple average in EMDEs, which is about 52%. Sample includes 115 EMDEs.

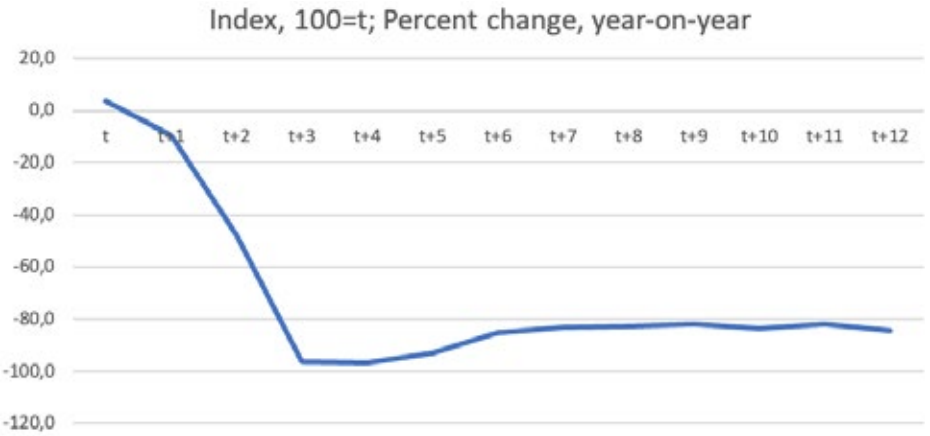
External Capital Flows

This section also provides an overall picture of the trends in key external financing flows—foreign direct investments, portfolio investments, official development assistance, and inward remittances—and how these flows were affected by the crisis.

Tourism. With the closing of borders, airports, and ports as well as travel restrictions coupled with the loss of full-time and part-time jobs of many workers abroad, the sharp deterioration in tourism receipts and worker remittances has impacted the services balance and current account balances.

Figure 1.06 shows the number of tourist arrivals after the pandemic began (t = 100) in EMDEs. This number dropped by 96% by the third and fourth quarters and is expected to remain below 80% after three years (2023).

Figure 1.06 EMDE Tourist Arrivals



Sources: United Nations World Tourism Organization; World Bank 2021a.
Note: EMDEs = emerging market and developing economies. t = 100 for the COVID-19 pandemic in January 2020. Last observation is January 2021 for tourist arrivals.

This point has been further confirmed by a global survey conducted in January 2021 by United Nations World Tourism Organization. According to this survey, only 1% expected international tourism to return to pre-pandemic levels in 2021, 15% in 2022, 43% in 2023, and 41% in 2024.

Workers' remittances. Compared to previous crises, such as the Global Financial Crisis of 2008–2009, the performance of worker remittances has been surprisingly robust (Figure 1.15). After a decline in the first quarter, these flows recovered by the second and third quarters of the pandemic. However, there was a large variation among different countries. In Egypt, the 2020 decrease in remittances amounted to U.S. $2.4 billion (a reduction of 9% from 2019), while in Morocco, this decrease amounted to U.S. $353 million (5.2%).

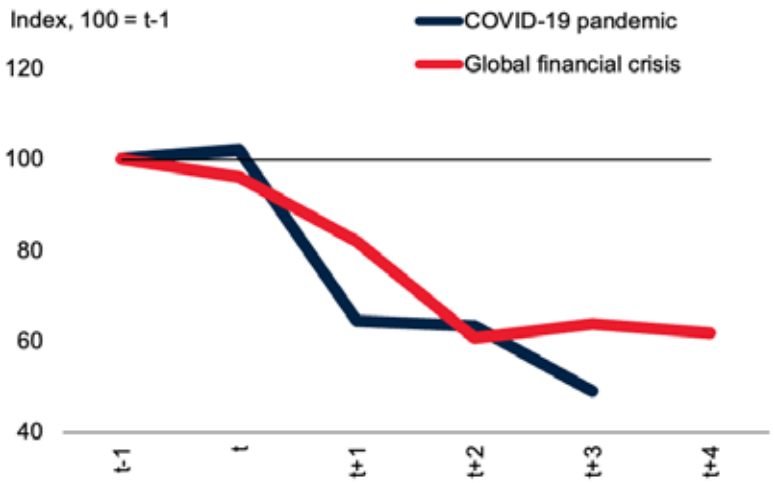
Grants and foreign aid. Like tourism and remittances that contracted in response to the pandemic, grants and international assistance fell as donors were also struck by economic challenges. Cuts in financial aid budgets were announced by key donors, for example the UK. Bilateral donors decreased their aid commitments by 17% between 2019 and 2020, including a 5% decline in official development assistance (ODA) commitments. The scale of these budget cuts at a time when bilateral aid is falling in certain sectors may start to shift the nature of the financing structure used to support the delivery of critical human development sectors, especially human capital.

Donor countries indicated that they would strive to protect their ODA budgets. Yet, in the first five months of 2020, the bilateral aid commitments reported to the International Aid Transparency Initiative were about 30% lower than during the same period in 2019.[3] Compared to data from November 2019, the grants/aid donated by developed countries demonstrated a decreasing trend in 2020. Germany reduced aid from US$ 6.2 billion to 2.25 billion, Spain from US$ 0.29 to 0.23, and the UK from US$ 11.9 to 6.4 billion during the same period.

Lending from the World Bank in 2020 increased by US$ 14.1 billion (as of July 2020). The AfDB increased by US$ 1.8 billion. In each case, these figures represent increases of over 40% compared to the same period in 2019. However, together with the falling volumes of bilateral aid traditionally delivered as grants, the concessional aspect of aid (or the "grant element"), notably the balance between grants and loans, was reduced.

Foreign Direct Investment (FDI). Because the pandemic hit the developing and the developed countries alike, the latter was also affected by the decline in FDI. Figure 1.07 shows the continuing decline in FDI three quarters from the beginning of the pandemic, unlike the global financial crisis. This raises some long-term implications on the growth potential of the EMDEs.

Figure 1.07 FDI flows to EMDEs



Sources: Haver Analytics; International Monetary Fund; World Bank 2021a.

3. Observer Research Foundation. "Impact of COVID-19 on the International Development Assistance System." (https://www.orfonline.org/expert-speak/impact-of-covid19-on-international-development-assistance-system/)

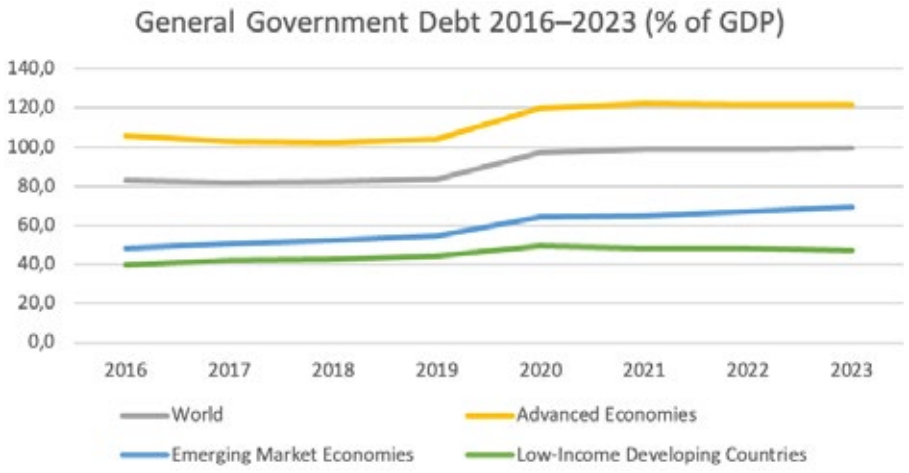
Note: EMDEs = emerging market and developing economies; FDI = foreign direct investment. t-1 = 100 for the global financial crisis in 2008Q2; t-1 = 100 for the COVID-19 pandemic in 2019Q4. Balanced sample includes 52 EMDEs.

The Response to COVID-19

The arrival of COVID-19 caught the world completely off-guard. Emergency measures were immediately taken to save lives by closing the borders, as well as enforcing quarantines, lockdowns, and stay-at-home orders. To maintain livelihoods, conventional and unconventional policies were designed to support businesses and workers during the lockdowns and to help them prepare for recovery when lockdowns were lifted. They included fiscal and monetary measures to support the health sector, income relief to households and businesses, and liquidity injection to stimulate the economy.

Fiscal measures include: i) exempting or postponing rent payments or property and land taxes; ii) deferring or exempting tax declarations and payments; iii) suspending or reducing various government fees and penalties; iv) strengthening and/or broadening unemployment benefits; v) expanding cash transfers to low-income households; and vi) providing subsidized loans to SMEs, businesses in hard-hit sectors, and low-income households. A list of fiscal measures taken by selected countries and their costs, both in dollars and as a percentage of GDP, is given in Chapter 2. As a result, general government debt is expected to rise (Figure 1.08)

Figure 1.08 General Government Debt 2016–2023 (% of GDP)



Source: IMF staff estimates and projections. Fiscal Monitor Database, April 2021.

Monetary measures include: i) cutting policy interest rates; ii) injecting liquidity into the banking system; iii) expanding access to lending tools, including cutting the reserve requirement ratio and extending the maturity of loans; iv) lowering capital adequacy requirements; and v) relaxing loan classification and provisioning. A list of below-the-line measures taken by selected countries in response to COVID-19 is provided in the next chapter.

Imbalances in Monetary and External Accounts

The fast-rising fiscal deficits also translated into external imbalances. To finance the deficits, government net borrowing increased substantially in all countries. The effects of sharp increases in domestic credit to the government spilled over to current account deficits and, eventually, to the depreciation of domestic currencies.

Table 1.02 below shows the current and capital accounts by country groups for the period 2018–2020 (actual) and 2021–2022 (projected by the IMF). As a group, EMDEs showed a small current account surplus of 0.6% of GDP in 2020 on account of Asia, especially China. Excluding China, the EMDE of the Middle East and Central Asia shows a deficit of 3% of GDP while Sub-Saharan Africa showed a deficit of 3.3% of GDP. The shrinking of remittances and tourism receipts also exacerbated the current account deficits. Given the recent recovery in oil and commodity prices, the current account deficits for the SSA region are expected to stabilize for both 2021 and 2022 (3.7% of GDP).

Table 1.02 Summary of Net Lending and Borrowing by Country Groups (Percentage of GDP)

Summary of Net Lending and Borrowing by Country Groups (Percentage of GDP)					
				Projections	
	2018	2019	2020	2021	2022
Advanced Economies					
Net Lending and Borrowing	0.7	0.6	0.3	0.2	0.5
Current Account Balance	0.8	0.7	0.3	0.2	0.4
Savings	23.1	22.9	22.3	22.6	22.8
Investment	22.3	22.3	22	22.4	22.4
Capital Account Balance	- 0.1	- 0.1	0	0	0
Emerging Market and Developing Economies					
Net Lending and Borrowing	- 0.1	0.2	0.7	0.7	0.4
Current Account Balance	- 0.2	0.1	0.6	0.5	0.2

Savings	32.5	32.5	33.2	33.6	33.3
Investment	32.9	32.6	32.9	33.2	33.4
Capital Account Balance	0.1	0.1	0.1	0.1	0.1

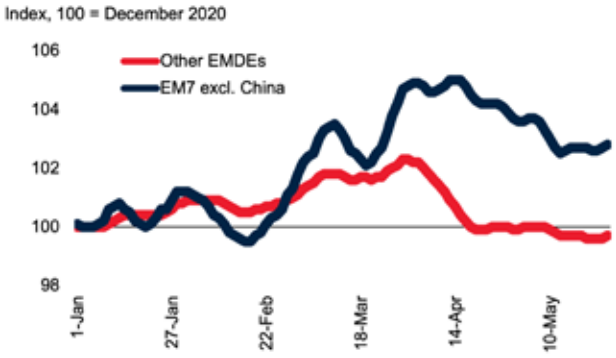
Source: International Monetary Fund 2021b WEO, April 2021.
Note: The estimates of gross national savings and investment (or gross capital formation) are from individual countries' national accounts statistics. The estimates of the current account balance, the capital account balance, and the financial account balance (or net lending/net borrowing) are from the balance of payments statistics. 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.

The effects of the 2020 oil price drop caused the current account of fuel economies to rise from a surplus of 2% of GDP in 2019 to a deficit of 2.8% in 2020, while the opposite happened for non-fuel countries.

Evolution of Exchange Rates, Interest Rates, and Inflation

Higher fiscal deficits (caused in part by rising debt service payments) and the banking system's sharp increase in government credit (through direct advances and holding of more treasury bills and bonds) impacted current account deficits and exerted pressures on the exchange rates (Figure 1.09). Shrinking foreign exchange reserves also contributed to these pressures.

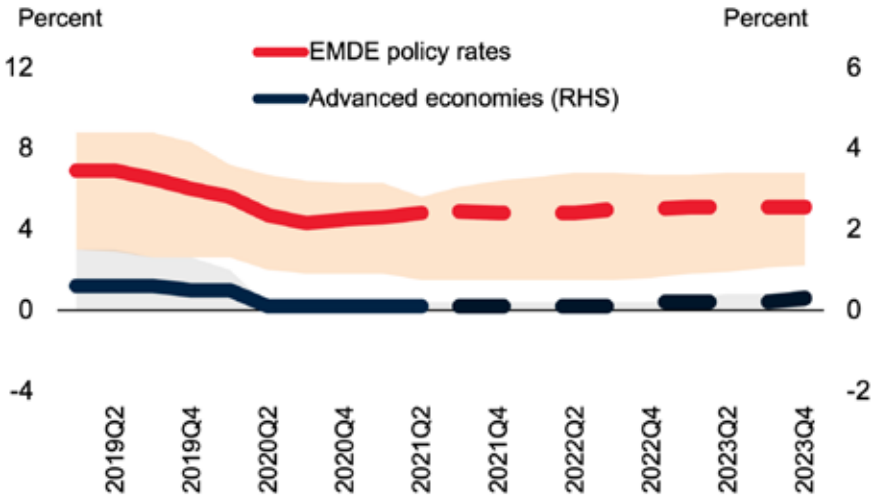
Figure 1.09 EMDE exchange rates



Sources: Haver Analytics; International Monetary Fund; World Bank 2021a.
Note: EMDEs = emerging market and developing economies. Figure shows the five-day moving average nominal exchange rates versus the U.S. dollar. An increase indicates depreciation. Sample includes 32 EMDEs with floating or free-floating exchange rate; "EM7 excl. China" refers to India, Brazil, Mexico, the Russian Federation, Indonesia, and Turkey. Last observation was May 25, 2021.

The central bank's interest rate policy is one of the most important monetary instruments to support the economy. The average policy rates for 27 advanced economies and 23 EMDEs declined from 1.5% and 6.9%, respectively, in the first quarter of 2019 to 0.1% and 4.8 % in the second quarter of 2021 (Figure 1.10).

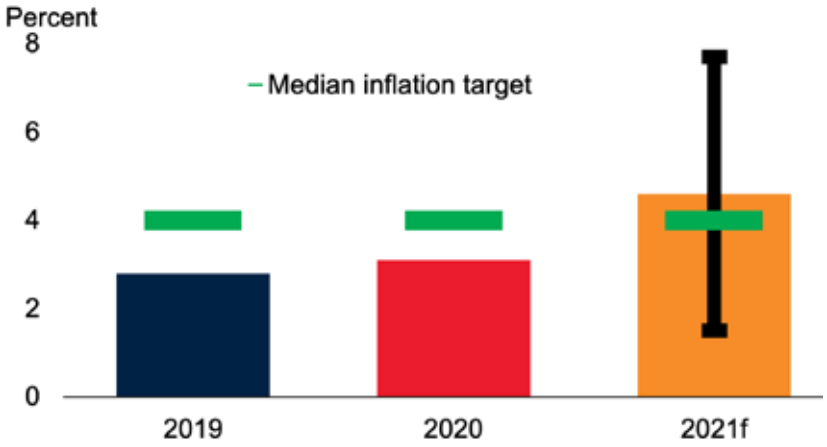
Figure 1.10 Central bank policy rate projections



Sources: Oxford Economics; World Bank 2021a.
Note: EMDEs = emerging market and developing economies
Blue and red lines show average policy rates for 27 advanced economies and 23 EMDEs.
Dotted line shows projections as based on Oxford Economics May21_1 Oxford database.
Shaded areas show interquartile rank.

The risk of high inflation due to expansionary monetary policies and large fiscal deficits during 2020 did not appear to be high because of the drop in overall demand (Figure 1.11). Nonetheless, going into the second half of 2021, it appears that inflationary pressures have built up in the developed countries, and in the immediate term, inflation is likely to rise due to the higher cost of food and energy (i.e., cost-push inflation).

Figure 1.11 Forecast for EMDE inflation



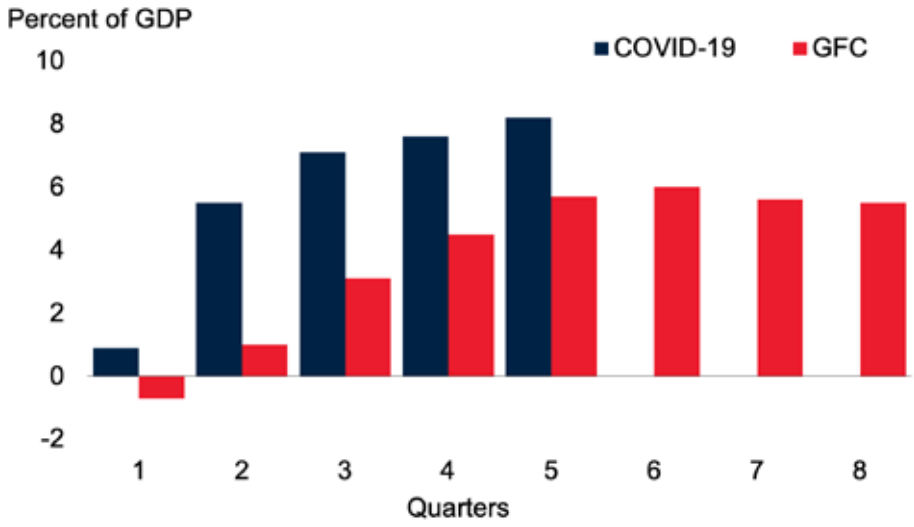
Sources: Consensus Economics; World Bank 2021a.
Note: EMDEs = emerging market and developing economies. Based on median inflation in 125 EMDEs and inflation target in 30 inflation-targeting EMDEs. 2021 inflation is based on the conditional forecast of EMDE inflation. Vertical line indicates 16–84 confidence bands.

Rising Debt

Debt and debt service have risen significantly in the face of the sharp deterioration in fiscal performance. This is a serious concern for the EMDE, as the debt burden will either crowd out resources for the health sector and support for economic recovery or result in defaults, as elaborated upon in detail in the next chapter.

Figure 1.12 compares the cumulative change in government debt during COVID-19 for a sample of 25 EMDEs, excluding China, to the global financial crisis (GFC) of 2018–2009. By the fifth quarter of the pandemic, government debt accumulation amounted to 8.2% of GDP, compared to 5.7% during the GFC.

Figure 1.12 Cumulative change in government debt in EMDEs



Sources: Institute of International Finance; World Bank 2021a.
Note: EMDEs = emerging market and developing economies; GFC = global financial crisis. Figure shows the cumulative change in government debt since the start of the episode, which is 2008Q3 for GFC and 2020Q1 for COVID-19. Sample includes 25 EMDEs, excluding China.

Difficult Trade-offs Between Policies

Throughout the COVID-19 crisis, policymakers in EMDEs have had to face a difficult balancing between fiscal, monetary, and debt policy options. The need for continued support for the health sector and economic recovery imposes difficult choices on governments faced with trade-offs between different instruments of macroeconomic policy. Postponing or exempting tax on land and property (Algeria, Egypt), an extension of tax filings and payments for a long period of time (Algeria, Egypt, Vietnam), and forgiving or reducing government fees and penalties (Algeria, Tunisia, Zambia) help ease the economic hardship on the most vulnerable population segments. However, these policy actions also reduce revenues and therefore exacerbate budget deficits.

At the same time, the fiscal space is greatly limited. Significant levels of fiscal expenditures are still required to deal with the persisting pandemic. Higher spending for unemployment benefits, transfers to low-income households, and subsidized loans to targeted sectors will aggravate fiscal deficits further.

All developing countries face difficult choices. On the one hand, they need to continually borrow to manage the lingering pandemic and support the nascent economic recovery. On the other hand, they face rising debt service costs, while

their total exports slump and their weak economic growth have diminished creditors' confidence (World Bank 2021b). In light of the constrained space for budgetary maneuvering, the deficits are being financed mainly by resorting to credit from central banks through direct advances and holding of more short-term T-bills and long-term bonds. The fiscal burden on the central banks is aggravated by the adverse consequences of their actions of easing monetary policy and injecting liquidity.

The increasing use of defensive monetary policy tools to cope with the crisis, such as cutting monetary interest rates, injecting liquidity, lowering reserve ratio requirements, and extending loan maturities, have negatively impacted the monetary system's viability. Continuing to lower the ratio of commercial banks' capital adequacy in terms of total liabilities will risk solvency of the banking system. Furthermore, relaxing loan classification and loan loss provisioning will increase the risk of higher non-performing loans (NPL) and bad debts, intensifying macro-financial vulnerabilities.

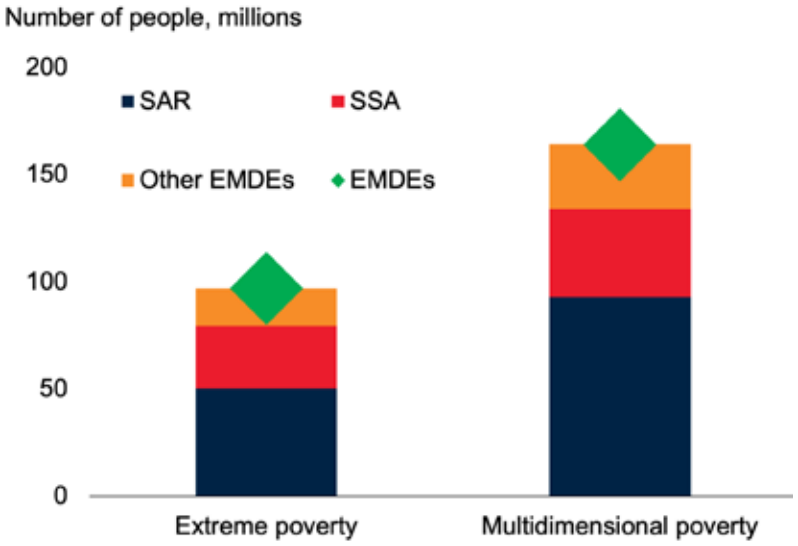
Lasting Effects of the Pandemic on Poverty and Inequality

The service sector employs the majority of the population in EMDEs. It is also the activity domain of both the small and medium enterprises (SMEs), household businesses, and self-employed individuals. As such, the pandemic's most serious impact fell upon vulnerable groups. High unemployment was already a persistent issue in many EMDEs and was intensified further by the pandemic. In Algeria, unemployment rose from 11.4% in 2019 to 14.1% in 2020; in Morocco, from 9.2% to 12.5%. The increase in poverty and income inequality accelerated.

Increase in Poverty

In combination with the economic contraction, COVID-19 caused a significant increase in poverty throughout the EMDEs due to job losses, business closures, disruptions to government services, and food insecurity. By the end of 2021, the World Bank estimates that 97 million people worldwide will have fallen into extreme poverty (international poverty line of less than $1.90 a day) and another 164 million into multidimensional poverty, including deficiencies in health, education, and living standards.

Figure 1.13 Increase in poverty headcounts due to the pandemic by the end of 2021



Sources: Mahler et al. (2021); World Bank (2020b); World Bank.
Note: EMDEs = emerging market and developing economies; SAR = South Asia; SSA = Sub-Saharan Africa. Figure shows the estimated number of people pushed into poverty as a result of the pandemic. This is calculated by comparing poverty using pre- and post-pandemic growth forecasts (Lakner et al. 2020). Extreme poverty reflects the international poverty line of $1.90/day. Multidimensional poverty also includes deficiencies in health, education, and living standards (UNDP and OPHI 2020; World Bank 2020b). Percentile increase in multidimensional poverty as a result of the pandemic is estimated to be the same as for extreme poverty.

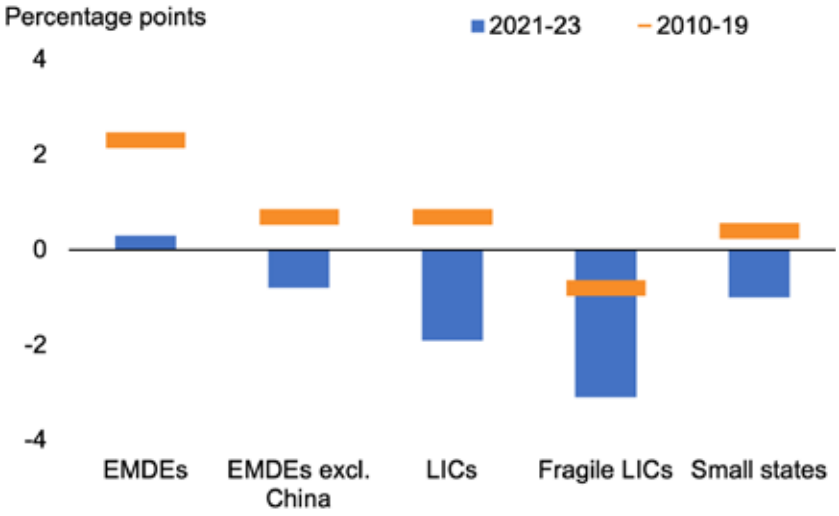
The large increase in poverty can be explained by several factors. First, there is economic dualism in many EMDEs as reflected in a formal and an informal sector. The formal sector labor market is characterized by well-paying jobs and dominated by employees in government- and state-owned enterprises. The informal sector characterized by poor-paying jobs that offer little job security and virtually no social protection. It accounted for as much as 81% of employment in Morocco, 64% in Egypt, over 56% in Vietnam, and 54% in Tunisia. Second, workers in the informal sector tend to be more affected by COVID-19 infections because of working conditions, such as tight working space, direct contact with people, etc. Third, a lack of access to medicine, health services, and food increases the likelihood of poor nutrition and infection. Fourth, the poor are more likely to have preexisting health problems and reside in crowded environments, thus making virus transmission more likely (e.g., two

or three generations under the same roof).[4]

Rising Inequality

With rising unemployment in the informal sector, income inequality within and across EMDE countries is also rising. Figure 1.14 shows the widened gap between the per capita income of developed countries and that of EMDEs, excluding China, and particularly of low-income countries. From 2010–2019, because of convergence, the per capita income of EMDEs, excluding China, averaged 0.7% over that of developed countries. However, this differential has turned to a negative -0.8% over 2021–2023 due to the pandemic. The worsening of poverty and inequality could ignite further social and political tensions, which will erode recovery.

Figure 1.14 Per capita income growth relative to advanced economies



Source: World Bank 2021a.
Note: EMDEs = emerging market and developing economies; fragile LICs = fragile and conflict-affected LICs; LICs = low-income countries. Relative per capita income growth is computed as a difference in per capita GDP growth between respective EMDE groups and advanced economies. For more information on "small states," see https://www.worldbank.org/en/country/smallstates/overview.

4. For an understanding of why the informal workforce bears the highest vulnerability to the pandemic, see OECD "COVID-19 and Africa: Socio-economic implications and policy response." (https://www.oecd.org/coronavirus/policy-responses/covid-19-and-africa-socio-economic-implications-and-policy-responses-96e1b282/).

Near-Term Recovery: Risks and Uncertainties

Until COVID-19 is under control, the prospects for EMDEs recovery in the near term are clouded with risks and uncertainties. Among the foremost risks are the spread of new variants, limited access or a delay in the distribution of vaccines, restoration of supply, especially of the global supply chains, and weakness in the recovery of consumer and business confidence causing protracted depression of domestic and external demands.

Favorable Factors

- With the pandemic beginning to be brought under control by new vaccines and treatment, governments worldwide are easing lockdowns and mobility restrictions.
- Production and distribution of COVID-19 vaccines are making progress. Access to vaccines is increasing.
- Successful pandemic control experiences of countries within and outside the region are now being shared. As such, preparedness of health protection equipment (masks), treatment (medicine), and health services (hospitals, doctors, nurses) are better as resources become more accessible.
- Policy support for the health sector continues in all EMDEs.

Risks

- As the impact of COVID-19 lasts longer than expected, particularly as new variants such as Delta and/or Mu emerge, economic recovery in EMDEs depends upon the successful containment of the pandemic.
- Limited access or a delay in the distribution of vaccines. Vaccines must be manufactured in large quantities and distributed worldwide. Nevertheless, according to COVAX, Africa may have to wait years before getting enough vaccines for its population.
- Safety concerns: Several countries have placed large orders for the AstraZeneca vaccine. However, a recent pause of this vaccine by Germany, Italy, Spain, and others has reinforced the fear of this vaccine's effectiveness and safety.
- Scarring effects regarding weakness in the recovery of consumer and business confidence may result in protracted domestic and external demands. Consumers may also require a period of recovery, like producers following long periods of unemployment and financial loss.

- As the pandemic resulted in disruptions to human capital accumulation, it induced a decline in productivity.
- Finally, in the face of a sharp deterioration in fiscal performance and the necessity of extending pandemic relief measures and related public expenditures into 2022 and possibly 2023, debt burdens and debt service will continue to rise.

The COVID-19 crisis has exposed some structural weaknesses of the EMDEs. First, during the pandemic, the vulnerabilities of countries that rely on commodities or natural resources for production and exports were magnified many times over. Resource dependency subjects an economy to commodity price volatility. When commodity prices are high, there are distortions in the economy leading to rising input costs and contraction in tradable sectors (such as manufacturing). Second, the pandemic has also exposed the fragility of the global value chains that many developing countries are counting on to develop. For example, in the midst of the pandemic, the European Chamber of Commerce in Vietnam warned that European investors would pull out of the country if COVID-19 restrictions were to continue[5].

Annex 1A. Emerging Market and Developing Economies (147)

Commodity exporters [2]		Commodity importers [3]	
Afghanistan	Liberia	Albania	Romania
Algeria*	Libya*	Antigua and	Samoa
Angola*	Madagascar	Barbuda Bahamas,	Serbia
Argentina	Malawi	The Bangladesh	Sri Lanka
Armenia	Mali	Barbados	St. Kitts and Nevis
Azerbaijan*	Mauritania	Belarus	St. Lucia
Bahrain*	Mongolia	Bhutan	St. Vincent and
Belize	Morocco	Bosnia and	the Grenadines
Benin	Mozambique	Herzegovina	Thailand
Bolivia*	Myanmar*	Bulgaria	Tonga
Botswana	Namibia	Cambodia	Tunisia
Brazil	Nicaragua	China	Turkey
Burkina Faso	Niger	Croatia	Tuvalu
Burundi	Nigeria*	Djibouti	Vanuatu
Cabo Verde	Oman*	Dominica	Vietnam
Cameroon*	Papua New Guinea	Dominican Republic	
Central African	Paraguay	Egypt, Arab Rep.	
Republic Chad*	Peru	El Salvador	

5.https://www.reuters.com/business/european-investors-warn-shift-away-vietnam-over-restrictions-2021-09-10/

Chile	Qatar*	Eritrea
Colombia*	Russian Federation*	Eswatini
Comoros	Rwanda	Georgia
Congo, Dem. Rep.	São Tomé and	Grenada
Congo, Rep.*	Príncipe	Haiti
Costa Rica	Saudi Arabia*	Hungary
Côte d'Ivoire	Senegal	India
Ecuador*	Seychelles	Jamaica
Equatorial Guinea*	Sierra Leone	Jordan
Ethiopia	Solomon Islands	Kiribati
Fiji	South Africa	Lebanon
Gabon*	South Sudan*	Lesotho
Gambia, The	Sudan	Malaysia
Ghana*	Suriname	Maldives
Guatemala	Tajikistan	Marshall Islands
Guinea	Tanzania	Mauritius
Guinea-Bissau	Timor-Leste*	Mexico
Guyana	Togo	Micronesia, Fed. Sts.
Honduras	Uganda	Moldova
Indonesia*	Ukraine	Montenegro
Iran, Islamic Rep.*	United Arab	Nauru
Iraq*	Emirates*	Nepal
Kazakhstan*	Uruguay	North Macedonia
Kenya	Uzbekistan	Pakistan
Kosovo	West Bank and	Palau
Kuwait*	Gaza	Panama
Kyrgyz Republic	Zambia	Philippines
Lao PDR	Zimbabwe	Poland

* Energy exporters.

1. Emerging market and developing economies (EMDEs) include all those that are not classified as advanced economies and for which a forecast is published for this report. Dependent territories are excluded. Advanced economies include Australia; Austria; Belgium; Canada; Cyprus; the Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hong Kong SAR, China; Iceland; Ireland; Israel; Italy; Japan; the Republic of Korea; Latvia; Lithuania; Luxembourg; Malta; the Netherlands; New Zealand; Norway; Portugal; Singapore; the Slovak Republic; Slovenia; Spain; Sweden; Switzerland; the United Kingdom; and the United States.
2. An economy is defined as commodity exporter when, on average in 2017-19, either (i) total commodities exports accounted for 30 percent or more of total exports or (ii) exports of any single commodity accounted for 20 percent or more of total exports. Economies for which these thresholds were met as a result of re-exports were excluded. When data were not available, judgment was used. This taxonomy results in the classification of some well-diversified economies as importers, even if they are exporters of certain commodities (for example, Mexico).
3. Commodity importers are all EMDEs that are not classified as commodity exporters.

Source: World Bank 2021a

References

- IMF (International Monetary Fund). 2021a. "Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic". Washington, DC: International Monetary Fund. https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19
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- World Bank. 2021b. International Debt Statistics 2021. Washington, DC: World Bank. doi:10.1596/978-1-4648-1610-9. License: Creative Commons Attribution CC BY 3.0 IGO

Chapter 2

COVID-19 and Developing Countries' Fiscal Response

This chapter discusses the fiscal responses from countries around the world to cope with COVID-19 and the need for further fiscal spending on vaccines and treatment by the developing countries in order to return to normalcy. The first section discusses the different fiscal responses by national governments between January 2020 and mid-2021, stressing the contrast in magnitude and scope between the advanced economies and MEDEs. The second section looks at the challenges confronting the low-income countries and the outlook for its external debt. The third section discusses the urgency and unavoidability of the fiscal spending developing countries have yet completed: vaccines and treatment medications for COVID-19.

Fiscal Spending Since January 2020

Because the pandemic hits both the supply and demand sides of output, its effects are much more serious than a typical economic shock. On the supply side, lockdowns and quarantines reduce labor supply and firm capacity utilization, while disruptions to global supply chains affect input provision, causing shortages and rising costs. On the demand side, the loss of income causes consumption and investment drops. Workers in the service sectors (travel, hospitality) are hit the hardest. Workers in the informal sector suffer the most due to the need for close contact with customers and a lack of physical space for social distancing. Low-income households fare worst due to limited access to health care and financial resources. Commodity exporters and tourism-dependent economies are also vulnerable.

Types of Fiscal Spending

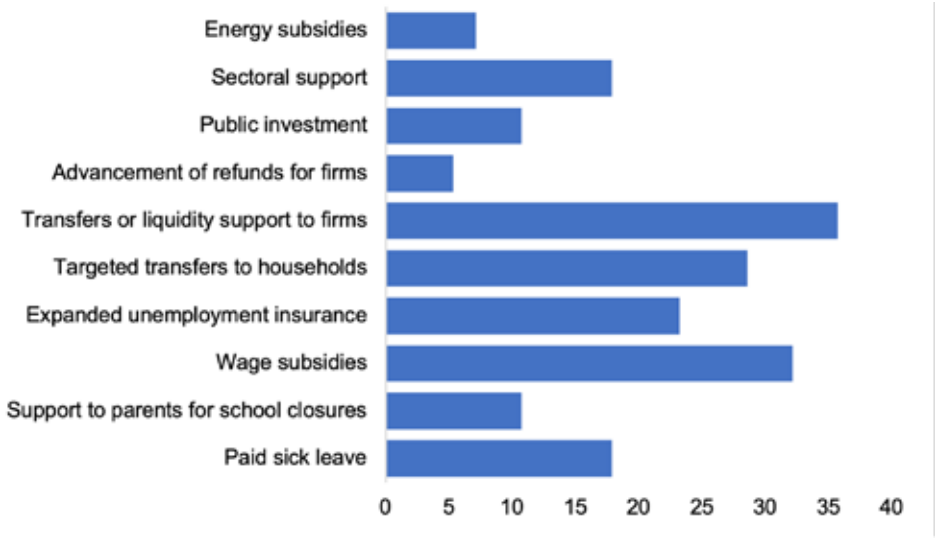
Fiscal measures to support households and businesses can be broadly classified into two types:

1. **Above-the-line measures and policies that directly affect the budget deficit.** These include:

Spending-side measures: such as cash transfers to low-income households and temporary enhancement or extension of unemployment benefits (Germany, Japan, United Kingdom, United States), as well as wage subsidies and/or paid sick and family leave to those who stay home for childcare during school closings (France, Japan, Korea, Singapore, Spain, United Kingdom).

In Korea, Singapore, and the United States, temporary direct subsidies are being provided to hard-hit businesses, including self-employed persons, to avoid sector dislocations. Figure 2.01 shows the most common fiscal measures are transfers to firms and wage subsidies.

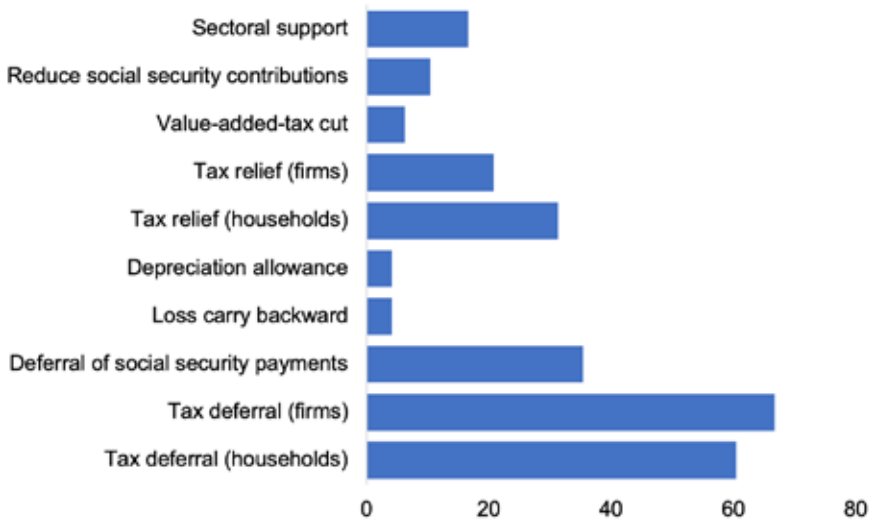
Figure 2.01 Common Fiscal Spending Measures for Non-Health Sectors in Response to COVID-19 (Percentage of economies with fiscal support measures)



Source: IMF 2021a.

Revenue-side measures: Governments provide temporary help to ease firms' cashflow needs or give temporary tax relief to people and firms most affected by COVID-19. Other options include postponing Social Security contributions and reducing advance tax payments. To address supply constraints and support demand, special investment allowances for projects taking place in a given time period, for example, producing under-supplied medical equipment or personal protection equipment (PPE). Some countries offer value-added-tax extensions to firms with cashflow shortfalls (China, Japan, Vietnam) or tax deferrals. Figure 2.02 shows the most common revenue measures used in developing countries.

Figure 2.02 Common Revenue Measures for Non-Health Sectors in Response to COVID-19



Source: IMFa.

2. Liquidity measures are policies that do not directly affect the budget deficit.

To help with liquidity, governments are providing cashflow support in the form of loans, umbrella guarantees, and other liquidity support. For example, Cabo Verde, Korea, Thailand, and the United Kingdom provide temporary loans to firms and households in the affected sectors. Liquidity support, including government provision of loans, equity injections, and guarantees on business loans—sometimes extended through state-owned financial institutions or corporations—is now estimated to total $6.1 trillion globally (see below) and can be larger in size than the revenue and spending measures in some countries. Examples of participating countries include France, Germany, Italy, Japan, the United Kingdom, and the United States. These liquidity support measures often occur "below the line" or involve contingent liabilities that are outside budget revenues and expenditures. Some are reflected in financing operations, while others may not have upfront cashflow effects now but could bring fiscal risks in the future.

Size of Fiscal Response

Between January 2020 and June 2021, it is estimated that the entire world spent $16.5 trillion in COVID-19-related fiscal actions, about $10.4 trillion of which are above-the-line spending (additional spending and forgone revenue) and the remainder for government loans, guarantees, and capital injections (IMF 2021b). The cost of COVID-19, excluding the most important consequences such as deaths, mental health effects, restrictions of human freedom, and other non-pecuniary components, amounted to at least $16.5 trillion of fiscal spending for that 18-month period (about 18% of world GDP). The size of financial support has varied across countries depending on income level, political willingness, and the extent of the pandemic in each economy. As a result, global public debt approached 98% of GDP. For developed countries, the increase in the fiscal deficit comes from both rising expenditures and declining revenues. For developing countries, the fiscal deficit increase mainly reflects the collapse in fiscal revenue.

Table 2.01 Global Fiscal Response by Income Groups (USD Billion and % of GDP)

	Additional spending or foregone revenues	Liquidity (Equity, loans, and guarantees)	Total
Low income economies (US Billion)	11,4	1,1	12,5
% of GDP	3,1%	0,6%	3,7%
Lower-middle income economies (USD Billion)	238,8	169,1	407,8
% of GDP	3,6%	1,9%	5,5%
Upper-middle income economies (USD Billion)	1.051,2	482,2	1.533,4
% of GDP	4,1%	3,9%	8,1%
High income economies (USD Billion)	9.048,1	5.458,0	14.506,1
% of GDP	8,7%	5,6%	14,3%
Total (USD Billion)	10.349,7	6.110,5	16.460,0

Source: Annex Tables 2A.1-2A.4. Estimates as of June 5, 2021. Original data from the IMF 2021b, Fiscal Monitor, countries are classified using World Bank method.

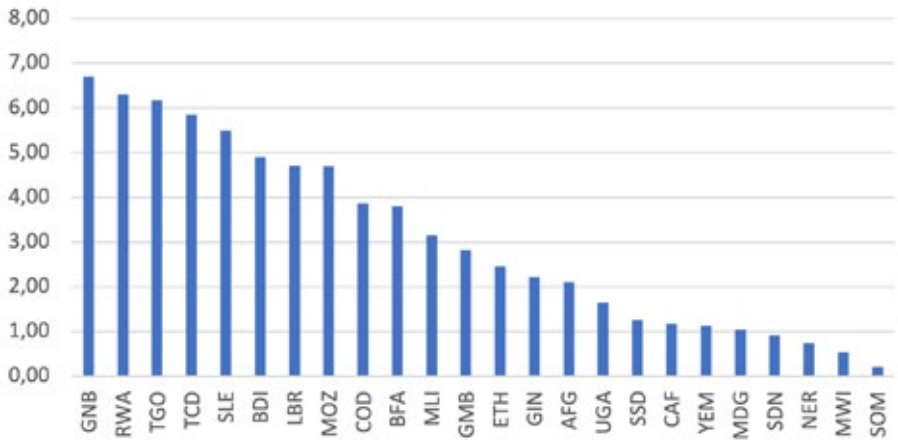
Of this $16.5 trillion in global fiscal spending, about 88% ($14.5 trillion) was spent by 57 high-income countries. For these economies, half of the above-the-line support was devoted to employment protection and household

income support. These high-income countries spent between 8% and 44% of 2020 GDP on COVID-19, averaging 14.3% of GDP over this period. Japan led the group in terms of spending as a percentage of GDP (over 44% of 2020 GDP). Although in terms of absolute value, the U.S. spent the most--close to $6 trillion over this period. In these economies, large firms benefited more from government support (dominated by guarantees and quasi-fiscal activities).

As a group, low-income countries spent a meager $12.5 billion on COVID-19, compared to $14.5 trillion spent by high-income countries, $1.5 trillion spent by upper-middle-income countries, and $408 billion spent by lower-middle-income countries. Among emerging market economies, public works and employment protection received the most support.

There is also substantial variation among developing countries in terms of fiscal measures taken to cope with COVID-19. Figure 2.03 shows the low-income economies ranked by the amount of additional spending and forgone revenue. Information on equity, loans, and guarantees is not available for some countries. Guinea-Bissau (GNB), Rwanda (RWA), and Togo (TGO) are the top three countries for COVID-19 spending above the line fiscal measures, while Malawi (MWI) and Somalia (SOM) are among the lowest.

Figure 2.03 Above-the-Line Fiscal Response by Low-Income Economies (% of GDP)



Sources: Annex Tables 2A.1-2A.4, based on IMF Database of Country Fiscal Measures in Response to the COVID-19 Pandemic. Estimates as of June 5, 2021. Percentages of GDP are based on July 2021 World Economic Outlook Update (IMF 23021c) unless otherwise stated. Country groups are defined according to World Bank classification. For the names of countries, see Annex 2A.1-2A.4.

Figure 2.04, 2.05, and 2.06 show the fiscal response by the lower-middle-income, upper-middle-income, and high-income economies, respectively, for which there is information on both above-the-line measures and liquidity support. All these countries are shown by order of above-the-line measures. Again, there is wide variation among these countries. Mongolia (MNG), Samoa (WSM), and the Kyrgyz Republic are the top three countries ranked in terms of additional spending or foregone revenue, as well as on equity, loans, and guarantees. As a group, the lower-middle-income countries spent more than the low-income countries on COVID-19, both in absolute value as well as a percentage of GDP.

Figure 2.05 shows the fiscal response by upper-middle-income countries for which information is available on both types of fiscal support. Mauritius, Peru, and Turkey are the top three spenders on both types of fiscal support, although Thailand, Kesovo, and Brazil are the top three spenders in terms of above-the-line measures.

Figure 2.04 Fiscal Response in Lower-Middle-Income Economies (% of GDP)

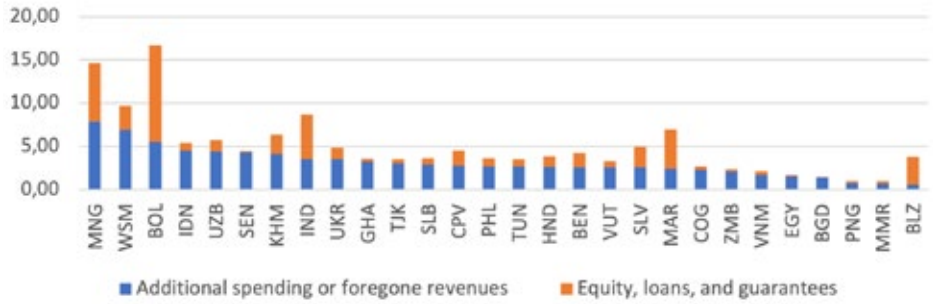


Figure 2.05 Fiscal Response in Upper-Middle-Income Economies (% of GDP)

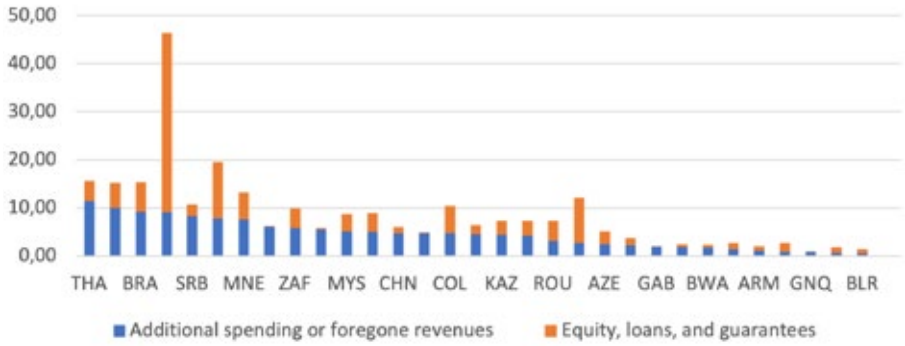
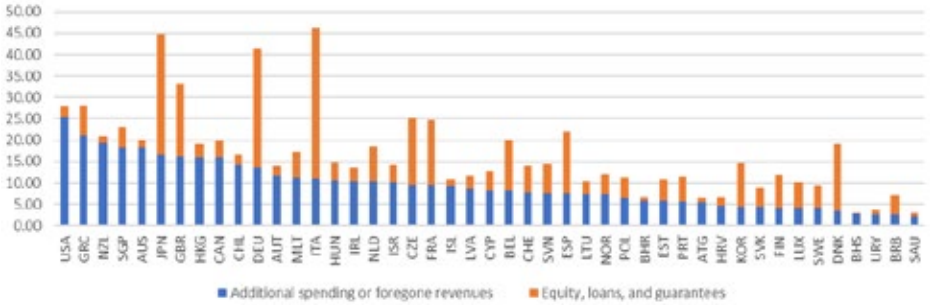


Figure 2.06 Fiscal Response in High-Income Economies (% of GDP)



Source and note: See Figure 2.01.

Figure 2.06 shows the fiscal response by high-income economies. Although these economies are arranged in terms of above-the-line measures, Italy, Japan, and Germany are the top three overall spenders. In terms of above-the-line measures, the U.S., Greece, and New Zealand are the top spenders.

Annex Table 2 B provides a ranking of countries in the world by total COVID-19 fiscal spending (as % of GDP) grouped by "Advanced Economies" status and EMDEs.

Some Specific Policy Responses to the Pandemic

In response to the COVID-19 pandemic, to various degrees, all EMDEs have mobilized resources to boost expenditures in the health sector and to provide emergency spending in support of affected workers and companies in strategic sectors, adopted temporary tax reliefs and holidays, and provided government guarantees for loans either from the banking sector or the central bank in favor of strategic sectors. Table 2.02 provides a summary of key fiscal measures that governments in low- and lower-middle-income countries have announced or taken in response to the COVID-19 pandemic as of June 2021.[6] These were discretionary measures that supplemented existing automatic stabilizers, such as automatic insurance mechanisms and existing social safety nets, which differ across countries in their breadth and scope.

6. See International Monetary Fund Fiscal Affairs Department, "Fiscal Monitor Database of Country Fiscal Measures in Response to the COVID-19 Pandemic," July 2021. https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19

Table 2.02 A List of Key Economic Responses to the COVID-19 Pandemic in Selected Countries

Category	Egypt	Morocco	Tunisia	Vietnam	Zambia
Additional spending and foregone revenue in the health sector	Medical supplies Higher wages for public health staff Meal subsidies for poor households	Creation of a special fund for management of the pandemic (of about 3% of GDP)	Equipment for public hospitals Waiver of VAT taxes for businesses selling medicines	Medical equipment and materials. Treatment costs of COVID-19 positive patients are covered by either Health Insurance Fund (under Vietnam Social Security) or by the state budget Forgone revenue: exemption of import tariff for medical material. Suspension of VAT for domestically produced medical material.	The government has announced an eight billion kwacha COVID-19 Mitigation Bond to finance-related spending, which includes 1 billion in health-related spending: purchases of equipment and clearance of arrears to local drug suppliers

Additional spending and foregone revenue in other sectors or areas	Lower energy costs for factories Subsidies for exporters Support to pensioners and irregular workers Low interest to encourage spending Six-month grace period on insurance premiums for SMEs Lower stamp duty on transactions and tax on dividends for investors Postponement of capital gain taxes	Affected businesses can defer social contribution payments Cash transfers to about one million workers Companies can also defer income tax payments Extent social transfers to temporary unemployed Postpone deadline for personal income tax filing	Monthly cash transfers for low-income households and disabled and homeless people Temporary support for the unemployed and self-employed. Special programs to support social work Suspension of penalties for delayed tax returns and customs payments Support measures for the private sector (faster VAT refunds, postponement of other taxes and social contributions, rescheduling the tax arrears)	Planned cash transfers of VND36 tn a cash transfer package from April to June: (i) the poor and near-poor households (VND 250 thousand/person/month); (ii) recipients of social protection program (additional VND 500 thousand/person/month on top of the monthly allowance); (iii) workers who temporarily stopped working (VND 1.8 million/person/month); (iv) unemployed workers without insurance, and self-employed workers (VND one million/person/month); (v) households with monthly taxable revenue below VND 100 million that temporarily suspended business (VND one million/household/month). Nearly 10 million people are estimated to benefit from this support package Forgone revenue: raise the deductibles of personal income tax starting in July, including individual thresholds and dependent deduction. Fees reduction for supporting firms and workers, effectively from May and extended to June 2021, including construction and tourism-related fees, are cut down by 50%. Water resource-related fees were also downward adjusted by 20 percent. Lower business registration fee; streamline tax and custom audit and inspection at firms; continued exemption of agricultural land use tax; corporate income tax relief for SMEs	Forgone revenues: Import duties on mineral concentrate and export duties on precious metals and crocodile skin were suspended. The government has waived tax penalties and interest on outstanding tax liabilities resulting from the impact of COVID-19

Equity injections, asset purchases, loans, debt assumptions		Creation of a fund for strategic investments to finance investment projects and sustain the capital of firms that needs equity injections	Create a fund for public donations to the health sector Investment fund to finance strategic private companies Bridging fund to repurchase shares of strategic private companies	Affected firms and workers are allowed to defer their contribution (up to 12 months) to the pension fund and survivor-ship fund with no interest penalty for late payment (estimated to be VND 9.5 tn)	Recapitalize NATSAVE (development bank)
Guarantees (on loans, deposits, etc.)	New fund to guarantee mortgages and consumer loans made by banks Temporary real estate tax relief for the industrial and tourism sectors Guarantee low-interest Central Bank loans to the tourism sector		State to guarantee new credits by the banking sector		

Quasi-fiscal operations (of public corporations on behalf of the government)	Stock purchase by the Central Bank Loan subsidies to tourism, agriculture, industrial, and housing	• Proposal to cut electricity prices by 10% for certain enterprises and households and exempt payment for quarantine zones, with Vietnam Electricity (EVN) bearing costs of price adjustment (0.1% of GDP). Moreover, firms receive concessional loans from the development bank (VSBP), financed by the central bank through a refinancing window at zero interest rate to make salary payments to their workers who are temporarily laid off (0.2% of GDP)

Source: IMF Policy tracker (July 2021)

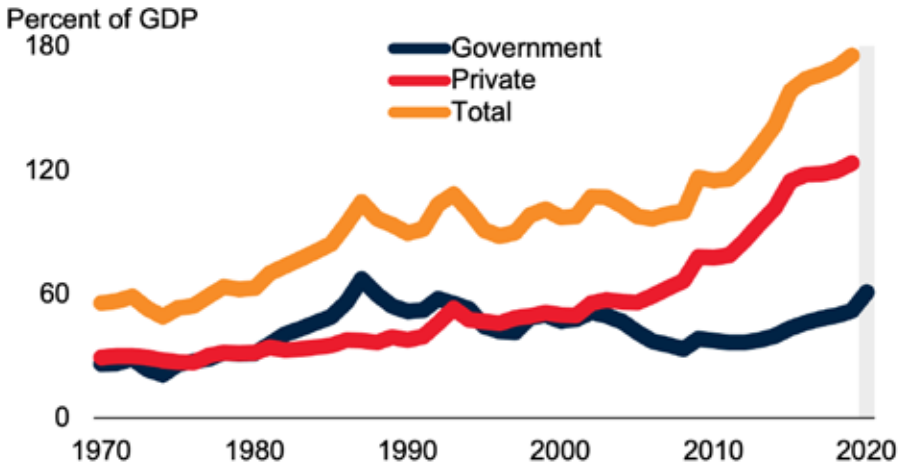
Annex Table 2C provides the fiscal costs incurred by these countries, along with a few other lower-middle-income countries, since the onset of COVID-19.

Most countries have adopted supplementary budgets. For example, three North African countries (Morocco, Mauritania, and Tunisia) have created dedicated COVID-19 extra budgetary funds. These funds have allowed expenditures to be programmed and disbursed more quickly than under the conventional budget process. The Tunisian fund is financed mostly by private contributions, while the funds in Mauritania and Morocco were set up to pool resources from private donations and contributions, public resources, and external finance sources. The fund in Tunisia is off budget, while the two funds in Mauritania and in Morocco were set up as programs within the existing budget system and are fully integrated into budget execution and control procedures.[7] These measures are categorized as above-the-line, consisting of additional spending and/or foregone revenue in health and other relevant sectors. As discussed above, liquidity support measures include instruments such as equity, loans, and guarantees. These are contingent liabilities with different implications for public finances and require closer monitoring, including setting sunset clauses.

As a whole, EMDEs face the difficult challenge of higher spending to fight the disease and protect people during a time of fiscal constraint, caused by

7. For more details, see International Monetary Fund, "COVID-19 Funds in Response to the Pandemic" by Fazeeer Rahim, Richard Allen, Helene Barroy, Laura Gores, and Joseph Kutzin, August 26, 2020.

lower domestic revenue and external financing inflows. As a result, in addition to a more accommodating monetary policy, countries had to resort to higher borrowing, both domestically and externally (Figure 2.07).



Sources: International Monetary Fund; Kose, Nagle et al. (2020); Kose, Sugawara, and Terrones (2020); World Bank (2021b).
Note: EMDEs = emerging market and developing economies. Aggregates are calculated using the current GDP in U.S. dollars as a weight, based on data for up to 182 countries, including up to 145 EMDEs. The shaded area refers to forecasts for 2021–22. Data for 2020 are estimates.

Challenging Problems for Low-Income Countries and the Debt Outlook

Among the EMDEs, low-income countries are in a particularly difficult situation. Faced with output contraction, a drop in commodity prices, and a rising debt burden, these countries cannot afford the needed fiscal spending, resulting in higher poverty rates and malnutrition (Chapter 1). Many countries resorted to cutting capital spending, making it more difficult to grow after the pandemic.

It is estimated that government spending and revenue actions together have reduced the decline in global growth in 2020 (IMF 2021). The fiscal actions' effect is likely stronger, as the analysis does not include loans, guarantees, and equity injections. Fiscal support has also mitigated the pandemic's effects on private demand and consumption and unemployment. Countries that adopted stronger containment measures earlier in 2020 deployed smaller fiscal measures. Fiscal measures have also dampened job losses.

In the short term, economic growth will depend on how the pandemic is controlled. This, in turn, depends on the availability of and access to vaccines. Meanwhile, support measures should focus on the most vulnerable households and firms and on protecting the labor force in preparation for the post-COVID-19 economy. While there is always a temptation to make social protection programs more effective by targeting support to the desired target population, it should be noted that the cost of such targeting in a pandemic environment may be too high. Countries have used instruments that can reach the informal sector faster, for example, mobile payments or other community-based methods.

Support to non-financial firms is harder than to poor households, mainly because it is difficult to identify the otherwise viable firms during a crisis. The focus in the short term should be on small- and medium-scale local firms because the FDI-invested firms typically have more resources to survive.

Cash Transfers

As the pandemic has lasted longer than expected, it is imperative to protect the labor force through various social protection schemes. The global experience in this area points to the effectiveness of cash transfers, both conditional cash transfers (CCT) and unconditional cash transfers (UCT) (Artuc et al. 2020). UCTs are a key tool for social protection responses to shocks, such as climatic shocks or the COVID-19 pandemic. UCTs can be rapidly scaled to broaden coverage and/or increase the transfer size to existing beneficiaries. They have been influential in redistributing income to the poor and are known to have impacts on reducing current poverty, increasing school participation, reducing child labor, and improving the utilization of health and nutrition services among mothers and children.

CCTs and UCTs can be combined to help reduce poverty and raise human capital investment; UCTs can serve as a safety net for everyone while also being complemented with carefully considered CCTs to achieve desired investments in human capital. This way, households who, for one reason or another, do not comply with CCT conditionalities can still benefit from a social safety net. The evidence base is growing for another version of this idea called "Cash Plus" programs, which combine UCTs (or labeled cash transfers) with complementary services or interventions.

According to U. Gentilini et al. (2021), cash transfers remain the dominant instrument among social assistance measures for dealing with COVID-19. As of mid-2021, there are 782 cash transfer programs globally, which account for 42% of total social assistance and 23% of global social protection responses throughout the world. Cash transfer programs are relatively generous. In a sample of 125 countries

with available data, the average transfer size represented 31% of monthly GDP per capita, ranging from 18% in North America to 52% in Sub-Saharan Africa. Among the highest country-level rates are low-income countries like Burkina Faso (290%), Afghanistan (176%), Sierra Leone (175%), and Malawi (141%). Only a minority of cash transfer programs are being scaled up based on existing schemes. Almost 69% of the cash transfers programs are new and 29% are one-off interventions. Administrative simplifications are being put in place in 36 programs across 29 countries, while payments have been advanced in 12 schemes in 11 countries.

Of the 142 cash transfer programs for which information is available, the program duration ranges between 1–12 months, for an average of four months. This represents an average increase by almost a month relative to the December 2020 estimate.

Risks to the Fiscal Outlook

Because of the fiscal spending on COVID-19, the world's fiscal deficit tripled from 3.6% of GDP in 2019 to 10.8% in 2020 (Table 2.03). Nearly all countries eased their fiscal policies after COVID-19 arrived. The overall fiscal deficit of the emerging market economies more than doubled from 4.7 % of GDP in 2019 to 9.8% in 2020. The low-income countries' budget deficit also increased sharply to 5.5% of GDP, but not nearly as much as that of the developed economies (11.7%).

Table 2.03 General Government Fiscal Balance, 2018–25 (% of GDP)

				Projections		
	2018	2019	2020	2021	2022	2025
World	-3.0	-3.6	-10.8	-9.2	-5.4	-3.9
Advanced Economies	-2.5	-2.9	-11.7	-10.4	-4.6	-3.0
Euro Area	-0.5	-0.6	-7.6	-6.7	-3.3	-1.6
Japan	-2.7	-3.1	-12.6	-9.4	-3.8	-2.3
United States2	-5.4	-5.7	-15.8	-15.0	-6.1	-5.0
Emerging Market Economies	-3.8	-4.7	-9.8	-7.7	-6.7	-5.2
Emerging G-20	-4.3	-5.4	-10.4	-8.3	-7.4	-5.8
China	-4.7	-6.3	-11.4	-9.6	-8.7	-6.5
India	-6.3	-7.4	-12.3	-10.0	-9.1	-7.7
Low-Income Developing Countries	-3.4	-3.9	-5.5	-4.9	-4.4	-3.7

Source: Annex 2D, based on IMF 2021c
Note: All country averages are weighted by nominal GDP converted to U.S. dollars.
[1] Including financial sector support.

[2] For cross-economy comparability, expenditure and fiscal balances of the United States are adjusted to exclude the imputed interest on unfunded pension liabilities and the imputed compensation of employees..

As economies recover, revenue collection is projected to improve. Capital spending is expected to recover partially in most countries after the temporary cuts in 2020. However, deficits are expected to widen in a few countries as revenue-to-GDP ratios only partially recover, while spending and debt service costs continue to rise. Over the medium term, the average fiscal deficit is projected to return to its pre-pandemic level by 2026, largely aided by revenue increases. Average expenditure is projected to broadly stabilize, although some countries with high public debt ratios are projected to restrain spending to secure debt sustainability.

For low-income economies, financing large deficits is challenging given limited market access and the restricted ability to increase revenues in the near term. Average debt levels are projected to peak in 2021 (Table 2.04) while continuing to climb in some countries. Globally, the government gross debt-to-GDP ratio jumped from 83.7% of GDP in 2019 to 97.3% and is projected to be around 100% in 2025 (Table 2.04). Advanced economies added some 16.3 percentage points to this ratio in 2020, while the emerging market economies added 10 percentage points, and the low-income developing countries some 5 percentage points. For these low-income economies, despite large revenue shortfalls from output drops and a concurrent fall in commodity prices, deficits rose less than in other income groups because total spending remained essentially constant as financing remained constrained— even after larger external grants and exceptional emergency and concessional financing. Many governments reprioritized spending. For example, 60% of countries in the group cut capital expenditures as a ratio of GDP levels projected before the COVID-19 pandemic. Less severe economic contractions, compared with advanced economies, have served as mitigating factors. Spending needs are expected to rise for vaccination and safety nets, in addition to financing requirements for preexisting development goals.

Table 2.04 General Government Debt 2018–2025 (% of GDP)

				Projections		
	2018	2019	2020	2021	2022	2025
Gross Debt						
World	82.3	83.7	97.3	98.9	99.0	99.5
Advanced Economies	102.5	103.8	120.1	122.5	121.6	121.4
Japan	232.5	234.9	256.2	256.5	253.6	254.0
United States1	106.6	108.2	127.1	132.8	132.1	133.9
Emerging Market Economies	52.4	54.7	64.4	65.1	67.3	72.2

China	53.8	57.1	66.8	69.6	73.7	83.3
India	70.2	73.9	89.6	86.6	86.3	83.8
Low-Income Developing Countries	42.8	44.3	49.5	48.6	48.2	46.3

Source: Annex 2E, based on IMF 2021c
Note: All country averages are weighted by nominal GDP converted to US dollars.
[1] For cross-economy comparability, gross and net debt levels for some economies are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.
[2] Gross debt refers to the non-financial public sector, excluding Eletrobras and Petrobras, and includes sovereign debt held on the balance sheet of the central bank.

However, as argued in the next section, these projections have not taken into account the amount of fiscal spending needed by developing countries to return to normalcy. Moreover, as discussed in the following chapters, the global debt situation remains vulnerable to the interest rate, GDP growth, and sizable primary deficits, which continue to weigh heavily on debt. The sharp rise in government debt in the last two years has been compounded by lower revenues from commodity and service exports as discussed earlier. The eased-up monetary conditions in the world helped reduce the average long-term bond yields in EMDEs by 0.5 percentage points to below 4%, with effective interest rates declining in many countries. This poses a risk because of a rollover or reversal of investors' confidence and therefore requires close monitoring of capital flows by the national authorities.

In short, the budgetary needs to cope with COVID-19 in developing countries remain large, especially in the light of new, emerging disease variants. In addition to vaccine and treatment budgets, discussed in the next section, governments are expected to continue to provide social protection, especially cash transfers to the vulnerable population. These needs will pose formidable challenges to countries that are under tight financial constraints, especially those at risk of debt distress.

Risks to the fiscal outlook, therefore, weigh heavily on the downside. Risks are intertwined and reinforce one another. The main sources include: i) protracted economic downturn (further lockdowns, delays in vaccine access and availability, and, most importantly, new waves of infections caused by new variants); ii) tightening of financing conditions, including the rise in international interest rates; and iii) realization of contingent liabilities as a significant part of global financial support has been through the provision of loans or guarantees, equity injections, and other forms of quasi-fiscal operations. Other risks identified include volatility in commodity prices and rising social discontent caused, in part, by mental stress due to lockdowns.

The Urgency and Unavoidability of COVID-19 Vaccination and Treatment

Until now, fiscal spending by developing countries has mainly dealt with issues unrelated to two key problems of COVID-19: vaccination and treatment of the disease. This is because COVID-19 vaccines were only discovered in 2021 and deployed in 2021 in the developed countries. Yet, it is now common knowledge that for the world to resume normalcy, all countries will need to continue with COVID-19 vaccination efforts until 70% of the population is fully vaccinated so that herd immunity is reached. In addition, treatment of the infected population needs to continue apace.

As devastating and ravaging as COVID-19 is in causing suffering across the world, as of mid-2021, there is still no official effective treatment for this infectious disease. Some medications, such as Casirivimab và Imdevimab are available in developed countries but even there, they are not universally accepted. Treatments like monoclonal antibodies can keep mild cases from getting worse, but they are expensive, limited in supply, and can only be administered intravenously by a medical professional. A new and promising oral drug, Molnupiravir, may be a gamechanger if approved by the US Food and Drug Administration (FDA), but as of this writing, that has yet to happen. Vaccines are clearly more advanced. Pfizer, BioNtech, Moderna, J&J, Astra Zeneca and some Chinese and Soviet vaccines of lesser quality are currently available. The problem, therefore, is not the state of knowledge, but ramping up vaccine production to satisfy the demand.

Effective control of COVID-19 not only requires adequate vaccines and therapeutics, but also timely diagnostics and an effective health system connector. The four components go together and, unfortunately, developing countries have no choice in this matter. There is no way to resume economic activities without full vaccination and adequate treatment for infected people. Treatment, in turn, cannot be given unless testing is done and the delivery system for vaccines and treatment can be assured.

Progress to date

Figure 2.08 shows the world vaccination progress as of early October 2021, broken down by continent. The world has only reached half of its goal, and the developing world far less. So far, Africa has vaccinated less than 5% of its population.

The remainder of this chapter will be devoted to estimating the minimum level of fiscal spending these developing countries need. Each country will have

different vaccination and infection rates, cost drivers, and health systems. To illustrate this, we look at the 11 low- and lower-middle-income countries in Africa and Asia. The vaccination rates for these 11 countries are shown in Figure 2.09

Figure 2.08. Vaccination Progress by Continents

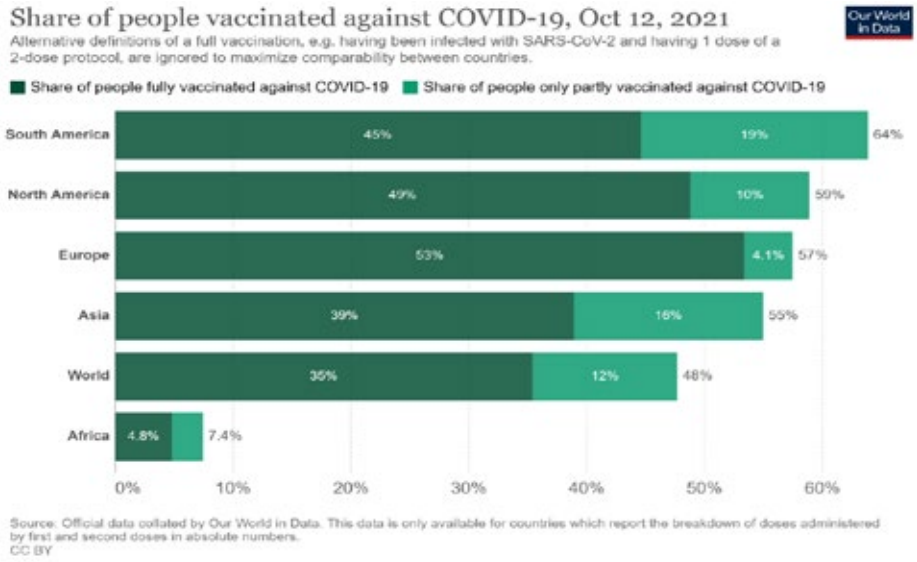
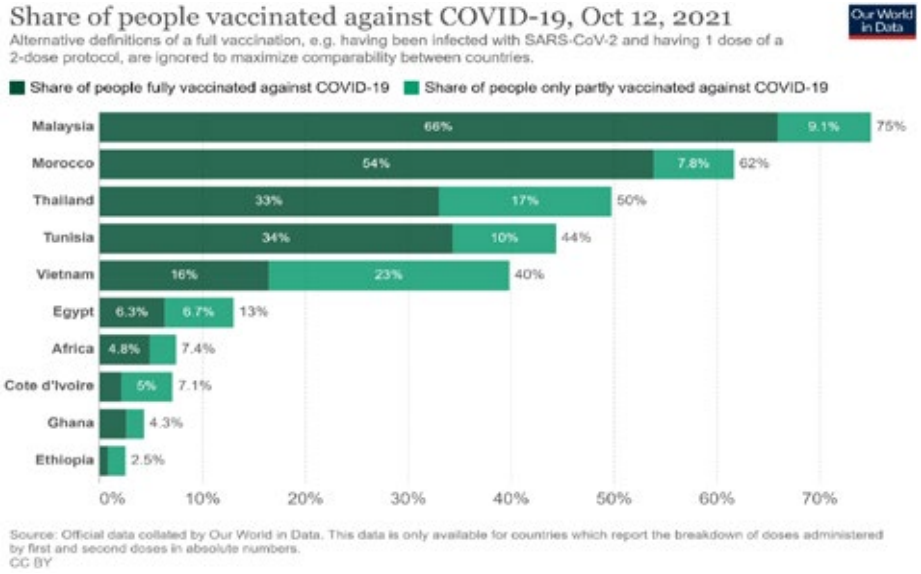


Figure 2.09 Vaccination Progress in Selected Developing Countries



It should be noted that while COVID-19 does not seem to have ravaged Africa as much as it has other continents, there are reasons to believe the full extent of its effects is not yet known. The latest World Health Organization (WHO) report[8] finds that six out of seven COVID-19 infections go undetected in Africa. Overall, it is reported that nearly 60 million people contracted the virus in the continent, though even that number might not be accurate, given the small reach of testing in the Region. For example, the most tested African country, Gabon, administered 50 tests per 100 people, and South Africa about 30 tests per 100 people. By way of comparison, Austria administered up to 1,038 tests per 100 people, the UK 412 tests per 100 people, and the US 170 tests per 100[9]. The reason for the underreporting and lack of testing is the poor healthcare resources, making COVID-19 tests and diagnoses harder to come by.

Assumptions on COVID-19 Vaccination and Treatment Cost

Following the WHO's guidance, we assume there are four key components of the vaccine and treatment cost: vaccines, diagnostics, therapeutics, and a health system connector.

Vaccines: Annex Table 2F lists the number of doses given by each country as of October 13, 2021. We assume 70% of the population is the target for vaccinations and two doses are needed for each person to be fully vaccinated. COVID-19 dose cost is given in Table 2.09.

Diagnostics: We take the actual tests given and multiply it by the average cost of tests, as provided by WHO.

Therapeutics: We first take the number of infected cases and, following the WHO's guidance, assume 5% will be in critical condition. This number, together with the number of deaths, will make up the number of people who need respirators (with an average of five days in the hospital). Respirators cost $377 each. The remainder of the cases will need medication at a cost of about $50/person.

Health System Connector: This component concerns the purchase of personal professional equipment (PPE), such as masks and gloves or health workers' salaries. Data on workers in the health sector are missing for developing countries. Here, we assume 3.5 workers per 1000, using the number in Vietnam as a rough estimate.

Annex 2F lists the various components and cost estimates. The good news is that for the lower-middle-income countries, all four components amount to less than 1% of GDP. The bad news is that for low-income countries, the cost could amount to 1.7% of GDP (Ethiopia and Zambia). We now turn to each country's specific debt situation in the next chapter.

8. https://www.afro.who.int/news/six-seven-covid-19-infections-go-undetected-africa.

9. https://qz.com/africa/2079064/only-one-in-seven-cases-of-covid-19-in-africa-is-reported/.

Annex 2A Fiscal Measures By Wb Income Groups And Ranked By Above-The-Line Measures (% Of Gdp)

Table 2A. 1 Low-Income Economies

		Percent of GDP		USD billions	
Country Name	Country Code	Additional spending or foregone revenues	Equity, loans, and guarantees	Additional spending or foregone revenues	Equity, loans, and guarantees
Guinea-Bissau	GNB	6.70	1.82	0.10	0.03
Rwanda	RWA	6.30		0.70	
Togo	TGO	6.18		0.46	
Chad	TCD	5.85	0.07	0.63	0.01
Sierra Leone	SLE	5.50		0.23	
Burundi	BDI	4.89		0.15	
Liberia	LBR	4.71		0.14	
Mozambique	MOZ	4.70	0.17	0.66	0.02
Congo, Dem. Rep.	COD	3.86		1.90	
Burkina Faso	BFA	3.80		0.60	
Mali	MLI	3.16	0.20	0.56	0.03
Gambia, The	GMB	2.83		0.05	
Ethiopia	ETH	2.46	0.62	2.38	0.60
Guinea	GIN	2.22	0.05	0.34	0.01
Afghanistan	AFG	2.10		0.42	
Uganda	UGA	1.65	0.52	0.65	0.21
South Sudan	SSD	1.25		0.06	
Central African Republic	CAF	1.16		0.03	
Yemen, Rep.	YEM	1.13		0.23	
Madagascar	MDG	1.04		0.12	
Sudan	SDN	0.92		0.82	
Niger	NER	0.74	1.27	0.10	0.17
Malawi	MWI	0.54		0.06	
Somalia	SOM	0.20		0.01	
Eritrea	ERI				
Average		**3.08**	**0.59**	**0.48**	**0.14**
Total				**11.41**	**1.08**

Source: IMF

https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19
Note: This table uses WB classification to group countries into advanced economies and developing countries. The key fiscal measures refer to those either announced or taken in response to the COVID-19 pandemic as of June 4, 2021 and include COVID-19 related measures since January 2020 and cover measures for implementation in 2020, 2021, and beyond. Please see IMF Policy Tracker (https://www.imf.org/COVID19policytracker) for further information.

Table 2A. 2 Lower Middle-Income Economies

		Percent of GDP		USD Billion	
Country Name	Country Code	Additional spending or foregone revenues	Equity, loans, and guarantees	Additional spending or foregone revenues	Equity, loans, and guarantees
Micronesia, Fed. Sts.	FSM	19.60		0.08	
Timor-Leste	TLS	15.83		0.25	
Kiribati	KIR	10.35		0.02	
Mongolia	MNG	7.87	6.76	1.03	0.89
Samoa	WSM	6.92	2.77	0.06	0.02
Kyrgyz Republic	KGZ	6.10		0.46	
Bolivia	BOL	5.50	11.24	2.03	4.14
Iran, Islamic Rep.	IRN	4.86		24.04	
Mauritania	MRT	4.79		0.39	
Indonesia	IDN	4.53	0.88	48.02	9.28
Uzbekistan	UZB	4.43	1.33	2.56	0.77
Senegal	SEN	4.32	0.18	1.07	0.04
Cambodia	KHM	4.10	2.28	1.06	0.59
Lesotho	LSO	3.68		0.11	0.03
India	IND	3.51	5.21	93.32	138.65
Ukraine	UKR	3.48	1.39	5.27	2.15
Zimbabwe	ZWE	3.46		0.73	
Ghana	GHA	3.26	0.31	2.23	0.21
Eswatini	SWZ	3.25		0.13	
Tajikistan	TJK	3.04	0.48	0.24	0.04
Sao Tome and Principe	STP	3.01		0.013	

Solomon Islands	SLB	2.92	0.70	0.004	0.001
Comoros	COM	2.85		0.03	
Cabo Verde	CPV	2.80	1.77	0.05	0.03
Philippines	PHL	2.71	0.92	9.81	3.31
Tunisia	TUN	2.68	0.81	1.06	0.32
Honduras	HND	2.68	1.17	0.63	0.28
Benin	BEN	2.62	1.59	0.42	0.26
Vanuatu	VUT	2.60	0.70	0.02	0.01
El Salvador	SLV	2.56	2.44	0.63	0.60
Kenya	KEN	2.50		2.49	
Côte d›Ivoire	CIV	2.50		1.60	
Djibouti	DJI	2.43		0.08	
Morocco	MAR	2.40	4.60	2.90	4.70
Nigeria	NGA	2.37		10.18	
Congo, Rep.	COG	2.30	0.43	0.23	0.04
Zambia	ZMB	2.09	0.26	0.39	0.05
Pakistan	PAK	1.99		5.21	
Vietnam	VNM	1.68	0.48	5.72	1.64
Egypt, Arab Rep.	EGY	1.57	0.13	5.70	0.46
Bangladesh	BGD	1.41	0.07	4.63	0.24
Nicaragua	NIC	1.31		0.17	
Algeria	DZA	1.30		1.78	
Cameroon	CMR	0.89		0.35	
Sri Lanka	LKA	0.80		0.70	
Papua New Guinea	PNG	0.78	0.25	0.18	0.06
Myanmar	MMR	0.72	0.26	0.59	0.21
Belize	BLZ	0.59	3.22	0.01	0.06
Haiti	HTI	0.58		0.08	
Lao PDR	LAO	0.02		0.003	
Average		**3.61**	**1.88**	**4.78**	**5.83**
Total				**238.77**	**169.07**

Source: IMF
https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19.

Table 2A. 3 Upper Middle-Income Economies

		Percent of GDP		USD Billion	
Country Name	Country Code	Additional spending or foregone revenues	Equity, loans, and guarantees	Additional spending or foregone revenues	Equity, loans, and guarantees
Tuvalu	TUV	12.56		0.01	
Thailand	THA	11.40	4.24	57.21	21.25
Kosovo	XKX	9.96	5.28	0.78	0.41
Brazil	BRA	9.24	6.15	132.46	88.21
Mauritius	MUS	9.20	37.27	1.03	4.16
Serbia	SRB	8.29	2.43	4.39	1.29
Peru	PER	7.85	11.75	15.99	23.94
Montenegro	MNE	7.60	5.60	0.36	0.27
Maldives	MDV	6.90		0.26	
Georgia	GEO	6.15	0.001	0.97	0.0001
South Africa	ZAF	5.86	4.08	17.69	12.33
Fiji	FJI	5.55	0.32	0.24	0.01
Malaysia	MYS	5.23	3.53	17.71	11.95
Tonga	TON	5.17		0.03	
Bulgaria	BGR	5.03	3.90	3.48	2.70
China	CHN	4.78	1.30	710.65	192.73
Paraguay	PRY	4.72	0.28	1.69	0.10
Colombia	COL	4.71	5.74	12.78	15.58
Argentina	ARG	4.52	2.00	17.28	7.64
Kazakhstan	KAZ	4.44	2.85	7.61	4.88
Bosnia and Herzegovina	BIH	4.27		0.87	
North Macedonia	MKD	4.25	3.11	0.52	0.38
Libya	LBY	4.23		0.92	
St. Lucia	LCA	3.89		0.06	
St. Vincent and the Grenadines	VCT	3.76		0.03	
Panama	PAN	3.40		1.80	
Guatemala	GTM	3.30		2.56	

Dominican Republic	DOM	3.30		2.60	
Romania	ROU	3.16	4.18	7.87	10.39
Turkey	TUR	2.70	9.50	19.00	68.00
Azerbaijan	AZE	2.46	2.69	1.05	1.15
Grenada	GRD	2.30		0.02	
Albania	ALB	2.25	1.58	0.33	0.24
Gabon	GAB	1.97	0.14	0.31	0.02
Dominica	DMA	1.80	0.72	0.01	0.004
Botswana	BWA	1.70	0.70	0.27	0.11
Costa Rica	CRI	1.50		0.85	
Namibia	NAM	1.46	1.24	0.16	0.13
Moldova	MDA	1.40		0.20	
Jamaica	JAM	1.30		0.18	
Armenia	ARM	1.04	1.06	0.13	0.13
Jordan	JOR	0.91	1.78	0.39	0.78
Equatorial Guinea	GNQ	0.85	0.02	0.08	0.002
Ecuador	ECU	0.71		0.69	
Mexico	MEX	0.65	1.20	7.03	12.86
Belarus	BLR	0.60	0.80	0.40	0.50
Iraq	IRQ	0.17		0.29	
Turkmenistan	TKM	0.02	0.02	0.01	0.01
Average		**4.14**	**3.92**	**21.90**	**15.07**
Total				**1051.24**	**482.18**

Source: IMF
https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19.

Table 2A. 4 High-Income Economies

		Percent of GDP		USD Billion	
Country Name	Country Code	Additional spending or foregone revenues	Equity, loans, and guarantees	Additional spending or foregone revenues	Equity, loans, and guarantees
Macao SAR, China	MAC	27.41		6.67	
United States	USA	25.45	2.44	5328.30	510.00
Greece	GRC	21.07	7.01	38.89	12.94
New Zealand	NZL	19.28	1.65	40.37	3.45
Singapore	SGP	18.40	4.69	62.55	15.94
Australia	AUS	18.37	1.78	249.73	24.16
Japan	JPN	16.47	28.33	830.72	1429.18
United Kingdom	GBR	16.24	16.71	440.06	452.89
Hong Kong SAR, China	HKG	16.00	3.20	55.60	11.00
Canada	CAN	15.88	3.95	261.12	64.94
Chile	CHL	14.10	2.50	35.64	6.32
Germany	DEU	13.64	27.79	519.28	1057.97
Austria	AUT	11.66	2.39	50.22	10.27
Malta	MLT	11.10	6.08	1.70	0.89
Italy	ITA	10.90	35.25	205.43	664.51
Hungary	HUN	10.51	4.19	16.29	6.49
Ireland	IRL	10.31	3.27	43.14	13.70
Netherlands	NLD	10.30	8.14	93.93	74.18
Israel	ISR	10.10	4.10	41.40	17.00
Czech Republic	CZE	9.60	15.51	23.39	37.77
France	FRA	9.58	15.21	251.88	399.79
Aruba	ABW	9.32		0.23	
Iceland	ISL	9.25	1.48	2.01	0.32
Latvia	LVA	8.70	2.96	2.91	1.05
Cyprus	CYP	8.27	4.46	1.97	1.06
Belgium	BEL	8.22	11.92	42.34	61.17
Nauru	NRU	8.00		0.01	
Palau	PLW	7.87		0.02	
Switzerland	CHE	7.77	6.23	58.18	46.63

Slovenia	SVN	7.70	6.60	4.18	3.50
Spain	ESP	7.58	14.37	97.02	184.02
Lithuania	LTU	7.50	2.80	4.16	1.56
Norway	NOR	7.40	4.52	23.92	14.60
Seychelles	SYC	6.58		0.07	
Poland	POL	6.46	4.82	38.52	28.72
Bahrain	BHR	5.80	0.78	1.97	0.27
Estonia	EST	5.80	5.09	1.59	1.38
Portugal	PRT	5.63	5.68	13.01	13.12
Antigua and Barbuda	ATG	5.33	1.12	0.07	0.02
Croatia	HRV	4.61	2.10	2.59	1.18
Korea, Rep.	KOR	4.48	10.13	73.47	166.02
Slovak Republic	SVK	4.44	4.40	4.62	4.58
Finland	FIN	4.27	7.49	11.58	20.31
Luxembourg	LUX	4.21	5.91	3.08	4.33
Sweden	SWE	4.18	5.29	22.47	28.41
St. Kitts and Nevis	KNA	3.50		0.04	
Denmark	DNK	3.46	15.67	12.27	55.67
Bahamas, The	BHS	2.93	0.18	0.33	0.02
Uruguay	URY	2.70	1.00	1.60	0.60
Trinidad and Tobago	TTO	2.61		0.56	
Barbados	BRB	2.60	4.64	0.12	0.21
United Arab Emirates	ARE	2.46		8.71	
Saudi Arabia	SAU	2.19	0.84	15.36	5.87
Kuwait	KWT	1.51		1.63	
Brunei Darussalam	BRN	1.21		0.14	
San Marino	SMR	0.76		0.01	
Oman	OMN	0.60		0.44	
Qatar	QAT	0.39		0.58	
Average		**8.67**	**5.60**	**156.00**	**121.29**
Total				**9048.11**	**5458.01**

Source: IMF
https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19.

Annex 2B Ranking Of Countries By Total COVID-19 Spending (% Of Gdp)

	Add. Spend. or Forg. Rev.	Liquidity Support	Add. Spend. or Forg. Rev.	Liquidity support	TOTAL
	USD Billion		as % of GDP		
Advanced Economies					
Italy	205.4	664.5	10.9	35.3	**46.2**
Japan	830.7	1429.2	16.5	28.3	**44.8**
Germany	519.3	1058.0	13.6	27.8	**41.4**
United Kingdom	440.1	452.9	16.2	16.7	**33.0**
Greece	38.9	12.9	21.1	7.0	**28.1**
United States	5328.3	510.0	25.4	2.4	**27.9**
Macao SAR	6.7		27.4	0.0	**27.4**
Czech republic	23.4	37.8	9.6	15.5	**25.1**
France	251.9	399.8	9.6	15.2	**24.8**
Singapore	62.5	15.9	18.4	4.7	**23.1**
Spain	97.0	184.0	7.6	14.4	**22.0**
New Zealand	40.4	3.4	19.3	1.6	**20.9**
Australia	249.7	24.2	18.4	1.8	**20.2**
Belgium	42.3	61.2	8.2	11.9	**20.1**
Canada	261.1	64.9	15.9	4.0	**19.8**
Hong Kong SAR	55.6	11.0	16.0	3.2	**19.2**
Denmark	12.3	55.7	3.5	15.7	**19.1**
The Netherlands	93.9	74.2	10.3	8.1	**18.4**
Malta	1.7	0.9	11.1	6.1	**17.2**
Korea	73.5	166.0	4.5	10.1	**14.6**
Slovenia	4.2	3.5	7.7	6.6	**14.3**
Israel	41.4	17.0	10.1	4.1	**14.2**
Austria	50.2	10.3	11.7	2.4	**14.0**
Switzerland	58.2	46.6	7.8	6.2	**14.0**
Ireland	43.1	13.7	10.3	3.3	**13.6**
Cyprus	2.0	1.1	8.3	4.5	**12.7**
Norway	23.9	14.6	7.4	4.5	**11.9**
Finland	11.6	20.3	4.3	7.5	**11.8**
Latvia	2.9	1.0	8.7	3.0	**11.7**
Portugal	13.0	13.1	5.6	5.7	**11.3**

Estonia	1.6	1.4	5.8	5.1	**10.9**
Iceland	2.0	0.3	9.2	1.5	**10.7**
European Union	488.3	873.1	3.8	6.8	**10.5**
Lithuania	4.2	1.6	7.5	2.8	**10.3**
Luxembourg	3.1	4.3	4.2	5.9	**10.1**
Sweden	22.5	28.4	4.2	5.3	**9.5**
Slovak Republic	4.6	4.6	4.4	4.4	**8.8**
San Marino	0.0		0.8	0.0	**0.8**
Emerging Market and Developing Economies (EMDEs)					
Mauritius	1.0	4.2	9.2	37.3	**46.5**
Micronesia, Fed. States of	0.1		19.6	0.0	**19.6**
Peru	16.0	23.9	7.8	11.8	**19.6**
Bolivia	2.0	4.1	5.5	11.2	**16.7**
Chile	35.6	6.3	14.1	2.5	**16.6**
Timor-Leste, Dem. Rep. of	0.3		15.8	0.0	**15.8**
Thailand	57.2	21.3	11.4	4.2	**15.6**
Brazil	132.5	88.2	9.2	6.2	**15.4**
Kosovo	0.8	0.4	10.0	5.3	**15.2**
Hungary	16.3	6.5	10.5	4.2	**14.7**
Mongolia	1.0	0.9	7.9	6.8	**14.6**
Montenegro, Rep. of	0.4	0.3	7.6	5.6	**13.2**
Tuvalu	0.0		12.6	0.0	**12.6**
Turkey	19.0	68.0	2.7	9.5	**12.2**
Poland	38.5	28.7	6.5	4.8	**11.3**
Serbia	4.4	1.3	8.3	2.4	**10.7**
Colombia	12.8	15.6	4.7	5.7	**10.4**
Kiribati	0.0		10.4	0.0	**10.4**
South Africa	17.7	12.3	5.9	4.1	**9.9**
Samoa	0.1	0.0	6.9	2.8	**9.7**
Aruba	0.2		9.3	0.0	**9.3**
Bulgaria	3.5	2.7	5.0	3.9	**8.9**
Malaysia	17.7	11.9	5.2	3.5	**8.8**
India	93.3	138.6	3.5	5.2	**8.7**
Guinea-Bissau	0.1	0.0	6.7	1.8	**8.5**
Nauru	0.0		8.0	0.0	**8.0**
Palau	0.0		7.9	0.0	**7.9**

North Macedonia	0.5	0.4	4.3	3.1	**7.4**
Romania	7.9	10.4	3.2	4.2	**7.3**
Kazakhstan	7.6	4.9	4.4	2.9	**7.3**
Barbados	0.1	0.2	2.6	4.6	**7.2**
Morocco	2.9	4.7	2.4	4.6	**7.0**
Maldives	0.3		6.9	0.0	**6.9**
Croatia	2.6	1.2	4.6	2.1	**6.7**
Bahrain	2.0	0.3	5.8	0.8	**6.6**
Seychelles	0.1		6.6	0.0	**6.6**
Argentina	17.3	7.6	4.5	2.0	**6.5**
Antigua and Barbuda	0.1	0.0	5.3	1.1	**6.4**
Cambodia	1.1	0.6	4.1	2.3	**6.4**
Rwanda	0.7		6.3	0.0	**6.3**
Togo	0.5		6.2	0.0	**6.2**
Georgia	1.0	0.0	6.1	0.0	**6.2**
Kyrgyz Republic	0.5		6.1	0.0	**6.1**
China	710.6	192.7	4.8	1.3	**6.1**
Russia	67.1	21.7	4.5	1.5	**6.0**
Chad	0.6	0.0	5.8	0.1	**5.9**
Fiji	0.2	0.0	5.6	0.3	**5.9**
Uzbekistan	2.6	0.8	4.4	1.3	**5.8**
Sierra Leone	0.2		5.5	0.0	**5.5**
Indonesia	48.0	9.3	4.5	0.9	**5.4**
Tonga	0.0		5.2	0.0	**5.2**
Azerbaijan	1.0	1.1	2.5	2.7	**5.1**
Paraguay	1.7	0.1	4.7	0.3	**5.0**
El Salvador	0.6	0.6	2.6	2.4	**5.0**
Burundi	0.1		4.9	0.0	**4.9**
Mozambique	0.7	0.0	4.7	0.2	**4.9**
Ukraine	5.3	2.2	3.5	1.4	**4.9**
Iran	24.0		4.9	0.0	**4.9**
Mauritania	0.4		4.8	0.0	**4.8**
Liberia	0.1		4.7	0.0	**4.7**
Cabo Verde	0.0	0.0	2.8	1.8	**4.6**
Senegal	1.1	0.0	4.3	0.2	**4.5**
Bosnia and Herzegovina	0.9		4.3	0.0	**4.3**

Libya	0.9		4.2	0.0	**4.2**
Benin	0.4	0.3	2.6	1.6	**4.2**
St. Lucia	0.1		3.9	0.0	**3.9**
Democratic Republic of the Congo	1.9		3.9	0.0	**3.9**
Honduras	0.6	0.3	2.7	1.2	**3.8**
Albania	0.3	0.2	2.3	1.6	**3.8**
Belize	0.0	0.1	0.6	3.2	**3.8**
Burkina Faso	0.6		3.8	0.0	**3.8**
St. Vincent and the Grenadines	0.0		3.8	0.0	**3.8**
Uruguay	1.6	0.6	2.7	1.0	**3.7**
Lesotho	0.1	0.0	3.7	0.0	**3.7**
Philippines	9.8	3.3	2.7	0.9	**3.6**
Solomon Islands	0.0	0.0	2.9	0.7	**3.6**
Ghana	2.2	0.2	3.3	0.3	**3.6**
Tajikistan	0.2	0.0	3.0	0.5	**3.5**
St. Kitts and Nevis	0.0		3.5	0.0	**3.5**
Tunisia	1.1	0.3	2.7	0.8	**3.5**
Zimbabwe	0.7		3.5	0.0	**3.5**
Panama	1.8		3.4	0.0	**3.4**
Mali	0.6	0.0	3.2	0.2	**3.4**
Guatemala	2.6		3.3	0.0	**3.3**
Dominican Republic	2.6		3.3	0.0	**3.3**
Vanuatu	0.0	0.0	2.6	0.7	**3.3**
Eswatini	0.1		3.2	0.0	**3.2**
Bahamas, The	0.3	0.0	2.9	0.2	**3.1**
Ethiopia	2.4	0.6	2.5	0.6	**3.1**
Saudi Arabia	15.4	5.9	2.2	0.8	**3.0**
São Tomé and Príncipe	0.0		3.0	0.0	**3.0**
Comoros	0.0		2.8	0.0	**2.8**
Gambia, The	0.1		2.8	0.0	**2.8**
Congo, Republic of	0.2	0.0	2.3	0.4	**2.7**
Namibia	0.2	0.1	1.5	1.2	**2.7**
Jordan	0.4	0.8	0.9	1.8	**2.7**
Trinidad and Tobago	0.6		2.6	0.0	**2.6**
Dominica	0.0	0.0	1.8	0.7	**2.5**

Kenya	2.5		2.5	0.0	**2.5**
Côte d›Ivoire	1.6		2.5	0.0	**2.5**
United Arab Emirates	8.7		2.5	0.0	**2.5**
Djibouti	0.1		2.4	0.0	**2.4**
Botswana	0.3	0.1	1.7	0.7	**2.4**
Nigeria	10.2		2.4	0.0	**2.4**
Zambia	0.4	0.0	2.1	0.3	**2.4**
Grenada	0.0		2.3	0.0	**2.3**
Guinea	0.3	0.0	2.2	0.1	**2.3**
Uganda	0.7	0.2	1.6	0.5	**2.2**
Vietnam	5.7	1.6	1.7	0.5	**2.2**
Gabon	0.3	0.0	2.0	0.1	**2.1**
Armenia	0.1	0.1	1.0	1.1	**2.1**
Afghanistan	0.4		2.1	0.0	**2.1**
Niger	0.1	0.2	0.7	1.3	**2.0**
Pakistan	5.2		2.0	0.0	**2.0**
Mexico	7.0	12.9	0.7	1.2	**1.9**
Egypt	5.7	0.5	1.6	0.1	**1.7**
Kuwait	1.6		1.5	0.0	**1.5**
Costa Rica	0.9		1.5	0.0	**1.5**
Bangladesh	4.6	0.2	1.4	0.1	**1.5**
Belarus	0.4	0.5	0.6	0.8	**1.4**
Moldova	0.2		1.4	0.0	**1.4**
Nicaragua	0.2		1.3	0.0	**1.3**
Algeria 2	1.8		1.3	0.0	**1.3**
Jamaica	0.2		1.3	0.0	**1.3**
South Sudan	0.1		1.3	0.0	**1.3**
Brunei Darussalam	0.1		1.2	0.0	**1.2**
Central African Republic	0.0		1.2	0.0	**1.2**
Yemen	0.2		1.1	0.0	**1.1**
Madagascar	0.1		1.0	0.0	**1.0**
Papua New Guinea	0.2	0.1	0.8	0.2	**1.0**
Myanmar	0.6	0.2	0.7	0.3	**1.0**
Sudan	0.8		0.9	0.0	**0.9**
Cameroon	0.3		0.9	0.0	**0.9**
Equatorial Guinea	0.1	0.0	0.8	0.0	**0.9**

Sri Lanka	0.7		0.8	0.0	**0.8**
Ecuador	0.7		0.7	0.0	**0.7**
Oman	0.4		0.6	0.0	**0.6**
Haiti	0.1		0.6	0.0	**0.6**
Malawi	0.1		0.5	0.0	**0.5**
Qatar	0.6		0.4	0.0	**0.4**
Somalia	0.0		0.2	0.0	**0.2**
Iraq	0.3		0.2	0.0	**0.2**
Turkmenistan	0.0	0.0	0.0	0.0	**0.0**

Source: IMF
https://www.imf.org/en/Topics/imf-and-covid19/Fiscal-Policies-Database-in-Response-to-COVID-19
Note: This table uses WB classification to group countries into advanced economies and developing countries. To calculate total fiscal response, we assume those economies which have no information on liquidity measures do not take any such measures. The key fiscal measures refer to those either announced or taken in response to the COVID-19 pandemic as of June 4, 2021 and include COVID-19 related measures since January 2020 and cover measures for implementation in 2020, 2021, and beyond. Please see IMF Policy Tracker (https://www.imf.org/COVID19policytracker) for further information.

Annex 2 C. Summary Of Country Fiscal Measures In Response To The COVID-19 Pandemic Since January 2020 (USD billion and percent of 2020 GDP)

Country	USD Billion								Percent of GDP							
	Above the line measures				Liquidity support				Above the line measures				Liquidity support			
	Additional spending or foregone revenues			Accelerated spending / deferred revenue	Sub total	Below the line measures: equity injections, loans, asset purchase or debt assumptions.	Contingent liabilities		Additional spending or foregone revenues			Accelerated spending / deferred revenue	Sub total	Below the line measures: equity injections, loans, asset purchase or debt assumptions.	Contingent liabilities	
	Sub total	Health sector	Non-health sector				Guarantees	Quasi-fiscal operations	Sub total	Health sector	Non-health sector				Guarantees	Quasi-fiscal operations
Côte d'Ivoire	1.6	0.3	1.3						2.5	0.5	2.0					
Egypt	5.7	0.8	4.9		0.5	0.5			1.6	0.2	1.3		0.1	0.1		
Ethiopia	2.4	0.6	1.8		0.6	0.6			2.5	0.6	1.9		0.6	0.6		
Ghana	2.2	0.8	1.5		0.2	0.2			3.3	1.1	2.2		0.3	0.3		
Malaysia	17.7	0.9	16.8	0.0	11.9	0.0	11.9		5.2	0.3	5.0	0.0	3.5	0.0	3.5	
Morocco	2.9	0.3	2.6		4.7		4.7		2.4	0.3	2.1		4.6		4.6	
Philippines	9.8	1.5	8.3		3.3	0.9	2.4		2.7	0.4	2.3		0.9	0.2	0.7	
Thailand	57.2				21.3	2.9	10.4	8.0	11.4				4.2	0.6	2.1	1.6
Tunisia	1.1	0.1	0.9	0.1	0.3	0.2	0.1		2.7	0.4	2.3	0.3	0.8	0.6	0.2	
Vietnam	5.7	0.6	5.1	12.7	1.6	0.4		1.2	1.7	0.2	1.5	3.7	0.5	0.1		0.4
Zambia	0.4	0.1	0.3		0.0	0.0			2.1	0.3	1.8		0.3	0.3		

Annex 2D General Government Fiscal Balance, 2016-26: Overall Balance

						Projections				
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
World	**-3,5**	**-3,1**	**-3,0**	**-3,6**	**-10,8**	**-9,2**	**-5,4**	**-4,4**	**-4,0**	**-3,9**	**-3,7**
Advanced Economies	**-2,7**	**-2,4**	**-2,5**	**-2,9**	**-11,7**	**-10,4**	**-4,6**	**-3,2**	**-3,0**	**-3,0**	**-2,8**
Advanced G-20	-3,1	-3,0	-3,1	-3,6	-12,7	-11,5	-5,0	-3,5	-3,3	-3,4	-3,2
Canada	-0,5	-0,1	0,3	0,5	-10,7	-7,8	-3,9	-1,3	-0,2	0,1	0,2
Euro Area	-1,5	-0,9	-0,5	-0,6	-7,6	-6,7	-3,3	-2,3	-1,8	-1,6	-1,6
France	-3,6	-2,9	-2,3	-3,0	-9,9	-7,2	-4,4	-3,8	-3,6	-3,5	-3,5
Germany	1,2	1,4	1,8	1,5	-4,2	-5,5	-0,4	0,4	0,5	0,6	0,6
Italy	-2,4	-2,4	-2,2	-1,6	-9,5	-8,8	-5,5	-3,8	-2,2	-2,0	-1,8
Spain[1]	-4,3	-3,0	-2,5	-2,9	-11,5	-9,0	-5,8	-4,9	-4,3	-4,3	-4,3
Japan	-3,8	-3,3	-2,7	-3,1	-12,6	-9,4	-3,8	-2,5	-2,3	-2,3	-2,4
United Kingdom	-3,3	-2,4	-2,2	-2,3	-13,4	-11,8	-6,2	-4,0	-3,4	-3,3	-3,3
United States[2]	-4,3	-4,6	-5,4	-5,7	-15,8	-15,0	-6,1	-4,6	-4,7	-5,0	-4,7
Others	0,5	1,2	1,0	-0,2	-6,0	-4,8	-2,6	-1,8	-1,4	-1,1	-0,9
Emerging Market Economies	**-4,8**	**-4,1**	**-3,8**	**-4,7**	**-9,8**	**-7,7**	**-6,7**	**-6,1**	**-5,6**	**-5,2**	**-4,9**
Emerging G-20	-4,9	-4,3	-4,3	-5,4	-10,4	-8,3	-7,4	-6,8	-6,3	-5,8	-5,4
Excluding MENAP Oil Producers	-4,4	-4,0	-3,9	-4,9	-9,8	-7,9	-6,9	-6,3	-5,8	-5,3	-5,0
Asia	-4,0	-4,0	-4,5	-5,9	-10,8	-9,2	-8,2	-7,4	-6,8	-6,2	-5,8
China	-3,7	-3,8	-4,7	-6,3	-11,4	-9,6	-8,7	-7,9	-7,2	-6,5	-6,0
India	-7,1	-6,4	-6,3	-7,4	-12,3	-10,0	-9,1	-8,4	-8,0	-7,7	-7,4
Europe	-2,8	-1,8	0,3	-0,7	-5,9	-3,5	-2,7	-2,7	-2,6	-2,5	-2,5
Russian Federation	-3,7	-1,5	2,9	1,9	-4,1	-0,8	-0,3	-0,5	-0,5	0,0	0,0
Latin America	-6,0	-5,4	-5,1	-4,0	-8,8	-5,7	-4,5	-4,2	-3,9	-3,7	-3,6
Brazil	-9,0	-7,9	-7,1	-5,9	-13,4	-8,3	-7,2	-7,3	-7,0	-6,6	-6,5
Mexico	-2,8	-1,1	-2,2	-2,3	-4,6	-3,4	-2,6	-2,6	-2,5	-2,5	-2,5
MENAP	-9,7	-5,5	-2,7	-3,9	-9,9	-5,7	-4,6	-4,3	-4,1	-3,8	-3,5
Saudi Arabia	-17,2	-9,2	-5,9	-4,5	-11,1	-3,8	-2,5	-2,0	-1,4	-0,9	-0,2
South Africa	-4,1	-4,4	-4,1	-5,3	-12,2	-10,6	-8,3	-7,1	-6,7	-6,7	-6,8
Low-Income Developing Countries	**-3,8**	**-3,5**	**-3,4**	**-3,9**	**-5,5**	**-4,9**	**-4,4**	**-4,0**	**-3,8**	**-3,7**	**-3,7**
Kenya	-8,5	-7,8	-7,4	-7,7	-8,4	-8,1	-6,6	-5,1	-4,0	-3,2	-2,5
Nigeria	-4,6	-5,4	-4,3	-4,8	-5,8	-4,2	-4,6	-4,4	-4,7	-5,1	-5,6
Vietnam	-3,2	-2,0	-1,0	-3,3	-5,4	-4,7	-4,4	-4,0	-3,7	-3,3	-3,0
Oil Producers	**-5,3**	**-2,9**	**0,0**	**-0,5**	**-8,3**	**-4,3**	**-2,8**	**-2,0**	**-1,7**	**-1,5**	**-1,5**
Memorandum											
World Output (percent)	3,3	3,8	3,6	2,8	-3,3	6,0	4,4	3,5	3,4	3,3	3,3

Source: IMF staff estimates and projections. | Table 1.1 in https://www.imf.org/en/Publications/FM/Issues/2021/03/29/fiscal-monitor-april-2021

Note: All country averages are weighted by nominal GDP converted to US dollars (adjusted by purchasing power parity only for world output) at average market exchange rates in the years

indicated and based on data availability. Projections are based on IMF staff assessments of current policies. In many countries, 2021 data are still preliminary. For country-specific details, see "Data and Conventions" and Tables A, B, C, and D in the Methodological and Statistical Appendix. MENAP = Middle East, North Africa, and Pakistan.

[1] Including financial sector support.

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

Annex 2E. General Government Debt, 2016-2026 (% of GDP)

						Projections					
	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Gross Debt											
World	**83,2**	**82,0**	**82,3**	**83,7**	**97,3**	**98,9**	**99,0**	**99,4**	**99,5**	**99,5**	**99,3**
Advanced Economies	**105,5**	**103,1**	**102,5**	**103,8**	**120,1**	**122,5**	**121,6**	**121,8**	**121,5**	**121,4**	**121,1**
Canada[1]	91,7	88,8	88,8	86,8	117,8	116,3	112,8	109,3	105,7	102,0	98,1
Euro Area	90,1	87,7	85,8	84,0	96,9	98,2	96,5	95,6	94,4	93,1	91,9
France	98,0	98,3	98,0	98,1	113,5	115,2	114,3	115,2	115,9	116,3	116,9
Germany	69,3	65,1	61,8	59,6	68,9	70,3	67,3	64,8	62,2	59,6	57,1
Italy	134,8	134,1	134,4	134,6	155,6	157,1	155,5	155,1	153,7	152,0	151,0
Spain	99,2	98,6	97,4	95,5	117,1	118,4	117,3	117,3	116,8	117,7	118,4
Japan	232,5	231,4	232,5	234,9	256,2	256,5	253,6	252,9	253,4	254,0	254,7
United Kingdom	86,8	86,3	85,8	85,2	103,7	107,1	109,1	110,7	111,4	112,2	113,0
United States[1]	106,6	105,6	106,6	108,2	127,1	132,8	132,1	132,4	133,0	133,9	134,5
Emerging Market Economies	**48,4**	**50,5**	**52,4**	**54,7**	**64,4**	**65,1**	**67,3**	**69,2**	**70,8**	**72,2**	**73,2**
Excluding MENAP Oil Producers	50,1	52,2	54,2	56,3	66,1	67,1	69,2	71,1	72,7	74,0	75,0
Asia	50,0	52,8	54,4	57,3	67,6	69,9	73,0	75,6	77,8	79,8	81,4
China	48,2	51,7	53,8	57,1	66,8	69,6	73,7	77,3	80,4	83,3	86,0
India	68,7	69,5	70,2	73,9	89,6	86,6	86,3	85,7	84,8	83,8	82,6
Europe	32,0	30,1	29,7	29,2	37,6	36,9	37,2	37,7	38,2	38,4	38,8
Russian Federation	14,8	14,3	13,6	13,8	19,3	18,1	17,7	17,6	17,7	17,3	17,4
Latin America	56,4	61,1	67,5	68,4	77,7	75,9	76,0	76,3	76,5	76,2	75,8
Brazil[2]	78,3	83,6	85,6	87,7	98,9	98,4	98,8	100,1	101,0	101,4	101,7
Mexico	56,7	54,0	53,6	53,3	60,6	60,5	60,5	60,7	60,7	60,7	60,8
MENAP	44,8	44,3	44,1	49,0	56,6	53,7	54,4	55,1	55,7	55,9	55,4
Saudi Arabia	13,1	17,2	19,0	22,8	32,4	31,0	31,7	31,1	32,2	32,4	31,2
South Africa	51,5	53,0	56,7	62,2	77,1	80,8	84,4	87,2	89,9	92,5	94,9
Low-Income Developing Countries	**39,8**	**42,2**	**42,8**	**44,3**	**49,5**	**48,6**	**48,2**	**47,5**	**46,9**	**46,3**	**45,7**

Kenya	50,5	56,9	60,2	62,1	68,7	71,5	72,9	72,3	71,8	70,0	68,1
Nigeria	23,4	25,3	27,7	29,2	35,1	31,9	32,5	33,0	33,9	35,3	37,0
Vietnam	47,6	46,3	43,6	43,4	46,6	48,0	47,3	46,8	45,8	44,9	43,7
Oil Producers	**41,3**	**41,8**	**44,0**	**45,5**	**58,8**	**56,2**	**56,0**	**55,6**	**55,3**	**54,6**	**53,9**
Net Debt						-1823	-1824	-1824	-1825	-1826	-1827
World	**69,3**	**67,9**	**68,0**	**68,6**	**83,2**						
Advanced Economies	**76,9**	**75,0**	**74,8**	**75,2**	**90,8**	**-3745,3**	**-3747,0**	**-3747,8**	**-3749,6**	**-3751,5**	**-3754,0**
Canada[1]	28,7	26,0	25,6	23,4	33,0	...	...	...	...	...	...
Euro Area	74,2	72,1	70,4	69,2	80,8	160,0	159,7	160,5	161,2	162,4	163,6
France	89,2	89,4	89,3	89,3	104,3	165,6	165,5	166,5	167,5	168,9	170,5
Germany	49,6	45,8	43,0	41,4	50,0	171,1	171,2	172,5	173,7	175,5	177,4
Italy	121,6	121,3	121,8	122,1	142,0	176,7	177,0	178,4	180,0	182,1	184,3
Spain	86,1	85,1	83,6	82,2	102,3	182,2	182,8	184,4	186,2	188,6	191,2
Japan	149,6	148,1	151,2	150,4	169,2	187,8	188,5	190,4	192,5	195,2	198,1
United Kingdom	77,8	76,8	75,9	75,3	93,8	193,3	194,3	196,4	198,8	201,8	205,0
United States[1]	81,7	81,4	81,7	83,0	103,2	198,9	200,0	202,4	205,0	208,4	211,9
Emerging Market Economies	**35,0**	**36,1**	**37,0**	**38,7**	**46,0**	210,0	211,6	214,4	217,5	221,5	225,7
Asia	...	...	...	...	...	...	...	...	...	...	...
Europe	31,5	30,3	30,5	29,3	38,9	**49,6**	**49,4**	**48,7**	**48,4**	**47,7**	**46,9**
Latin America	40,3	42,5	42,9	44,1	51,5	48,6	48,3	47,5	47,1	46,3	45,4
MENAP	32,2	32,3	34,6	40,5	46,7	47,7	47,2	46,3	45,7	44,9	43,9

Source: IMF staff estimates and projections | Table 1.2 in https://www.imf.org/en/Publications/FM/Issues/2021/03/29/fiscal-monitor-april-2021.
Note: All country averages are weighted by nominal GDP converted to US dollars (adjusted by purchasing power parity only for world output) at average market exchange rates in the years indicated and based on data availability. Projections are based on IMF staff assessments of current policies. In many countries, 2021 data are still preliminary. For country-specific details, see "Data and Conventions" and Tables A, B, C, and D in the Methodological and Statistical Appendix. MENAP = Middle East, North Africa, and Pakistan.
[1] For cross-economy comparability, gross and net debt levels reported by national statistical agencies for economies that have adopted the 2008 System of National Accounts (Australia, Canada, Hong Kong SAR, United States) are adjusted to exclude unfunded pension liabilities of government employees' defined-benefit pension plans.
[2] Gross debt refers to the nonfinancial public sector, excluding Eletrobras and Petrobras, and includes sovereign debt held on the balance sheet of the central bank.

Annex 2F. Assumptions on Fiscal Spending for COVID-19 for the 11 Countries

	Côte d›Ivoire	Egypt, Arab Rep.	Ethiopia	Ghana	Malaysia	Morocco	Philippines	Thailand	Tunisia	Vietnam	Zambia
Component 1: Vaccines											
Total population	27,211,268	104,798,141	118,595,058	31,900,607	32,895,824	37,469,604	111,444,399	70,024,045	11,976,675	98,453,377	19,040,180
Doses given	3,490,820	20,154,366	3,879,071	2,189,552	45,650,714	43,122,611	49,673,491	59,539,624	8,344,827	51,968,108	794,718
Doses needed	38,095,775	146,717,397	166,033,081	44,660,850	46,054,154	52,457,446	156,022,159	98,033,663	16,767,345	137,834,728	26,656,252
Doses remain to be given	34,604,955	126,563,031	162,154,010	42,471,298	403,440	9,334,835	106,348,668	38,494,039	8,422,518	85,866,620	25,861,534
$ cost per dose	10	10	10	10	10	10	10	10	10	10	10
Vaccine cost USD million	346	1,266	1,622	425	4	93	1,063	385	84	859	259
Component 2: Diagnostics											
Tests given to date	1,044,828	3,693,367	3,564,836	1,781,277	31,783,248	9,863,162	21,881,933	9,201,621	3,001,094	42,517,091	2,515,493
Cost per test	10	10	10	10	10	10	10	10	10	10	10
Total cost in USD million	10	37	36	18	318	99	219	92	30	425	25
Component 3: Therapeutics											
Population infected	60,878	314,116	355,843	128,368	2,353,579	939,922	2,683,372	1,730,364	710,096	846,230	209,396

Population needing respirators	3044	15706	17792	6418	117679	46996	134169	86518	35505	42312	10470
Death	672	17,765	6,066	1,158	27,525	14,485	39,896	17,835	25,046	20,763	3,654
Cost for severe cases USD million)	7	63	45	14	274	116	328	197	114	119	27
Regular therapeutics	2.6	13.3	15.1	5.5	100.0	39.9	114.0	73.5	30.2	36.0	8.9
Total cost USD million	10	76	60	20	374	156	442	270	144	155	36
Component 4: Health System Connector (PPE etc.)											
Healthcare personnel	6,803	26,200	29,649	7,975	8,224	9,367	27,861	17,506	2,994	24,613	4,760
Cost	25	96	108	29	30	34	102	64	11	90	17
TOTAL COST	391	1,475	1,826	491	726	382	1,826	811	269	1,529	337
GDP USD million	61349	363069	107645	72354	336664	112871	361489	501795	39236	271158	19320
% of GDP	0.6%	0.4%	1.7%	0.7%	0.2%	0.3%	0.5%	0.2%	0.7%	0.6%	1.7%

Sources and Assumptions:

Total population: from https://www.worldometers.info/coronavirus/?utm_campaign=homeAdvegas1? accessed October 12, 2021.
Doses given: https://coronavirus.jhu.edu/map.html accessed October 12, 2021.
Doses needed: 70% of population, 2 doses for each person.
Doses remain to be given: difference between doses needed and doses given.
$ cost per dose: From WHO. See page 15 of https://www.rockefellerfoundation.org/report/one-for-all-updated-action-plan-for-global-covid-19-vaccination/
Vaccine cost USD million: calculated.
Tests given to date" Website https://www.worldometers.info/coronavirus/?utm_campaign=homeAdvegas1 Note that this is on the low side as the ratio of infected cases to test is about .01 while the WHO recommends .03-.10
Cost per test: from WHO. See page 15 of https://www.rockefellerfoundation.org/report/one-for-all-updated-action-plan-for-global-covid-19-vaccination/
Total cost in USD million: calculated.
Population infected: Website https://www.worldometers.info/coronavirus/?utm_campaign=homeAdvegas1
Population needing respirators: 5% using WHO assumption.
Death: Website https://www.worldometers.info/coronavirus/?utm_campaign=homeAdvegas1
Cost for severe cases: $377 per severe case from Rockefeller Paper https://www.rockefellerfoundation.org/report/one-for-all-updated-action-plan-for-global-covid-19-vaccination/ .
We add the death case to the severe case.
Regular therapeutics: From Rockefeller Paper https://www.rockefellerfoundation.org/report/one-for-all-updated-action-plan-for-global-covid-19-vaccination/ We assume, as WHO, that 85% of the cases are symtomatic.
Total cost USD million: Calculated.
Healthcare personnel: we use the figure from Vietnam as an exemplar.
Cost: Calculated.
2020 GDP USD million: World Bank database, variable NY.GDP.MKTP.CD

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Chapter 3

The Debt Problems of the Low- and Lower-Middle-Income Countries Prior to the Pandemic

In Chapter 2, we saw how countries have responded to the COVID-19 crisis by raising fiscal spending. We also saw that further spending on vaccination and treatment of COVID-19 in the next two years is inevitable for countries to get back to normalcy. Before examining the implications of this spending on macroeconomic stability in the next chapter, we now look at the backdrop for external debt before the crisis came. That is, we review the external debt structure for developing countries before the crisis to see if there is any fiscal space.

The first section presents the broad trends in external debt of the developing countries during the last decade. The following sections discuss the debt burden indicators for the low income and lower-middle-income countries, respectively. The last section provides an overview of the structural changes in external debt of the developing countries. This chapter's discussion assumes some knowledge of the debt solvency and sustainability concepts presented in detail in Annex 3A.

Trends in External Debt of Developing Countries Prior to the Pandemic

Before the onset of the COVID-19 crisis, half of low-income countries (LICs) (36 of 70 countries) were at high risk of debt distress or already in debt distress (World Bank 2020). This debt situation can be summarized as follows:

- Over the last decade, an increasing number of low-income countries have fallen into debt distress according to the Debt Sustainability Analysis (DSA) framework. Some countries had their sovereign credit ratings downgraded compared to when they debuted in the international capital markets.
- The debt dynamics of low-income African countries have been driven by the cumulative depreciation in exchange rates, growing interest expenses, and high primary deficits. Other factors include governance issues, large public investment programs, and defense-related expenditures.
- The international debt structure has also changed. There are now more non-traditional private creditors, while the role of official creditors, especially of bilateral creditors, has become smaller. This has implications on the ability to provide and the incentives for debt relief.
- This debt situation has been caused by both creditors and debtors. From a creditor's viewpoint, high returns combined with a relatively low debt burden in these low-income countries following the HIPC debt relief provided incentives for international lending. For debtors, funding from commercial creditors has become increasingly popular because these loans often come

without the conditionalities usually attached to multilateral and bilateral loans. There has also been an increase in syndicated loans and public-private partnership project finance.

- Large public capital investments—for example, the hydropower investment in Ethiopia, the large transportation projects in Kenya, and the expansion of the national airline in Rwanda—and investments for upgrading health infrastructure have contributed to the pace of recent debt accumulation.

- While some countries that have used debt to finance investment projects have also witnessed high growth rates (e.g., Ethiopia, Kenya, Rwanda), there is also evidence that the link between debt financing and the growth-enhancing role of public investment is weakened by low efficiency.

- Most African countries have primary balances well below their debt-stabilizing levels, implying long-run fiscal unsustainability. Debt sustainability conditions require that debt-to-GDP ratios do not exceed a certain threshold, governments do not service their debt by issuing new debt continuously, and governments eventually run fiscal surpluses to pay off existing debt and interest.

- The top five creditors to Africa since 2015 have been: (1) bondholders, (2) China, (3) the World Bank-IDA, (4) other Multilaterals, and (5) the African Development Bank. Bondholders alone accounted for 27% of Africa's external debt at the end of 2019.

- The creditor base for Africa's debt continues to shift away from traditional multilateral and Paris Club sources toward commercial creditors and non-Paris club official lenders. The share of bilateral debt in the total external debt has fallen by almost half in the last two decades. In 2000, bilateral lenders, mostly Paris club members, accounted for 52% of Africa's external debt stock, but by the end of 2019, it had fallen to 27%. This decline has been offset by the more than doubled share of commercial creditors (bondholders and commercial banks) in the last two decades. The share of multilateral debt in Africa's total external debt has remained relatively stable over the past two decades.

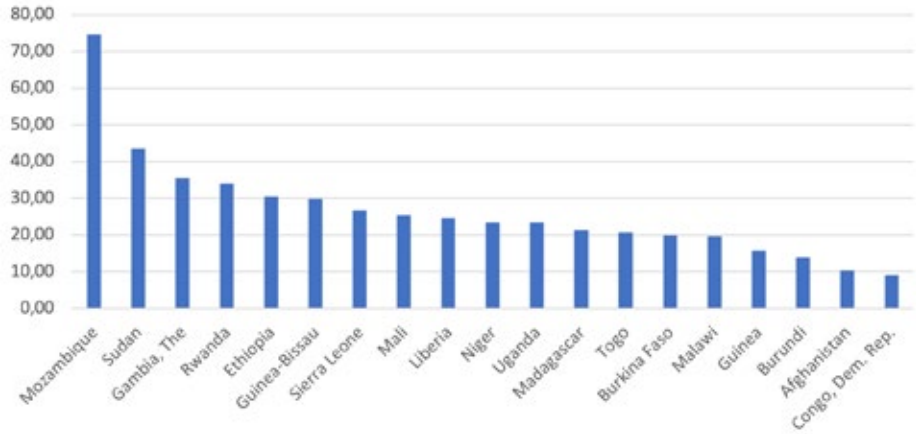
- Higher borrowing from non-Paris club and commercial creditors has meant shorter maturities and higher refinancing risks. The surge since 2013–2014 in the issuance of 10-year Eurobonds by many African countries and also non-Paris Club loans with shorter maturities than typical multilateral concessional long-term loans have caused bunching and created sovereign debt liabilities coming due in 2024 and 2025—just as countries are expected to be recovering from the COVID-19 recession. This bunching in maturities elevates the risks of distress. The countries need to begin debt resolution and restructure negotiations before these risks materialize.

- Since 2003, there has been a surge in Eurobond issuances. About 19 countries made their debut into the international capital markets with bond issuances as large as 3% of GDP. Bonds issued were estimated at over $155 billion by the end of 2019. These issuances have been led by middle-income heavyweight countries, such as Egypt, South Africa, and Nigeria, followed by resource-intensive middleweights, such as Zambia, Angola, and Ghana, among other countries.
- Increasing interest expenses and shorter maturities of new debt have exposed countries to higher refinancing and roll-over risks.

The Debt Burden Indicators for Low-Income Countries

Because their capital market is shallow, most low-income countries have little domestic debt. Their debt burden is mostly owed to external creditors. Figure 3.01 shows the average stock of debt outstanding and disbursed to GDP for 2017–2019 (at mid-2021, 2019 is the latest year for which debt data are available through the World Bank International Debt Statistics), and Figure 3.02 shows the average debt service ratio of exports of goods and services, again for 2017–2019. The former is usually considered an indication of solvency, while the latter is an indicator of liquidity. As shown in the annex to this chapter, this conventional wisdom is not correct. These indicators will need to be complemented with the debt dynamics indicators discussed below.

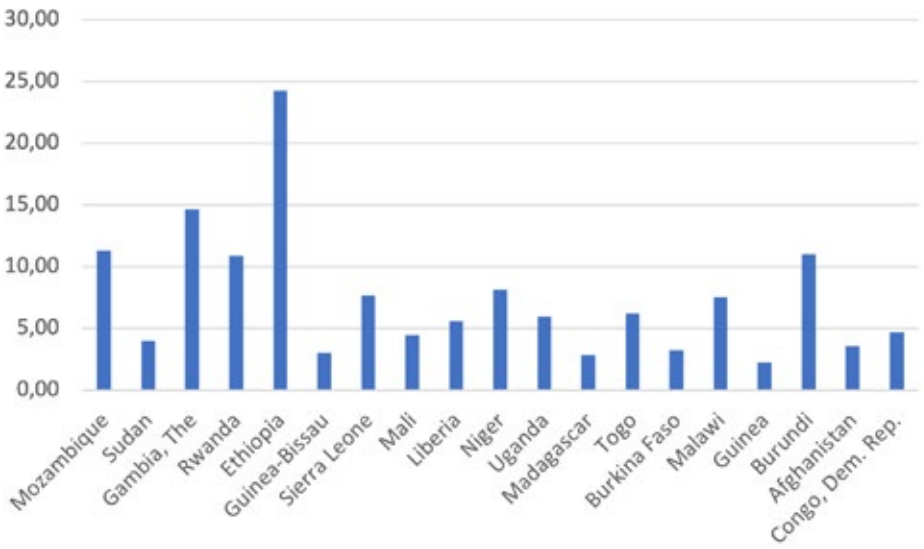
Figure 3.01 Average DOD/GDP Ratios (2017–2019) of Low-Income Countries



Source: Author calculated from International Debt Statistics, 2021.

Most low-income countries have low external debt to GDP, below 30%. Mozambique, Sudan, Somalia, Gambia, Rwanda, and Ethiopia are the exceptions. Ethiopia, Gambia, Mozambique, Burundi, and Rwanda are the countries that had a heavy debt service burden in 2017–2019 before the COVID-19 crisis. All these countries, with the exception of Sudan, Gambia, and Rwanda, are DSSI participants.

Figure 3.02 Average Debt Service to Exports (2017–2019) of Low-Income Countries

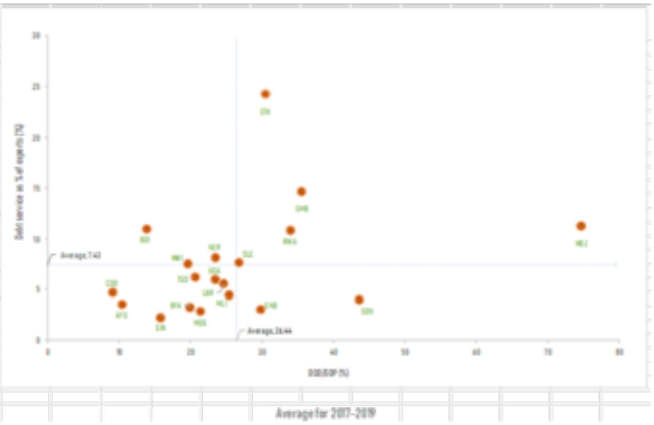


Source: Author calculated from International Debt Statistics, 2021.

Figure 3.03 plots these two popular debt burden indicators against each other for low-income countries. Five countries stood out as above the average in terms of debt stock as well as debt service burden: Ethiopia (highest debt service burden), the Gambia, Rwanda, Mozambique (highest debt stock to GDP ratio), and Sierra Leone.

Figure 3.03 External Debt Stock and Debt Service Burden in Low-Income Countries

Country Name	Country code	DOD/GDP (%)	Debt service as % of exports (%)
Mozambique	MOZ	74.66	11.30
Sudan	SDN	43.60	4.00
Gambia, The	GMB	35.53	14.63
Rwanda	RWA	33.98	10.87
Ethiopia	ETH	30.47	24.27
Guinea-Bissau	GNB	29.82	3.06
Sierra Leone	SLE	26.76	7.65
Mali	MLI	25.38	4.45
Liberia	LBR	24.60	5.57
Niger	NER	23.47	8.15
Uganda	UGA	23.46	5.97
Madagascar	MDG	21.35	2.87
Togo	TGO	20.66	6.20
Burkina Faso	BFA	19.91	3.25
Malawi	MWI	19.62	7.53
Guinea	GIN	15.79	2.23
Burundi	BDI	13.86	11.00
Afghanistan	AFG	10.60	3.57
Congo, Dem. Rep.	COD	9.09	4.70
Average		26.44	7.43

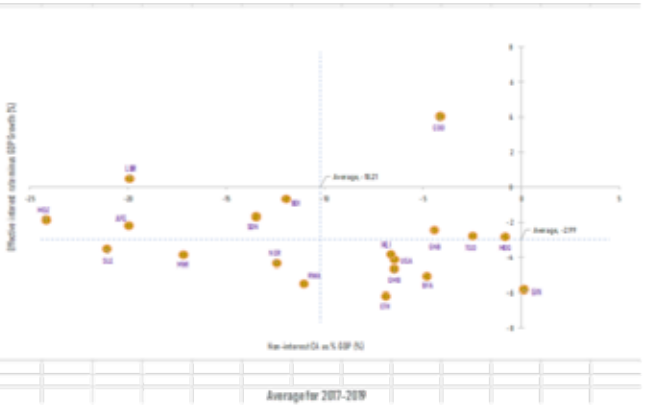


Source: Author calculated from International Debt Statistics, 2021.

As discussed in Annex 3A, conventional debt indicators, such as the ratio of debt outstanding and disbursed to GDP or debt service ratio to total exports, do not capture the debt solvency and sustainability of a country. Three more variables are important and should be taken into account: i) the current non-interest account balance; ii) the real interest rate; and iii) GDP growth rate. When the real interest rate is greater than the GDP growth rate (i.e., the interest rate /GDP growth rate differential is positive), a debtor country needs to generate a non-interest current account (NICA) surplus to be solvent over time. Figure 3.04 shows the average interest rate/growth rate differentials and the non-interest current account balance for low-income countries.

Figure 3.04 Debt Dynamics of Low-Income Countries

Country Name	Country code	Non-interest CA as % GDP	Effective interest rate minus GDP Growth (%)
Guinea	GIN	0.14	-5.83
Madagascar	MDG	-0.81	-2.84
Togo	TGO	-2.66	-2.79
Congo, Dem. Rep.	COD	-4.12	4.04
Guinea-Bissau	GNB	-4.41	-2.44
Burkina Faso	BFA	-4.80	-5.07
Uganda	UGA	-6.45	-4.13
Gambia, The	GMB	-6.45	-4.65
Mali	MLI	-6.62	-3.82
Ethiopia	ETH	-6.88	-6.20
Rwanda	RWA	-11.04	-5.52
Burundi	BDI	-11.95	-0.66
Niger	NER	-12.43	-6.34
Sudan	SDN	-13.46	-1.66
Malawi	MWI	-17.18	-3.85
Liberia	LBR	-19.91	0.69
Afghanistan	AFG	-19.95	-2.18
Sierra Leone	SLE	-21.07	-3.50
Mozambique	MOZ	-24.15	-1.86
Average		-10.21	-2.83

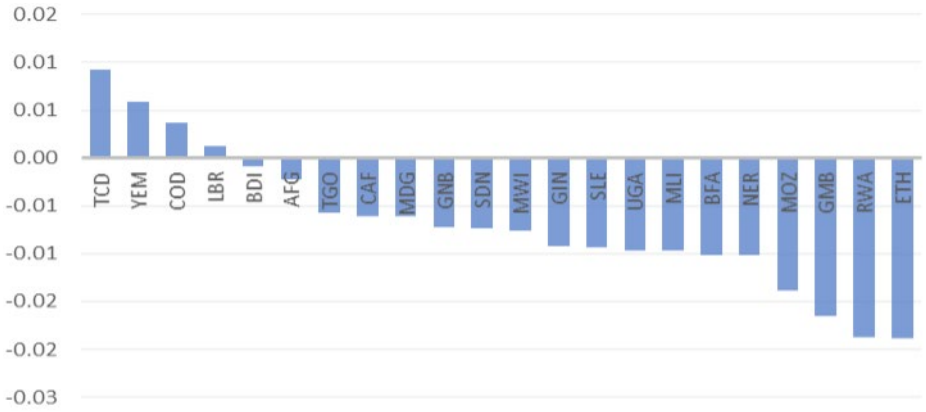


Source: Author calculated from International Debt Statistics, 2021.

Figure 3.04 shows that these differentials are negative in most low-income countries, i.e., debt dynamics alone is not an issue. These countries can have a current non-interest account deficit, as long as the magnitude of this deficit is not causing the debt-to-GDP ratio to rise. The problem is, however, that debt service would have to compete with the fiscal spending needed for food and other necessities.

The annex also discusses the solvency index, which is a product of the outstanding and disbursed debt and the interest /GDP growth rate differential. The higher the index, the higher the effort needed to service the debt. Figure 3.05 shows the index for low-income countries.

Figure 3.05 Debt Solvency Index for Low-Income Countries



Source: Author's calculation.

The Debt Burden Indicators for Lower-Middle-Income Countries

Figure 3.06 shows the average effective interest rate minus GDP growth from 2017–2019 for countries belonging to the lower-middle-income group. 18 out of 53 countries in this group have a positive rate, indicating they would need to generate a surplus in the current non-interest account to be solvent in the long run. An analysis of this debt showed that most lower-middle-income countries seem to have a debt flow problem rather than a debt stock (i.e., liquidity issues rather than solvency), as most of them have debt-to-GDP ratios below 35%. Many have debt service ratios more than 12%. In part, this comes from a higher share of commercial sources, guaranteed and unguaranteed bonds, and commercial loans.

Figure 3.07 plots the debt stock against debt service for the lower-middle-

income countries. The following countries stood out in terms of debt burden: Mongolia (highest debt service), El Salvador, Sri Lanka, Angola, Tajikistan, Nicaragua, Zambia, Kyrgyz Republic, Senegal, Mauritania, and Tunisia.

Figure 3.08 shows the debt dynamic terms, effective interest rate minus GDP growth rate, against the current non-interest account balance for all the lower-middle-income countries. In this figure, countries in the second quadrant--where the debt dynamic is positive, but the non-interest account is in deficit--are the ones that need attention. Nine countries seem to stand out as above average: EL Salvador, Lesotho, Nicaragua, Zambia, Ukraine, Belize, Sri Lanka, Tunisia, and Algeria.

Figure 3.06 Effective Interest Rate Minus GDP Growth (2017–2019)

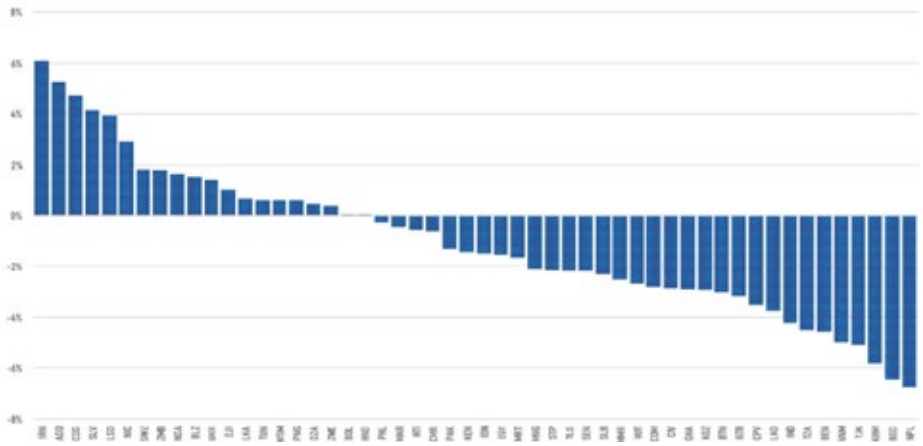


Figure 3.07 Lower Middle-Income Countries: Debt Service Ratio versus Debt-Stock-to-GDP Ratio, 2017–2019.

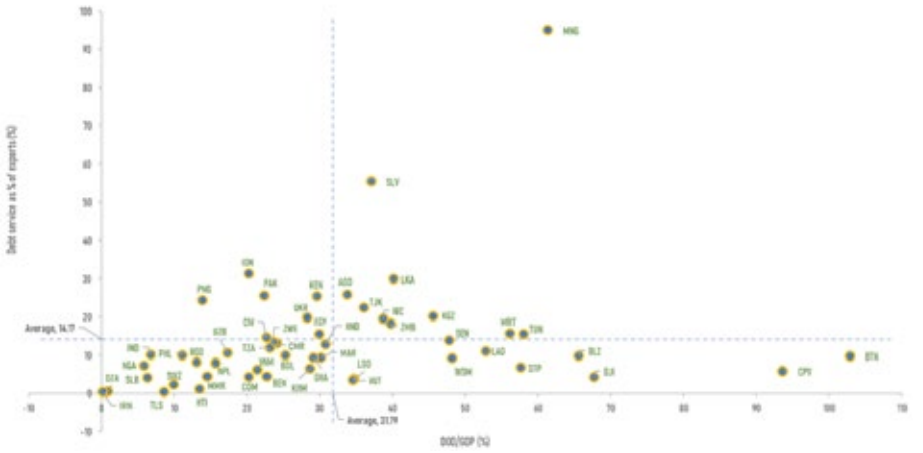
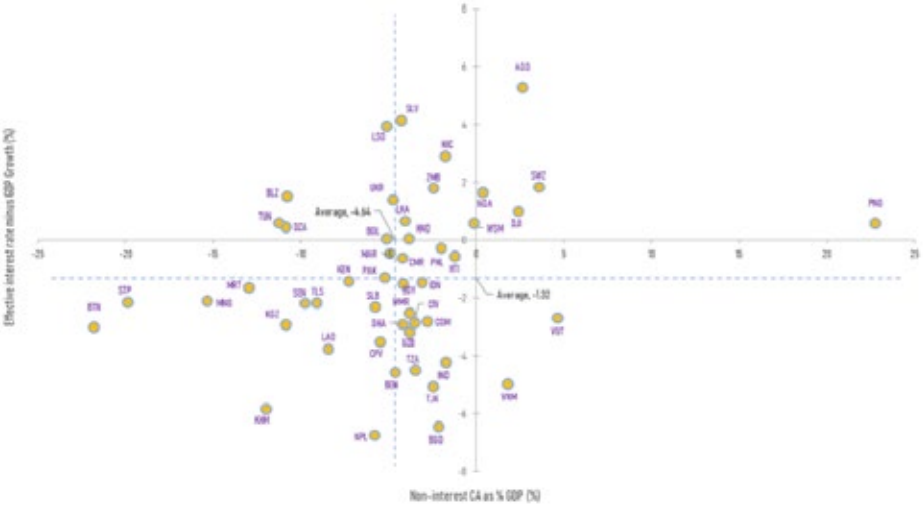


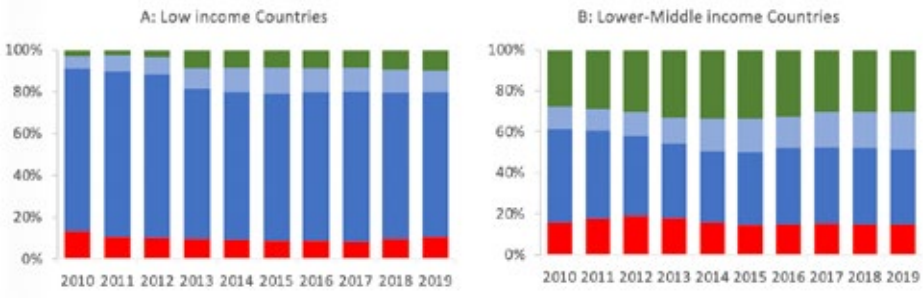
Figure 3.08 Lower-Middle-Income Countries: Effective Interest Rate Minus GDP Growth and Current Non-Interest Accounts



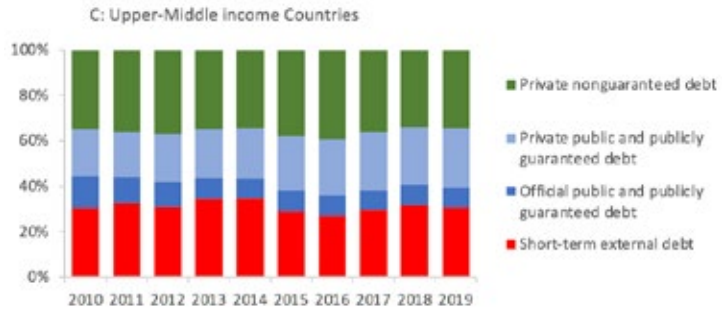
The Structural Changes of Developing Countries' External Debt

The last decade has shown an increase in the share of private debt in developing countries' total debt, including private non-guaranteed, as well as public and publicly guaranteed private debt. Figure 3.09 shows the evolution of this structure over 2010–2019 for the low (Panel A), lower-middle-income (Panel B), and upper-middle-income group (Panel C), respectively.

Figure 3.09 Shares of Private Creditors in Total Debt 2010–2019



Source: 2021 International Debt Statistics, World Bank.

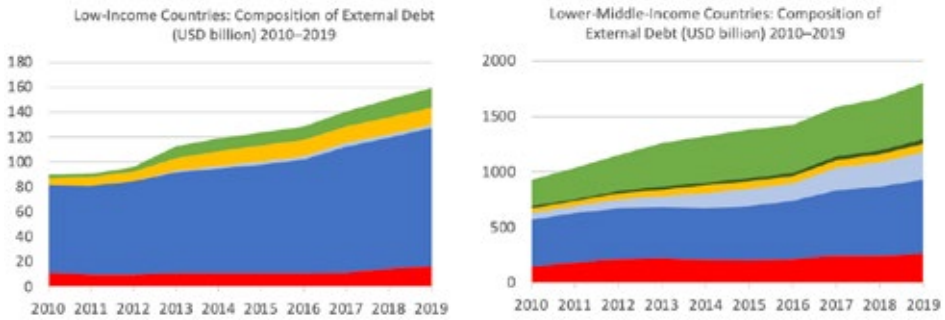


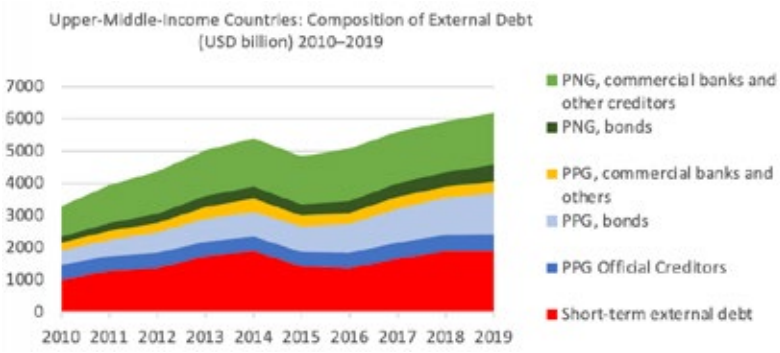
The share of private non-guaranteed debt in the low-income countries more than tripled from 3% in 2010 to about 10% in 2019. The share of private, public, and publicly guaranteed debt rose from 6% to 10% over this period. By 2019, about 30% of total outstanding debt stock was owed to the private sector and by short-term sources.

This trend is even more pronounced for the middle-income country groups. Thus, for the lower-middle-income countries (Figure 3.09, Panel B), the share of private creditors (guaranteed and non-guaranteed) amounted to 49% of the total, compared to 37% for official PPG debt. Short-term debt amounted to another 15% of the total, making the debt structure difficult to modify in case of needs. For the upper-middle-income countries, the share of private creditors (non-guaranteed and guaranteed) rose from 56% in 2010 to 61% in 2019, mostly due to PPG creditor sources. While this trend could reflect the more open and attractive investment environment in these countries' private sector, it is well known that private capital tends to be more volatile and is prone to sudden reversals.

More importantly, among the private creditors, bondholders are known to be diverse and difficult to organize in case a debt restructuring is needed. Figure 3.10 shows the evolution of bondholders, both PPN and PPG, for the low-income, lower-middle-income, and upper-middle-income countries.

Figure 3.10 Bondholders and Total Debt (USD in billions)





Source: 2021 International Debt Statistics, World Bank.

The impact on the debt burden depends on the individual countries' specific circumstances, to which we will now turn.

Annex 3A Debt Solvency and Sustainability

This annex[10] provides a quick theoretical review of the foundation for the analysis of public sector debt solvency and sustainability. Section I defines a country's total public debt and makes the distinction between domestic and foreign debt. Section II continues with the concept of fiscal solvency and section III fiscal sustainability. Section IV discusses fiscal policy in the context of economic management and section V reviews quasi-fiscal economic activities addresses empirical issues associated with fiscal analysis.

A Country's Total Public Debt

The total public debt of a country consists of internal and external debt stocks. The definition of internal versus external is with regard to residents and not with the currency the debt is denominated in. Thus a particular source of debt in Vietnam could be denominated in Vietnamese dong yet it could be considered foreign debt if the issuer is a resident abroad.

Traditionally, there was a distinction between domestic debt and external debt. Domestic debt was thought not to be of significant concern since it involved borrowing and lending decisions within a country, and because the government's ability to finance this debt by printing money was thought to be unlimited. External

10. This Annex is a revised version of Hinh T. Dinh (1999)

debt was treated more seriously because transactions across national borders involved transfers of wealth to foreigners, and because debt-service payments were limited by foreign-exchange earnings. This distinction is not correct because there is a limit[11] to money creation without getting into inflationary spiral. In fact, misguided fiscal policies in developing countries in the nineteen seventies led to the debt crisis of 1982. Hyperinflation in Latin America in the nineteen eighties also showed that there is a limit to deficit financing through money creation. Moreover, while many countries chose to default their external debt in the nineteen eighties, they continued to honor their domestic debt obligations. The Mexican crisis of 1994-95 demonstrated that with an open capital account, the stock of domestic debt could become integrated with external debt. The problem of currency substitution or dollarization also strengthens the linkages among fiscal, monetary, and exchange-rate policies. In modern debt sustainability analysis, therefore, domestic and foreign debt are treated equally. The autonomous component of debt dynamics consists of domestic and foreign interest rates as well as of GDP growth.

One of the advantages of having a debt stock consisting mostly of domestic debt instead of foreign debt is that in periods when export earnings decline, the pressures on exchange rates and on international reserves become less severe, allowing the country to avoid a situation where its needs to borrow more at a time when its debt servicing capacity is weakest. This is especially important for commodity exporters such as oil producing countries where export earnings depend on international oil prices. On the other hand, in many developing economies, relying on domestic debt implies inflationary pressures could lead to financial repression, with adverse consequences on inequality and growth.

Solvency[12] and liquidity. The distinction between solvency and liquidity problems is derived from the theory of finance. A firm is insolvent if its net worth (assets minus liabilities) is negative, and is illiquid if it cannot meet its obligations. A company can be solvent (have a positive net worth) yet experience cash flow (liquidity) problems. On the other hand, it could have a positive cash flow and still be insolvent. The distinction is important in an accounting sense, because solvency relates to the asset side of the balance sheet (net worth), while liquidity relates to liabilities. In practice, they are closely related. By definition, net worth is a balancing item and includes liabilities. Moreover, the terms solvency and illiquidity are almost interchangeable when describing an institution or country in crisis. The real distinction is the implication that solvency is irretrievable and must lead to liquidation, whereas illiquidity implies a temporary state.

11. Usually this limit is the amount of seignorage, about 2-3% of GDP for a typical country.

12. See Daniel Cohen, Monnaie, Richesse et l'Endettement des Nations (1986), Chapter 4 or Cohen (1991) for a full exposition of debt solvency in an overlapping generations model.

Fiscal Solvency

Just like any other entities in the economy, the government budget has to satisfy the intertemporal constraint:

$$\int_o^{\infty} S_t e^{-rt} dt = B_0. \qquad (1)$$

Where S_t is the primary balance (budget balance, excluding interest payments) in period t, r is the discount rate, and B_0 is the initial level of public debt. Ideally, this public debt should be net-that is, include other public-sector assets and liabilities.[13] It can be shown that equation (1) is true if, and only if, the transversality condition is satisfied:[14]

$$\lim_{t\to\infty} B_t \, exp^{-rt} = 0 \qquad (2)$$

The above equation states that the present discounted value of a country's public-sector debt falls to zero as time progresses. This does not mean that debt should go to zero or even stay constant. Debt can grow at a positive rate in the long run. Of course, a permanent fiscal deficit is inconsistent with the above condition. A deficit at any point in time (or over a period of time) has to be offset by a surplus at another point in time.

Define s^* as the proportion of output that holds equation (1) above, we have

$$\int_o^{\infty} s^* e^{(g-r)t} dt = \frac{B_0}{Y_0}$$

Solving for yields

$$s^* = \frac{B_0}{Y_0}(r-g) \qquad (4)$$

[15]

Where B_0 is output (GDP) in the initial period, g is output (GDP) growth rate, and B_0 is the initial government debt. Note that one could define s^* as a proportion of government revenue rather than of output.

As the above equations show, s* is the proportion of output that would keep the public-sector solvent. The higher s* is, the greater is the proportion of

13. For the above integral to be bounded, r has to be positive. If r is negative, the debt would explode - that is, it would be beneficial to borrow forever. As shown by Diamond (1965), in these economies, current debt increase has no impact on future surpluses.

14. See, for example, Cohen (1991) for the external debt for an infinitely lived economy with finite wealth.

15. The above equation was constructed on continuous terms. In discrete terms, it could be shown that (r-g) becomes (r-g)/(1+g)

output that must be devoted to debt service to keep the public-sector solvent. Thus, for a B_0 of 0.65, a differential in interest rate and GDP growth of 0.05, the public sector solvency index, s*, is 0.03 - that is, about 3 percent of GDP would have to be devoted to debt servicing for the government to be solvent.

Most countries are net debtors, i.e., $\frac{B_0}{Y_0} > 0$, and equation (4) states that for these countries, a primary budget surplus is required to attain fiscal solvency if the real rate of interest exceeds output growth, i.e. , (r-g)>0. The public sector has to make debt service payment at least equal to s*, or equivalently, it should have a primary surplus equal to s*. A primary fiscal surplus less than that amount (or a primary fiscal deficit) in that case implies perpetual public sector borrowing and debt accumulated indefinitely. For a country whose rate of output growth exceeds the real rate of interest, (r-g)<0, incurring a primary deficit is still consistent with solvency. However, a deficit higher than s* implies that the country is moving away from a fiscal solvency position. As will be shown below, many developing countries are facing either a GDP growth rate lower than the real rate of interest, or a primary deficit much larger than one consistent with solvency defined in (4) above.

Equation (4) above provides a method to assess a country's fiscal position over time and across countries. The difference between s* and the actual primary deficit measures how far additional fiscal efforts need to be undertaken to restore solvency to the public sector and is referred to as fiscal solvency adjustment in this book. A positive number indicates that the country in question needs to make fiscal adjustments to restore solvency. A negative number indicates that no adjustment is required. The evolution of this indicator over time shows whether a country is moving closer or farther from a fiscal solvency position.[16] Note that for any given actual primary surplus, the higher output growth, the smaller is the required fiscal adjustment.

In equation (4), the fiscal solvency adjustment depends on a static component (the traditional value of initial debt to output ratio) and on a dynamic component (the expected real interest rate and real output growth). It is this dynamic component that the solvency concept introduces to conventional measures of the public-sector debt overhang. It could be argued that it makes little sense to use conventional ratios, such as debt-to-GDP, to measure the domestic debt overhang because a debt-to-GDP ratio of, say, 65 percent may be low for a country whose growth prospects are considerable but high for a country where growth is declining. Similarly, a given amount of fiscal adjustment may be adequate in a country where growth can be readily restored (for example, where structural reforms have already been undertaken) but inadequate in one where economic growth is low due to policy distortions.[17]

16. Note that this is not an equilibrium fiscal position in the traditional sense of the word.

17. This statement assumes that the fiscal adjustment undertaken is growth neutral.

No matter what the initial public debt stock is, if g > r, and if the public-sector's primary surplus is equal to interest payments, (that is, net debt is rolled over), the country's debt remains constant and its discounted value approaches zero as time progresses.[18] The public-sector will remain solvent as long as the real interest rate is less than the real output growth. This is because the mechanics of compound interest rates is such that as long as the real rate of interest is positive, the discounted value of debt will vanish as time approaches infinity. However, a situation where the long run growth rate of output is permanently higher than the real rate of interest is not possible because it implies inefficient economies.

While the concept of solvency is important for new creditors, it is not relevant for existing creditors. In the late 1970s, for instance, New York city was broke - that is, both illiquid and insolvent - but this did not prevent creditors from getting together to bail out the city. The issues facing existing creditors are different from those facing new creditors. Existing creditors are looking at alternative actions to recover assets, while new creditors are faced with choosing the best rate of return for their money among a range of investments. Thus knowing a country is insolvent may help new creditors but does little for existing creditors. What matters for existing creditors is not whether the public-sector is insolvent, but whether the current fiscal stance would move the country away from or closer to solvency. The direction of policy change is an important factor in determining whether creditors continue to rollover old debt and/or acquire new debt, or whether an exit strategy is more appropriate.[19]

Fiscal Sustainability

Fiscal sustainability can be derived from the instantaneous view of the budget constraint:

$$D + iB + Ei^{*}(1-\mu)B^{*} = \dot{B} + E\dot{B}^{*}(1-\mu) + \dot{M} \qquad (5)$$

Where D is the primary fiscal deficit, i is the nominal interest rate paid on domestic debt, B is the public-sector›s domestic debt, and E is the nominal exchange rate (domestic currency per unit of foreign exchange). A star next to a variable indicates the external sector and a dot above a variable indicates its rate of change. Thus, B* is the public-sector›s foreign debt, is the change in domestic debt, i* is the nominal interest rate paid on foreign debt. M is the monetary base, and μ is the grant or "soft money» component of the budget. For many low-income countries, grants are an important component of the budget.

18. Assuming the real interest rate is positive

19. In fact, the proposed approach, when combined with contingent liabilities and quasi-fiscal accounts, could explain many currency crises such as those of the East Asian countries in the post-1997 period.

Divide (5) by P and arrange to express in real terms, defining $b = B/P$ *and* $b^* = EB^*/P$: and note that:

$$(\dot{B}/P) = \dot{b} + b\dot{p}$$

And $(E\dot{B}^*/P) = \dot{b}^* - b^*(\dot{e} - \dot{p}^*)$

Equation (5) can be expressed as:

$$d + ib + i^*(1-\mu)b^* = \dot{b} + b\dot{p} + (1-\mu)(\dot{b}^* - b^*(\dot{e} - \dot{p}^*) + m(\dot{p} + g) or$$

$$d + ib - b\dot{p} + (i^* - \dot{p}^* + \dot{e})(1-\mu)b^* = \dot{b} + (1-\mu)\dot{b}^* + m(\dot{p} + g)$$

Where g is the growth rate of output. Rewrite:

$$d + rb + (1-\mu)b^*(r^* + \dot{e}) = \dot{b} + (1-\mu)\dot{b}^* + m(\dot{p} + g) where\ r = i - \dot{p}$$

Divide the above by y

$$d/y + rb/y + \left(b^*/y\right)(1-\mu)(r^* + \dot{e}) = \frac{\dot{b}}{\dot{y}} + (1-\mu)\dot{b}^*/y + \delta(m/y)(\dot{p} + g) \quad (6)$$

Define $\beta = \frac{b}{y} : \dot{B} = \frac{\dot{b}}{x}$

Hence $\dot{b}/y = \dot{\beta} + \beta g : and\ \dot{b}^*/x = \dot{\beta}^* + \beta^* \dot{x}$

Or in terms of y,

$$\frac{\dot{b}^*}{y} = \frac{x}{y}(\dot{\beta}^* + \beta^* \dot{x}) \quad (7)$$

Hence

$$\frac{d}{y} + \frac{rb}{y} + \frac{(1-\mu)b^*(r^* + \hat{e})}{y} = \frac{\dot{b}^*}{y} + (1-\mu)\frac{\dot{b}^*}{y} + \frac{m}{y}(\dot{p} + g)$$

Or

$$\frac{d}{y} + r\beta + (1-\mu)\left(x/y\right)\beta^*(r^* + \dot{e}) = \dot{\beta} + \beta g + (1-\mu)\dot{\beta}^* + \beta^* \dot{x}) + \frac{m}{y}(\dot{p} + g)$$

Also from the quantity theory of money:

Mv=Py (9)

In the short term, assuming a fixed velocity of money demand v, m/y=1/v

Hence

$$\frac{d}{y} = \dot{\beta} + (1-\mu)\frac{x}{y}\dot{\beta}^* + \beta(g - r) + (1-\mu)\left(x/y\right)\beta^*(\dot{x} - r^* - \dot{e}) + 1/v(\dot{p} + g) \quad (10)$$

Equation 10 shows a snapshot of the government budget constraint. This constraint depends on a number of factors, including the existing stock of domestic and foreign debt β and β^*;

real interest and growth rates, r and g; the proportion of exports in national output $\frac{x}{y}$; export

growth rate $\hat{x}$; real international interest rate r*; real exchange rate change $\hat{e}$; the inverse of the velocity of money demand $\frac{m}{y}$, and inflation rate $\hat{p}$.

We now define the condition for public sector sustainability as one with $\dot{\beta} = \dot{\beta}^* = 0$, *or*

$$\frac{d}{y} = \beta(r - g) + (1 - \mu)\left(\frac{x}{y}\right)\beta^*(\hat{x} - r^* - \hat{e}) + 1/v(\hat{p} + g) \quad (11)$$

The condition states that there are three possible sources of financing the primary fiscal deficit in a sustainable way : domestic borrowing if output growth is greater than the interest rate on domestic debt; by external borrowing when export growth is higher than international interest rates, plus currency depreciation; and by money financing when it is consistent with seignorage. Because it relates to a one-period budget constraint, it also shows the liquidity constraint of the public sector.

Define s** = $\frac{d}{y}$ as the primary surplus (expressed as a percentage of output) needed to achieve debt sustainability for the public sector,

$$s^{**} = s^{**} = \beta(r - g) + (1 - \mu)\left(\frac{x}{y}\right)\beta^*(r^* + \hat{e} - \hat{x}) - 1/v(\hat{p} + g) \quad (12)$$

Equation 12 constitutes the necessary and sufficient condition for debt sustainability of the public-sector.

To assess progress of fiscal policy, the above formulation of fiscal sustainability condition needs to be compared to the actual fiscal deficit. We define fiscal sustainability adjustment the difference between the sustainable primary balance defined in equation 12 above and the actual primary balance. A positive number indicates the need for fiscal adjustment and a negative number indicates no adjustment is required as far as fiscal sustainability is concerned. The evolution of this number over time is important from a policy standpoint because its indicates whether the existing fiscal stance would drive the country away or towards sustainability.

The sustainability condition of the fiscal deficit, equation 12, differs from the solvency condition, equation 4, in several respects. First, it is a one-period-budget constraint, unlike the intertemporal budget constraint of equation 4. Second, data for equation 12 are observable and are readily available. Third,

for $\mu = \beta^* = 0$, s** is smaller than s* by the amount of inflation tax (including seignorage) which one can extract from the public in any period but presumably not in the long run.

The two indicators proposed above, s* and s**, can address the shortcomings of the conventional fiscal indicators in a number of ways. They take into account the existing stocks of internal and external debt, as well as other macroeconomic variables such as export growth, real interest rates, real exchange rates. Fiscal performance is assessed against long run solvency perspective, as well as short run liquidity. The adequacy of fiscal efforts therefore can be evaluated both within a country and across countries over time. There is less dependence on the coverage of fiscal data than on movements away from or towards a policy objective. However, given the linkages between fiscal policy and other macroeconomic policies, these indicators need to be supplemented by a qualitative analysis of fiscal issues.

Fiscal Policy and Economic Management

Fiscal policy is critical in economic management for several reasons. In many developing countries, only the public-sector can borrow from abroad and repay the external debt. Thus, what happens to the public-sector has a direct bearing on the country's external debt and debt service. Of the total long term debt stock of developing countries in 2018, public and publicly-guaranteed debt accounted for 53 percent.[20] Even if a country's external debt is contracted by the private-sector, experience has shown that governments often take over that obligation when the public-sector's credit rating is adversely affected by private-sector debt problems.

The importance of linkages between fiscal policy and other economic policies cannot be overstated. A country's deficit financing determines its domestic interest rates and inflation, which in turn drive exchange rate expectations and the private-sector's capacity to earn foreign exchange, and therefore repay debt. Fiscal policy, of course, can also affect private-sector growth directly by crowding out private investment. Another channel through which fiscal policy can influence economic activities is the micro effects that tax and spending decisions have on the behavior of households and firms. Thus a country›s ability and willingness to repay its external debt obligations is closely linked to the ability of the public-sector to tax its residents and to use the revenue to buy foreign exchange for debt service payments.

20. See Global Economic Prospects, 2020, p. 17.

Fiscal policy is not the only way that a government can influence economic activities. Other instruments include monetary, exchange-rate, financial, and income policies. The traditional separation of fiscal from other macro policies, particularly monetary policy, while useful as an analytical device, is no longer appropriate in the real world of developing countries for a number of reasons. If there is no independent central bank, monetary policy frequently accommodates fiscal policy. The dominant role and intervention of many governments in the financial sector also drives financial policy to depend on fiscal policy. And the limited domestic market for bonds and government debt instruments, together with limited access to international capital markets, often leave governments with few choices except inflation financing. Furthermore, in many transition economies, fiscal and monetary policies are indistinguishable.

Recent developments in international finance tend to reinforce linkages between fiscal and other macroeconomic policies. First, the world has become more integrated in trade and finance and has made it virtually impossible to insulate domestic policies (such as fiscal policy) from other policies (exchange-rate or interest-rate policies, for instance), either within or across countries. Second, history tends to repeat itself and a drop in capital flows to developing countries is often followed by a sharp surge in these flows. Some of these represent the return of flight capital but most inflows are direct and portfolio investment. These flows have important implications for fiscal policy. Third, many developing countries are undergoing structural adjustment, including financial-sector reform and deregulation of capital markets. These measures will most likely lead to closer integration of fiscal policy with other macro policies.

Traditional fiscal theory tends to stress the neutrality of fiscal policy- that is, the best fiscal policy is one that minimizes distortions in the economy. Both tax and expenditure policies are judged on the basis of two micro criteria: efficiency and equity. The impact of fiscal policy on aggregate demand has received attention only in the past few decades. The consensus appears to be that while a prudent fiscal policy is a necessary, but not sufficient, condition for rapid economic growth, an imprudent fiscal policy hampers growth, jeopardizes macro stability, and carries high costs to the economy.

Cross-country analysis of fiscal performance is often difficult to carry out for several reasons. First, there is a lack of a common definition of fiscal deficit. Second, unlike variables related to the balance-of-payments, budget data are usually sparse and available only after a time lag. There are only a handful of countries where fiscal data are adequate for any serious research. Third, given the different time and country-specific coverage of data and policy, fiscal performance cannot be compared across countries in a rigorous fashion. Fourth, because of the linkages with other policies, it is difficult to examine fiscal policy separate from other policy variables.

The lack of a common definition of budget deficit, in particular, makes it difficult to compare fiscal performance across countries. Ideally, the appropriate deficit to measure is the consolidated public-sector deficit which takes into account the whole public-sector - the equivalent of the current-account deficit on the external side of the economy. It would take into account not only central government, local governments, and municipal accounts, but non-financial public-enterprises, public-sector banks, the social security system, and the central bank. It would then be easy to review the impact such deficit would have on the "pure" private-sector of the economy. In practice, this may never happen for a number of reasons,[21] not the least of which is that the definition (and calculation) of the deficit is likely to be dictated by data availability and the interest of the researcher. This choice also depends on the role of the public-sector in the economy. Therefore, a definition of budget deficit would need to be specified beforehand. The most comprehensive definition is that given by the IMF's Government Financial Statistics. Information from other official and unofficial sources are often more recent, but are not standardized nor systematic with regard to coverage and methodology.

Even more important than the coverage of fiscal deficit is the appropriate level of this deficit and the speed of fiscal adjustment. As mentioned earlier, a budget deficit of, say, 4 percent of GDP may be adequate for one country but not for another because fiscal policy is an integral part of the policy framework. It may be adequate for an economy with single digit-inflation but may be woefully inadequate for a country with 70 percent inflation. Similarly, a target reduction in the budget deficit, (say, 2 percentage points of GDP), may not be nearly enough for an economy where the exchange rate is being used as a nominal anchor but may be sufficient for one in which money supply serves as the anchor.

Because of the strong linkages between fiscal, monetary, and other macro-economic policies, the appropriateness of a particular fiscal deficit target depends on other targets for growth, inflation, and external and internal debt. Unless these linkages are brought out explicitly, conventional fiscal measures (such as the deficit to GDP or government debt service to revenues) shed little light on the appropriate level of fiscal deficit and consequently on the appropriate speed of fiscal adjustment. For international financial institutions, this also implies that the design of adjustment programs lacks rigor and standards across countries and that lessons from the past cannot be effectively disseminated. The model presented in the next section addresses some of these serious issues.

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21. Even if a consolidated fiscal account were available, the line drawn between public and private enterprises would always be arbitrary. Even within a closed economy, the conventional measure of fiscal deficit (the difference between total revenues and expenditures) has limitations in assessing the impact of fiscal policy on aggregate demand. For developing countries, these problems are compounded by inflation, debt arrears, and quasi-fiscal activities, as well as the temporary nature of some fiscal measures (such as the sale of public assets). See M. Blejer and A. Cheasty, Eds. How to Measure the Fiscal Deficit. IMF, 1993.

Fiscal and Quasi-Fiscal Deficits and Coordination of Macroeconomic Policies

The strong linkages between fiscal policy and monetary and exchange rate policies have also reflected in the emergence of quasi-fiscal deficits, beginning first in Latin America and later in other countries including East Asian countries. A quasi-fiscal deficit is a deficit caused by the central bank's operations which are not directly related to the financing of the public-sector deficit. These operations are not captured in the normal budgetary operations and are usually hidden from public-sector accounts. Operations that give rise to quasi-fiscal activities typically involve the central bank's guarantees of exchange rates and interest rates on loans to commercial banks or to other agents such as public enterprises, provincial banks etc. Thus, when the exchange rate is subsequently devalued or interest rates are raised, the central bank finds itself paying for the mismatch between assets and liabilities.

In many Latin American countries, quasi-fiscal deficits are also used to indirectly finance the budget deficits. The central bank could raise reserve requirement thereby increase the demand for money and provide a temporary, non-inflationary means to finance the budget deficit . In effect, this amounts to a tax on financial intermediation. At other times, the central bank would need to pay interest for its past losses. In fact, it is often difficult to estimate quasi-fiscal deficits with accuracy because any point in time, a central bank's liabilities are accumulated over time with different (subsidized) interest rates and exchange rates. In some countries, quasi-fiscal deficits also involve public-enterprise activities, mainly because of the lack of independence between the central bank and the ministry of finance, which usually finances losses incurred by these enterprises.

While the macro-economic effects are similar, there are two features that distinguish quasi-fiscal deficits from regular fiscal deficits. First, unlike the ministry of finance, a central bank does not have any authority to tax real economic activities to finance its operations. Financing a quasi-fiscal deficit therefore entails printing money. Second, the true magnitude of quasi-fiscal deficits is usually hidden because only a small part of the contingent liabilities shows up in the budget. Analysis of solvency and sustainability therefore should always take into account the stock of contingent liabilities.

In the above model, the existence of a quasi-fiscal deficit reduces the level of fiscal sustainability, everything being equal. Let a be the quasi-fiscal deficit, defined as a proportion of the change in the monetary base; a includes the central bank's interest payments on its existing debt stock. It can be seen that the sustainable budget deficit is now reduced by $(\alpha / v)\ (p+g)$.

The existence of these quasi-fiscal deficits implies that to successfully address any issue concerning interest rates, exchange rates, the budget, public enterprises, and the financial sector, the authorities need to address all these issues simultaneously. Policies affecting the real sector therefore need to be closely coordinated with the financial sector. In the absence of a public-enterprise reform, for example, raising interest rates could help improve the allocation and mobilization of financial resources in the economy but could also adversely affect the profitability of public enterprises which, given the soft budget constraint and/or absence of an independent central bank, could lead to an increase in the budget deficit or quasi-fiscal deficit. In the end, therefore, how high interest rates should be raised depends on how much the budget could absorb the losses from the real side. The same hold true in the case of a banking crisis.

Fiscal issues have to be tackled simultaneously with reforms of the financial sector and of the public-enterprise sector. It is not an accident that in countries where budget deficits are high, domestic interest rates are kept low and often negative in real terms. Macroeconomic reforms can only be effective when sustained by these micro and structural measures. Since the impact and speed of response of each type of reform on the economy is different from one another, policy coordination is a key element for the success of stabilization and sustained growth.

The interrelationship between fiscal and other macroeconomic policies can be seen clearly in high-inflation economies. The experience of these countries shows that while fiscal policy appears to be a necessary condition, it alone is not a sufficient condition for stabilization, In these economies, authorities have often resorted to orthodox stabilization programs to bring down inflation, either through an exchange rate based regime, or a money supply based regime. As discussed in Kiguel and Leviathan,[22] money-based stabilization programs (as in Argentina in 1976-78 and Chile in 1974-75) often caused high costs to the economy in the form of lower output and higher unemployment. Moreover, these programs, which entail stringent fiscal policy, brought inflation down from hyperinflationary levels only after a long time, and even then, inflation would be sticky downwards after reaching double-digit figures and would remain stubbornly high. On the other hand, countries that adopted the exchange rate based regime, with or without a stringent fiscal policy, also ended up with large real exchange rate appreciation, big current-account deficits, and eventually a balance-of-payment crisis.[23]

22. See, for example, Kiguel and Liviathan (1994).

23. Kiguel and Leviathan (1994) pointed out the experience of Argentina in 1978-80 when inflation fell from 175 percent in 1978 to 100 percent in 1980, at a cost of real exchange rate appreciation of 45 percent. The current-account balance swung from surplus to deficit (3 percent of GDP in 1980) which led to a balance-of-payments crisis. Part of the reason was the laxed fiscal stance: the fiscal deficit reached

Empirical Issues

While the theoretical foundation discussed above seems clear, in practice, data and cross-country differences in measurements and concepts make it difficult to calculate fiscal solvency and sustainability coefficients. Practitioners have to resort to simplified equations as given in Annex 4A. Below we discuss some of these difficult data and measurement issues.

Problems in estimating public sector activities. Ultimately, any model is as good as the data it applies to and this model is no exception. As discussed earlier, a correct measurement of fiscal activities is a necessary condition for good fiscal analysis. A country's fiscal problems can be easily hidden if a comprehensive measure of fiscal activities is not available. But comprehensive information on accounts of the non-financial public sector –other than that of the central government—such as local government, extra-budgetary funds, state-owned enterprises, and government guarantees are often hard to get and if available, are often not up-to-date. The losses of state-owned enterprises (SOEs) often created a huge implicit liability to the government. In order to finance its operating losses, SOEs usually rely on issuing short-term debt with credit on inventory and future sales of output. Ultimately, these losses will be borne by the public sector, either because the debt will be taken over by the Government or because public assets will be depleted at the time of privatization.

Domestic Debt. Of the variables that are required for the above framework, the hardest to find is stock of domestic debt. This perhaps reflects economists' tendency to focus more on flows than stocks. The definition of domestic debt has to be consistent with the fiscal deficit in use. For example, if the available fiscal accounts do not include social security operations, the domestic debt should net out transactions between the central government accounts and the social security system. For many countries, available data do not include any information on domestic debt. Because the ability to issue domestic debt instruments depends more on the development stage of the financial sector than on budget needs, it is not surprising that for many low income countries, the stock of domestic debt is not significant compared to the external debt of the public-sector. For those countries with a sophisticated financial market, however, the stock of domestic debt appears large and may exceed external debt.

8 percent of GDP in 1980, while monetary policy was tight leading to high domestic interest rates. Chile's experience in 1978, on the other hand, showed that even with a strong fiscal position, an exchange rate based program could still lead to a balance-of-payments crisis. When the exchange rate appreciated by 20-30 percent and the current-account deficit reached 14 percent of GDP in 1981, flight capital began leaving the country and a crisis broke out. During this period, however, the public-sector maintained a surplus in the primary, operational, and overall balance of GDP.

Discount Rates and Solvency Adjustment. In equations (4), is the public-sector debt, and includes both domestic and external debt, the latter denoting public and publicly-guaranteed debt. The discount rate applied to this debt is a weighted sum of the discount rates used for each component, the weights being their respective shares. In a neoclassical framework, these rates are equal to the long-run costs of capital at home and abroad, respectively, and can be closely approximated by the real interest rates that would prevail in markets free of distortions. In industrial economies, the long-run real interest rate is estimated between 7 and 12 percent.[24] For developing countries, the scarcity of capital would imply a higher real rate of interest. A 10-15 percent real rate of interest is usually considered appropriate.

Elmendorf and Mankiw (1999) calculated the marginal product of capital (MPC) in the United States between 1960-1994. The number they obtained was 9.5%, using the share of capital in output and the capital-output ratio. The former was about one-third and the latter was about three. This number represents the gross marginal product and shows how much an extra dollar of capital adds to gross output and income. The use of a discount rate of 10% for developing countries is therefore within a reasonable range.

Similarly, in equation (12), β and β^* denote domestic and external debt, and the interest rate applied to each refers to the actual rate that prevail in the domestic and external capital market respectively. In many developing countries, however, a combination of financial repression and public sector interventions often result in artificially low domestic interest rates. For many low income countries, the availability of concessional resources and difficult access to the international markets also mean that the actual international interest rates are low. Hence, the use of actual interest rates will result in underestimating the opportunity cost of capital. For cross-country comparison of fiscal performance, moreover, it can be argued that the choice of a common discount rate is important as international capital flows are becoming more integrated.

Effects of devaluation. The treatment of a real devaluation for sustainability analysis is entirely short-term, that is, a real devaluation causes an increase in the debt service burden and therefore requires further fiscal adjustment. In a sense, this reflects a trade-off between policies for internal and external balance. Everything being equal, and under the right conditions for demand and supply elasticities and for production capacity, a real devaluation would improve the external current account balance but worsen the budget deficit.

24. See, for example, M. Boskin (1978).

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Chapter 4

COVID-19 and Debt Sustainability Analysis for Selected Developing Countries

While it is useful to discuss the general trends of indebtedness of countries grouped by income level, a deeper understanding of developing countries' debt situation can only be gained through an in-depth discussion of debt sustainability at the country level. Therefore, we select a set of low and lower-middle income countries to review the debt issues in detail.

The selected African countries include Zambia and Ethiopia—two countries currently in the Debt Service Suspension Initiative (DSSI),[25] Egypt, Morocco, and Tunisia. For comparison, we also include Vietnam, which had roughly the same debt amount and population (96 million) as Egypt in 2019. The analysis also includes Cote d'Ivoire, Ghana, Malaysia, the Philippines, and Thailand, although a full discussion is not included in the book due to the lack of space.

For each country, we first look at the current debt structure and the current base case (before COVID-19) for key macroeconomic variables based on the international institutions' assumptions. We then add the additional fiscal spending needed for COVID-19 vaccination and treatment in 2021–2023, which is discussed in detail in Chapter 2, together with the non-health-related spending for the pandemic, to see how this total spending will affect macroeconomic stability. This case is called Scenario 1. In addition, we examine a scenario (Scenario 2) in which the international environment worsens in the form of a decline in the country's GDP growth and higher interest rates.

The Macroeconomic Framework and Basic Assumptions

The basic macroeconomic framework used for this analysis is the classic, standard model of external and internal balance that assigns fiscal policy to internal balance and monetary policy to external balance. As pointed out by Branson (1992), the directions for policy changes indicated by this classic internal-external balance approach are the same as those indicated by the modern debt sustainability analysis used by the Bretton Woods institutions. A very basic framework of the current debt sustainability analysis is presented below in Annex 4A. A more complete model of fiscal solvency and sustainability based on the author's previous work was presented in Chapter 3 (Annex 3A).

This debt sustainability model can be used to assess the magnitude of government spending, more specifically COVID-19-related spending, consistent with the internal and external balance for a country, given basic assumptions about the path of economic growth, inflation, and interest rates. More specifically,

25. DSSI is the first international attempt after COVID-19 to help the poorest countries deal with debt problems.

from equation (9) in Annex 4A, one can calculate the debt-to-GDP ratio as:

$$d_t - d_{t-1} = \left[\frac{i_t^f - \pi(1+g) - g + \epsilon\alpha\left(1+i_t^f\right)}{(1+g)(1+\pi)}\right] d_{t-1} + pd_t - s_t$$

where d_t is the ratio of total debt to the country's GDP in period t, i^f_t is the nominal interest rate in period t, π is the inflation rate (GDP deflator), α is the proportion of total debt held by foreign residents in the previous period (hence, a constant in the current period), ε is the exchange rate devaluation, pd_t is the ratio of primary deficit to GDP, and s_t is the ratio of seigniorage to GDP. Note that in addition to seigniorage, if there are exceptional fiscal resources, such as privatization proceeds, the debt-to-GDP ratio can also be affected positively. On the other hand, if there are quasi-fiscal activities or contingent liabilities (discussed in Annex 3A, Chapter 3), this ratio can worsen.

What would be a critical debt-to-GDP ratio that could serve as a warning sign for the debt burden? As reviewed more thoroughly in the annex to the last chapter, the traditional debt indicators, such as the debt-to-GDP or debt service ratio, cannot show the debt dynamics embodied in the economy. Nonetheless, a critical level could serve as a warning sign so that a more thorough debt review can follow. Countries whose debt burden is considered unsustainable for the Highly Indebted Poor Countries (HIPC) Initiative have debt-to-GDP ratios of 63%.[26] In fact, HIPC's objective was to bring down the ratio of debt to exports to 150%,[27] which translates into a post-completion ratio of 37.5%, given the export-to-GDP ratio of about 25% for low- and middle-income countries. Hence, any debt-to-GDP ratio above 65% could be considered a warning sign for debt distress.

The two key components affecting the public sector debt ratio are the primary budget deficit (budget deficit net of interest payments) and the automatic debt dynamics (the first term of the right-hand side of the above equation). Fiscal spending for COVID-19 will directly affect the primary deficit, while the debt dynamics will be affected by the interest rate effect and GDP growth rate effect. Note that 2019 and 2020 data are actual, and 2021 and beyond are projected.

The basic assumptions. The underlying fiscal cost assumptions concerning COVID-19 vaccines and treatment for 2021–2023 are given in Annex Table 2F of Chapter 2. The resulting costs are then added to the base case plus the fiscal cost in 2020, assuming they continue each year during 2021–2023 because they cover mostly non-health sector spending.

26. https://vi.unctad.org/debt/debt/m1/HIPC.html

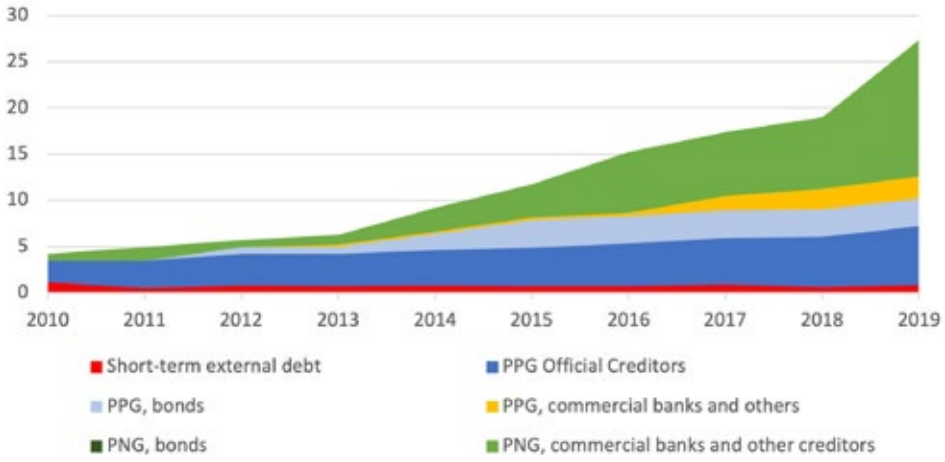
27. The HIPC used the net present value (NPV) rather than outstanding debt, so the post-completion point NPV to exports would be even lower than DOD/GDP because of the grant element.

Zambia

Zambia's serious debt situation prior to COVID-19 was a result of several trends.

- First, copper prices declined, causing a sharp drop in export revenues (Zambia is the second-largest copper exporter in Africa) and making servicing repayments increasingly difficult.
- Second, since 2015, the countries have borrowed to finance infrastructure with low returns. This borrowing was from bilateral commercial sources (especially China as part of the Road and Belt Initiative) under non-transparent terms.
- Third, due to the August 2021 elections, few reforms were undertaken, leading to a worsening financial situation.

Figure 4.01 Zambia's composition of external debt (USD Billion) 2010–2019



Source: 2021 International Debt Statistics, World Bank.

Figure 4.01 provides details on Zambia's debt structure in the last decade. Since 2013, there has been a very rapid accumulation of publicly non-guaranteed debt from commercial banks and other creditors. This funding source shot up from below one billion USD in 2010 to almost 15 billion USD in 2019 (the green area). The amount of public and publicly guaranteed (PPG) commercial debt rose from virtually zero to almost 2.5 billion USD (in yellow) and so did the

PPG bonds, which rose from zero in 2011 to three billion USD in 2015 (light blue area). Hence, the PPG official creditors, usually consisting of multilateral and bilateral donors and creditors, were replaced by private sources, making it more difficult to reschedule the debt stock.

Current Debt Situation

In November 2020, Zambia missed the $42.5 million Eurobond repayment and became the first African country to default on its debt in the post-COVID-19 era. It also missed its second payment of $56.1 million on a Eurobond at the end of January 2021. A few days after missing the first payment, Zambia applied to join the Debt Service Suspension Initiative (DSSI), the first international attempt to help the poorest countries deal with debt. After being endorsed in mid-April, DSSI was implemented on May 1, 2020. This initiative enabled a fast, coordinated response to enhance fiscal breathing space for the poorest countries. The DSSI suspends debt service payments from the poorest countries (73 low- and lower-middle-income countries) to bilateral official creditors from May 2020–December 2021. Zambia's last Eurobond issuance was in 2015 before its debt started to spiral out of control. Many of the country's infrastructure projects were financed by Chinese loans as part of China's Belt and Road initiative.

Estimates of the scale of the Chinese debt range widely—from anywhere between three billion USD and 20 billion USD. Malik et al. (2021) of AidData estimate this debt at 6.6 billion USD and that the difference between this debt and what Zambia officially reported amounted to 7.7% of GDP (Table A-27). And there is a possibility that no one knows because many loans are to sub-national government entities. Zambia has started to cancel construction projects and cut down on spending, but a recent state move to purchase a majority stake in the Mopani Copper Mines from Swiss-based giant Glencore is likely to complicate discussions. Government-controlled ZCCM Investments Holding is buying Mopani for a nominal $1 but assuming the company›s $1.5-billion debt.

The opacity of Chinese loans and China›s influence over the G20 framework have raised fears of unequal treatment. In this situation, bondholders rightly fear that if the IMF provides some debt relief, it will be used to pay Chinese creditors. Meanwhile, China will likely only accept writing off the debt if the offer is matched by commercial creditors—a scenario considered improbable because fund managers are essentially managing other people's money and cannot provide debt relief because it›s not their money.

Zambia is not the only country with debt problems with China. The Chinese government, banks, and companies together lent over $150 billion to Africa from 2000 to 2019, according to Johns Hopkins University. Approximately 10 African

countries have a debt problem with China; Chinese lending was concentrated in a small number of countries: Djibouti, Ethiopia, Kenya, Angola, and Zambia. A third of the $30.5 billion of public debt service payments due in 2021 by DSSI-eligible Sub-Saharan African nations is owed to official Chinese creditors; the Institute of International Finance calculated that a further 10% is linked to the China Development Bank.

Since 2015, four countries have restructured privately held liabilities with China, and six have restructured Chinese debt. The stakes are high. Several African nations have seen dangerous pre-pandemic debt levels worsen with the coronavirus, stoking international concern. But civil society fears the pressure could rush the IMF into financial support without requiring that China and Zambia›s private creditors agree to significant debt relief, let alone cancellation.

Debt Prospects 2021–2025

The Base Case

In the base case, we keep the same basic assumptions for GDP growth, inflation, and effective interest rates as the IMF April 2021 WEO and focus on two major components affecting the public sector debt ratio—namely, the primary deficit (budget deficit net of interest payments) and automatic debt dynamics. Table 4.01 shows the base case.

Table 4.01 Zambia: Projected Path of Macroeconomic Variables

Base Case							
Zambia	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	94,5%	138,8%	125,5%	123,2%	122,1%	122,8%	120,8%
Real GDP growth	1,4%	-3,5%	0,6%	1,1%	1,4%	1,6%	1,6%
Inflation	7,6%	17,1%	27,0%	14,5%	11,0%	7,0%	7,0%
Effective interest rate	9,8%	9,8%	9,8%	9,8%	9,8%	9,8%	9,8%
Primary deficit (-= surplus)	2,9%	8,3%	6,2%	4,2%	1,9%	-0,5%	-3,2%
Exchange rate depreciation	23,3%	42,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	23,6%	29,3%	29,3%	29,3%	29,3%	29,3%	29,3%
Income velocity of money demand	4,24	3,41	3,41	3,41	3,41	3,41	3,41
Interest rate/growth differential effect	0,4%	-3,1%	-25,0%	-7,5%	-3,4%	1,3%	1,3%

of which interest rate effect	1,6%	-6,4%	-24,2%	-6,1%	-1,7%	3,2%	3,3%
of which real GDP growth effect	-1,1%	3,3%	-0,8%	-1,3%	-1,7%	-1,9%	-1,9%
Exchange rate depreciation effect	19,7%	43,9%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	18,5%	36,1%	-19,6%	-6,4%	-3,0%	1,2%	1,2%
Change in debt	**21,4%**	**44,4%**	**-13,4%**	**-2,2%**	**-1,1%**	**0,7%**	**-2,0%**

Source: Author's calculation, based on the model presented in Annex 4A.

The primary deficit will be directly affected by COVID-19 spending; the debt dynamics will be affected by the interest rate effect and the GDP growth rate effect (see Annex 4A). Note that 2019 and 2020 data are actual, and 2021 and beyond are projected numbers. COVID-19 has resulted in a sharp increase in the primary deficit from 2.9% of GDP in 2019 to 8.3% in 2020. Despite a heroic effort to cut the primary deficit in subsequent years, this Zambia base case represents an unsustainable position of public finances, as the ratio of public debt to GDP continues to hover around 120% during the entire projected period.

The Case If Fiscal Spending on COVID-19 Vaccination and Treatment Continues Until 2023

How much is this debt sustainability prospect affected by the absolutely necessary fiscal spending for COVID-19 vaccinations and treatment lasting through 2023 to reach a 70% vaccination rate for the population? Table 4.02 shows this scenario.

Table 4.02 Zambia Expanding Fiscal Spending to Cover COVID-19 Vaccination and Treatment 2021–2023

Scenario 1							
Zambia	2019	2020	2021	2022	2023	2024	2025
Gross public debt	94,5%	138,8%	129,3%	130,7%	133,3%	134,1%	132,2%
Real GDP growth	1,4%	-3,5%	0,6%	1,1%	1,4%	1,6%	1,6%
Inflation	7,6%	17,1%	27,0%	14,5%	11,0%	7,0%	7,0%
Effective interest rate	9,8%	9,8%	9,8%	9,8%	9,8%	9,8%	9,8%
Primary deficit (-= surplus)	2,9%	8,3%	10,0%	8,1%	5,8%	-0,5%	-3,2%
Exchange rate depreciation	23,3%	42,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	0,236	0,293	0,293	0,293	0,293	0,293	0,293

Income velocity of money demand	4,24	3,41	3,41	3,41	3,41	3,41	3,41
Interest rate/growth differential effect	0,4%	-3,1%	-25,0%	-7,7%	-3,6%	1,5%	1,5%
of which interest rate effect	1,6%	-6,4%	-24,2%	-6,3%	-1,8%	3,5%	3,6%
of which real GDP growth effect	-1,1%	3,3%	-0,8%	-1,4%	-1,8%	-2,1%	-2,1%
Exchange rate depreciation effect	19,7%	43,9%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	18,5%	36,1%	-19,6%	-6,6%	-3,2%	1,4%	1,3%
Change in debt	**21,4%**	**44,4%**	**-9,5%**	**1,4%**	**2,5%**	**0,8%**	**-1,9%**

Source: Author's projections.

In Zambia's case, this needed fiscal spending would amount to 1.7% of GDP for COVID-19-related costs (Annex Table 2F, Chapter 2) and another 2.1% of GDP for non-health-related spending (see Annex 2C, Chapter 2) for each of the years 2021, 2022, and 2023. The gross public debt-to-GDP ratio would reach 133% in 2023 (Table 4.02), making an unsustainable base case even worse. It should be noted that the debt problem comes from the primary deficit and not so much from the debt dynamics.

Worst-Case Scenario: COVID-19 and Worsening of the Debt Dynamics

What happens if global conditions worsen as a result of a slowing down in economic growth amidst a tightened monetary environment, leading to higher interest rates in the developed economies and throughout the world? Table 4.03 shows this situation for Zambia.

Table 4.03 Zambia Scenario 1 Combined with Adverse Developments in Debt Dynamics

Scenario 2							
Zambia	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	94,5%	138,8%	133,9%	140,1%	147,6%	151,5%	152,6%
Real GDP growth	1,4%	-3,5%	-1,4%	-0,9%	-0,6%	1,6%	1,6%
Inflation	7,6%	17,1%	27,0%	14,5%	11,0%	7,0%	7,0%
Effective interest rate	9,8%	9,8%	11,8%	11,8%	11,8%	11,8%	11,8%
Primary deficit (-= surplus)	2,9%	8,3%	10,0%	8,1%	5,8%	-0,5%	-3,2%

Exchange rate depreciation	23,3%	42,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	0,24	0,29	0,29	0,29	0,29	0,29	0,29
Income velocity of money demand	4,2	3,4	3,4	3,4	3,4	3,4	3,4
Interest rate/growth differential effect	0,4%	-3,1%	-18,7%	-2,2%	2,0%	4,8%	4,7%
of which interest rate effect	1,6%	-6,4%	-20,6%	-3,5%	1,2%	7,1%	7,0%
of which real GDP growth effect	-1,1%	3,3%	1,9%	1,3%	0,9%	-2,3%	-2,4%
Exchange rate depreciation effect	19,7%	43,9%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	18,5%	36,1%	-14,9%	-2,0%	1,8%	4,4%	4,3%
Change in debt	**21,4%**	**44,4%**	**-4,9%**	**6,1%**	**7,6%**	**3,9%**	**1,0%**

Source: Author's calculations.

The gross debt-to-GDP ratio would reach over 152%, more than twice the level considered "debt stress." This case is triggered by the debt dynamics component and leads to a more serious debt situation than Scenario 1, where worsening debt is due to an increase in the primary deficit to cope with COVID-19.

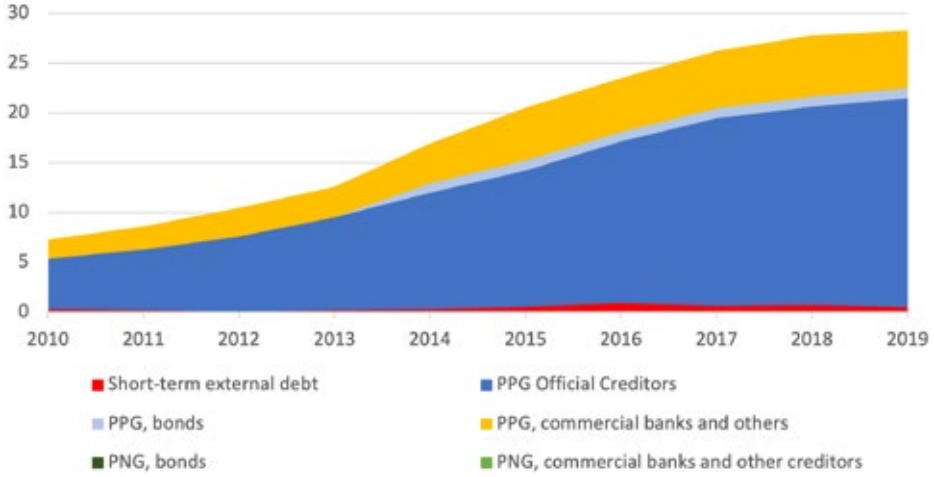
Ethiopia

In February 2021, S&P Global Ratings downgraded Ethiopia's LT foreign and local currency sovereign credit rating to B- from B, following Fitch ratings that downgraded Ethiopia's LT FC sovereign rating to CCC from B.

Current Debt Situation

Figure 4.02 shows Ethiopia's debt structure from 2010–2019. Most, if not all, of its debt is owed to official and PPG commercial sources and PPG bonds. Unlike Zambia, Ethiopia has had high GDP growth rates (averaging 9.3% p.a. from 2010–2020 compared to 3.8% p.a. for Zambia). But like Zambia, it borrowed from private creditors (public and publicly guaranteed) to finance infrastructure.

Figure 4.02 Ethiopia's Composition of external debt (USD Billion) 2010-2019



Source: 2021 International Debt Statistics, World Bank.

Roughly 25% of Ethiopia's public and publicly guaranteed external debt of 28 billion USD in the 2020 fiscal year was owed to private creditors. This includes Ethiopia›s outstanding one billion USD Eurobond (1% of GDP) due in December 2024, with minimal annual debt service of 66 million USD until the maturity; the remainder is government-guaranteed debt owed to foreign commercial banks and suppliers. Ethiopia's billion-dollar sovereign bond issues in December 2014 have been the country's only debt instrument trading in the global capital markets. While not guaranteed by the government, other SOE debt to private creditors relating to Ethio Telecom and Ethiopian Airlines (3.3 billion USD) represents a potential contingent liability.

As shown in Chapter 3, Ethiopia currently has one of the highest debt service ratios among the low-income countries. The IMF/World Bank also assessed Ethiopia as at a high risk of external debt distress in their latest DSA assessment in 2020, with Ethiopia breaching thresholds on external debt service/exports and the present value of external debt/exports.

Debt Prospects 2021–2025

Ethiopia appears to fare better than Zambia in the short and medium term. In the base case (Table 4.04), the debt-to-GDP ratio is projected to continually fall, thanks largely to the debt dynamics terms (r-g).

Table 4.04 Ethiopia: Projected Path of Macroeconomic Variables

Base Case							
Ethiopia	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	56,8%	48,8%	42,9%	39,4%	35,0%	30,8%	27,0%
Real GDP growth	9,0%	6,2%	6,1%	2,0%	7,5%	8,0%	8,0%
Inflation	12,5%	18,4%	13,8%	10,2%	7,0%	7,0%	5,0%
Effective interest rate	2,3%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%
Primary deficit (-= surplus)	3,3%	2,6%	1,6%	0,4%	0,0%	-0,2%	-0,7%
Exchange rate depreciation	-30,8%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	6,7%	6,2%	6,2%	6,2%	6,2%	6,2%	6,2%
Income velocity of money demand	15,01	16,04	16,04	16,04	16,04	16,04	16,04
Interest rate/growth differential effect	-12,1%	-13,4%	-9,0%	-4,4%	-5,1%	-4,7%	-3,4%
of which interest rate effect	-6,7%	-9,8%	-6,1%	-3,5%	-2,1%	-1,9%	-1,0%
of which real GDP growth effect	-5,4%	-3,5%	-3,0%	-0,9%	-3,0%	-2,8%	-2,5%
Exchange rate depreciation effect	-18,7%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-25,2%	-10,6%	-7,5%	-3,9%	-4,4%	-4,0%	-3,0%
Change in debt	**-21,9%**	**-8,0%**	**-5,9%**	**-3,5%**	**-4,4%**	**-4,2%**	**-3,7%**

Source: Author's calculations.

Ethiopia's Scenario 1 is shown in Table 4.05 below. In this scenario, fiscal spending increases by 1.7% of GDP (see Annex 2F, Chapter 2) for COVID-19 vaccines and treatment and another 2.5% of GDP for non-health sector spending (see Annex 2C, Chapter 2) in each year during 2021–2023 to cope with COVID-19 and its variants. The debt ratio still declines significantly, and Ethiopia's debt situation remains sustainable in this scenario.

Table 4.05 Ethiopia: Expanding Fiscal Spending to Cover COVID-19 Vaccination and Treatment 2021–2023

Scenario 1							
Ethiopia	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt	56,8%	48,8%	47,1%	47,4%	46,3%	40,8%	36,0%
Real GDP growth	9,0%	6,2%	6,1%	2,0%	7,5%	8,0%	8,0%
Inflation	12,5%	18,4%	13,8%	10,2%	7,0%	7,0%	5,0%
Effective interest rate	2,3%	2,2%	2,2%	2,2%	2,2%	2,2%	2,2%
Primary deficit (-= surplus)	3,3%	2,6%	5,8%	4,6%	4,2%	-0,2%	-0,7%
Exchange rate depreciation	-30,8%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	6,7%	6,2%	6,2%	6,2%	6,2%	6,2%	6,2%
Income velocity of money demand	15,01	16,04	16,04	16,04	16,04	16,04	16,04
Interest rate/growth differential effect	-12,1%	-13,4%	-9,0%	-4,8%	-6,1%	-6,2%	-4,6%
of which interest rate effect	-6,7%	-9,8%	-6,1%	-3,9%	-2,5%	-2,5%	-1,3%
of which real GDP growth effect	-5,4%	-3,5%	-3,0%	-0,9%	-3,6%	-3,7%	-3,3%
Exchange rate depreciation effect	-18,7%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-25,2%	-10,6%	-7,5%	-4,3%	-5,3%	-5,3%	-4,0%
Change in debt	**-21,9%**	**-8,0%**	**-1,7%**	**0,3%**	**-1,1%**	**-5,5%**	**-4,7%**

Source: Author's calculations.

In Scenario 2, presented in Table 4.05, a deterioration of the external environment is assumed, and it can be seen that Ethiopia remains solvent in the medium term.

Table 4.06 Ethiopia: Scenario 1 Combined with Adverse Developments in Debt Dynamics

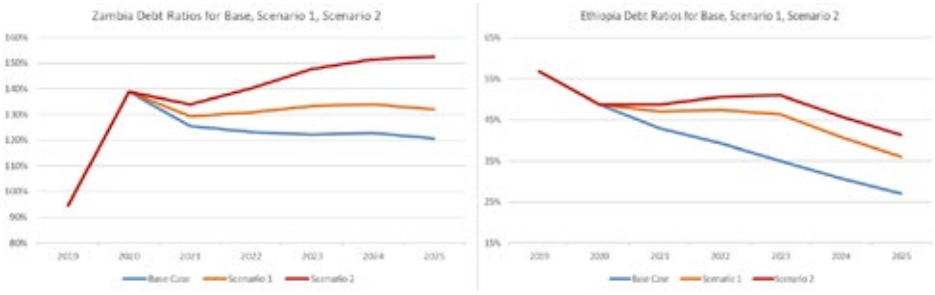
Scenario 2							
Ethiopia	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	56,8%	48,8%	48,7%	50,6%	50,9%	45,8%	41,4%
Real GDP growth	9,0%	6,2%	4,1%	0,0%	5,5%	8,0%	8,0%
Inflation	12,5%	18,4%	13,8%	10,2%	7,0%	7,0%	5,0%
Effective interest rate	2,3%	2,2%	4,2%	4,2%	4,2%	4,2%	4,2%
Primary deficit (-= surplus)	3,3%	2,6%	5,8%	4,6%	4,2%	-0,2%	-0,7%

Exchange rate depreciation	-30,8%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	0,07	0,06	0,06	0,06	0,06	0,06	0,06
Income velocity of money demand	15,0	16,0	16,0	16,0	16,0	16,0	16,0
Interest rate/growth differential effect	-12,1%	-13,4%	-7,0%	-2,9%	-4,4%	-5,7%	-4,2%
of which interest rate effect	-6,7%	-9,8%	-5,0%	-2,9%	-1,6%	-1,6%	-0,5%
of which real GDP growth effect	-5,4%	-3,5%	-2,0%	0,0%	-2,8%	-4,1%	-3,7%
Exchange rate depreciation effect	-18,7%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-25,2%	-10,6%	-5,9%	-2,7%	-3,9%	-4,9%	-3,7%
Change in debt	**-21,9%**	**-8,0%**	**-0,1%**	**1,9%**	**0,3%**	**-5,1%**	**-4,4%**

Source: Author's calculations.

Figure 4.03 shows the evolution of Zambia and Ethiopia's debt ratios in each of the three scenarios. In Zambia's case, the debt ratio will continue to rise beyond 150% by 2025—a clearly unsustainable situation. Ethiopia is in a better position, with the debt ratio reaching 37% even in the worst case. The two debt situations show that even though both countries are in the DDSS scheme, Ethiopia is facing a liquidity problem due in part to its Eurobond issuance, while Zambia case is facing a solvency problem. Ethiopia's high GDP growth rate is helping, and the high interest rates on debt and low GDP growth rate are hurting Zambia.

Figure 4.03 Zambia and Ethiopia's Debt-to-GDP Ratios Under Various Scenarios



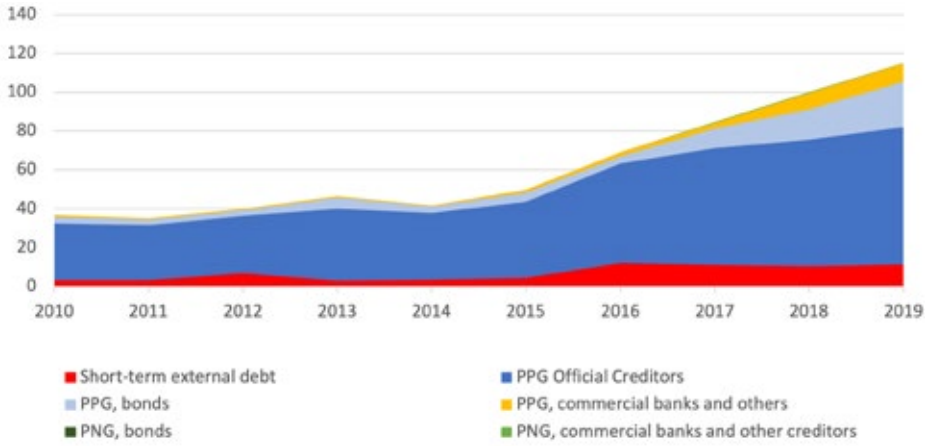
Source: Author's calculations.

Egypt

The liberalization of Egypt's capital account in 2016 attracted foreign investors to the domestic debt market. But the pandemic caused a significant reversal of capital flows, which put pressure on reserves and the current account. The pandemic also exacerbated Egypt's already large refinancing needs, with 60% of the country's public debt at a maturity of one year or less. To bridge the financing gap, Egypt accessed funding from COVID-19-related facilities from international financial institutions.

Egypt's external debt stock remains dominated by official creditors (multilateral and bilateral), which accounted for about 64% of the total external debt stock in 2019 (Figure 4.04). The issuance of international bonds has recently become an important financing strategy, representing 82% of net external debt inflows. On May 21, 2020, Egypt issued a largely oversubscribed $5 billion bond. The maturity profile of Eurobonds for Egypt is relatively smooth and at moderate levels, with the first maturity in 2022. Credit facilities from international financial institutions and bond issuances boosted foreign exchange reserves to $40 billion at the end of 2020. External debt rose to 36% of GDP, but the new borrowing helped lengthen the average debt maturity.

Figure 4.04 Egypt's Composition of external debt (USD Billion) 2010–2019



Source: World Bank, 2021 International Debt Statistics.

In 2020, Egypt managed to improve its debt structure by reducing the share of short-term debt. Debt in domestic currency represents 74.1% of the total central government debt, with the remainder consisting of external debt and

debt denominated in foreign currency. However, since the switch to a flexible exchange rate and the opening of the capital account to non-residents in 2016, the distinction between domestic and foreign debt has become blurry, and the risk of a foreign exchange crisis cannot be discounted. The average interest rates on issued government securities trended downward from 17.8% FY 2016–2017 to 14.8% in FY 2019–2020.

The main source of vulnerability in the Egyptian debt is the high share of short-term debt in local currency and its cost, which cause significant refinancing and interest rate risks. Furthermore, the capital account's liberalization has exposed the country to the risk of portfolio outflows in the context of a trade deficit financed by tourism receipts and remittances. It is important for Egypt to continue lengthening its debt maturity and diversifying its investor base to manage its refinancing risk and mitigate its roll-over risk. The main macroeconomic risks are a slower-than-expected recovery from the COVID-19 pandemic, resulting in a less ambitious fiscal consolidation path, lower GDP growth, and a sustained increase in interest rates due to the tightening of financial conditions for emerging markets.

To reduce the high level of financing needs, the government is committed to pursuing all the fiscal reforms initiated prior to the pandemic to enhance domestic resource mobilization and improve spending efficiency. It also intends to extend the country's debt maturities and to bring the financing needs ratio-to-GDP down from 38% in 2020 to around 30% by June 2024. Efforts are also being deployed to attract a larger base and more stable foreign investors for the Egyptian debt instruments.

Egypt's macroeconomic base case is presented in Table 4.07. The country starts from a very high debt-to-GDP ratio, about 90% of GDP during 2020–2021 so that even with significant fiscal adjustment, the debt-to-GDP ratio would only reach below 75% in 2026. Hence, during the projection period, Egypt's debt situation remains precarious, even as it is following a fiscal adjustment path with substantial improvement in the primary balance—the budget is generating a primary surplus equivalent to 2% of GDP over the projection period.

Table 4.07 Egypt's Projected Path of Macroeconomic Variables

Base Case							
Egypt	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	84,2%	89,9%	91,2%	86,2%	82,5%	78,8%	75,1%
Real GDP growth	5,6%	3,6%	2,5%	5,7%	5,6%	5,6%	5,8%
Inflation	13,6%	5,6%	5,2%	7,5%	6,0%	6,0%	6,0%
Effective interest rate	12,3%	12,1%	10,6%	10,1%	9,9%	9,6%	9,5%
Primary deficit (-= surplus)	-1,4%	-1,3%	-1,0%	-2,2%	-2,1%	-2,0%	-1,9%
Exchange rate depreciation	-6,0%	-3,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	77,2%	84,5%	84,5%	84,5%	84,5%	84,5%	84,5%
Income velocity of money demand	1,29	1,18	1,18	1,18	1,18	1,18	1,18
Interest rate/growth differential effect	-7,1%	2,3%	2,5%	-3,2%	-1,8%	-1,9%	-2,1%
of which interest rate effect	-1,9%	5,3%	4,7%	2,0%	3,1%	2,7%	2,5%
of which real GDP growth effect	-5,1%	-3,0%	-2,2%	-5,2%	-4,9%	-4,6%	-4,5%
Exchange rate depreciation effect	-6,2%	-2,8%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-11,1%	-0,5%	2,3%	-2,8%	-1,6%	-1,7%	-1,8%
Change in debt	**-12,4%**	**5,7%**	**1,3%**	**-5,0%**	**-3,7%**	**-3,7%**	**-3,7%**

Source: Author's calculation, based on the model presented in Annex 4A.

The IMF has characterized Egypt's debt in the base case[28] as sustainable but not with a high probability. The main risks are a slower-than-expected recovery from the COVID-19 pandemic, resulting in a less ambitious fiscal consolidation path, lower GDP growth, and a sustained increase in interest rates due to tightening financial conditions for emerging markets. Its total debt is projected to increase to 90% of GDP in FY 2020 before steadily declining to reach 75% by 2025 (Table 4.07). However, as shown below, the debt-to-GDP ratio could pick up to 94% of GDP by 2025 in the severe scenario with a macro-fiscal shock.

While Egypt has managed to lengthen its debt maturity and lower its borrowing interest rates in recent years, the debt service burden remains high due to the large debt stock, short-term debt profile, and large financing needs. Meanwhile, its export earnings continue to be adversely affected by the pandemic. In 2021, Egypt's economic growth is expected to continue its positive trend, with GDP growth estimated at about 2.8%.

28. See the IMF's Article IV Consultation on Egypt dated January 2021. The base case presented in this book is similar to the base case presented in that report.

The general government debt is estimated to increase from 84.2% in 2019 to 91% of GDP in 2021, reversing three years of continuous decline due to the COVID-19 fiscal package launched to support the health sector, as well as households and businesses.

The Case for Additional Fiscal Spending During 2021–2023

How much is this debt sustainability prospect affected by the absolutely necessary spending on COVID-19 vaccination and treatment? At the moment, Egypt's COVID-19 spending is below the average for lower-middle-income countries (5.5% of GDP, Table 2.A2, Chapter 2), so the country could take up at least the 0.4% of GDP required for treatment and vaccination while continuing the spending on the non-health sector (equivalent to 1.6% of GDP, see Table 2.A2 in Chapter 2) during 2021–2023. Table 4.08 shows what happens to the base case in that scenario. The debt-to-GDP ratio would peak at 93% in 2021 but will be brought down to about 81% by 2025 if the country continues to adhere to the fiscal adjustment path.

Table 4.08 Egypt: Expanding Fiscal Spending to Cover COVID-19 Vaccination and Treatment 2021–2023

Scenario 1							
Egypt	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt	84,2%	89,9%	93,2%	90,1%	88,4%	84,5%	80,7%
Real GDP growth	5,6%	3,6%	2,5%	5,7%	5,6%	5,6%	5,8%
Inflation	13,6%	5,6%	5,2%	7,5%	6,0%	6,0%	6,0%
Effective interest rate	12,3%	12,1%	10,6%	10,1%	9,9%	9,6%	9,5%
Primary deficit (-= surplus)	-1,4%	-1,3%	1,0%	-0,2%	-0,1%	-2,0%	-1,9%
Exchange rate depreciation	-6,0%	-3,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	0,772	0,845	0,845	0,845	0,845	0,845	0,845
Income velocity of money demand	1,29	1,18	1,18	1,18	1,18	1,18	1,18
Interest rate/growth differential effect	-7,1%	2,3%	2,5%	-3,2%	-1,9%	-2,1%	-2,2%
of which interest rate effect	-1,9%	5,3%	4,7%	2,0%	3,2%	2,9%	2,7%
of which real GDP growth effect	-5,1%	-3,0%	-2,2%	-5,3%	-5,1%	-4,9%	-4,9%
Exchange rate depreciation effect	-6,2%	-2,8%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-11,1%	-0,5%	2,3%	-2,9%	-1,7%	-1,8%	-2,0%
Change in debt	**-12,4%**	**5,7%**	**3,3%**	**-3,1%**	**-1,8%**	**-3,8%**	**-3,8%**

Source: Author's calculation.

It can be seen that for a lower-middle-income country like Egypt, fiscal spending to deal with COVID-19 vaccination and treatment is more manageable (0.4% of GDP) than many SSA countries, perhaps because the country has already started the path of vaccinations.

How Can Egypt Finance the Extra Spending?

Should the government borrow domestically or externally to finance this extra spending? This option is discussed in Annex 3A of Chapter 3, and each policy action carries policy implications. The distinction between foreign and domestic debt for a lower-middle-income country is blurry, and much depends on the state of the capital market development inside the country. If the country has a well-developed capital market, borrowing internally may make more sense; if the capital market is still in its infancy, the country may not have much of a choice other than to borrow abroad. Another way is seigniorage. The above scenario of economic growth, inflation, and velocity of money demand implies a significant seigniorage, which could be capitalized on.

One important resource is the IMF's newly created Special Drawing Rights (SDR) allocation of $650 billion to support global recovery from the COVID-19 crisis. Although it is still too early to find out how the new SDR allocation will be distributed to IMF member countries, it is possible that Egypt will receive an amount corresponding to its quotas in the fund. Egypt could also consider borrowing from international organizations to reduce its long-term debt burden.

Under What Conditions Would the Budget Burst?

The key variables for debt solvency and sustainability are GDP growth and interest rates (see Annex 3A in Chapter 3 for the reasons). In this section, we discuss what specific conditions would cause the debt-to-GDP ratio in Egypt to rise significantly, warning of debt solvency and sustainability. Table 4.09 shows this scenario where the debt ratio rises to 99% of GDP in 2023 but would decrease to 94% by 2025.

Table 4.09 Scenario 2 (Scenario 1 with lower GDP growth in 2021–2023 and higher interest rates)

Scenario 2							
Egypt	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	84,2%	89,9%	96,7%	97,1%	98,8%	96,7%	94,3%
Real GDP growth	5,6%	3,6%	0,5%	3,7%	3,6%	5,6%	5,8%
Inflation	13,6%	5,6%	5,2%	7,5%	6,0%	6,0%	6,0%
Effective interest rate	12,3%	12,1%	12,6%	12,1%	11,9%	11,6%	11,5%
Primary deficit (-= surplus)	-1,4%	-1,3%	1,0%	-0,2%	-0,1%	-2,0%	-1,9%
Exchange rate depreciation	-6,0%	-3,0%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	0,77	0,85	0,85	0,85	0,85	0,85	0,85
Income velocity of money demand	1,3	1,2	1,2	1,2	1,2	1,2	1,2
Interest rate/growth differential effect	-7,1%	2,3%	6,2%	0,6%	2,0%	-0,2%	-0,6%
of which interest rate effect	-1,9%	5,3%	6,6%	4,2%	5,5%	5,3%	5,0%
of which real GDP growth effect	-5,1%	-3,0%	-0,4%	-3,5%	-3,5%	-5,5%	-5,6%
Exchange rate depreciation effect	-6,2%	-2,8%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-11,1%	-0,5%	5,9%	0,6%	1,8%	-0,2%	-0,5%
Change in debt	**-12,4%**	**5,7%**	**6,9%**	**0,4%**	**1,7%**	**-2,2%**	**-2,4%**

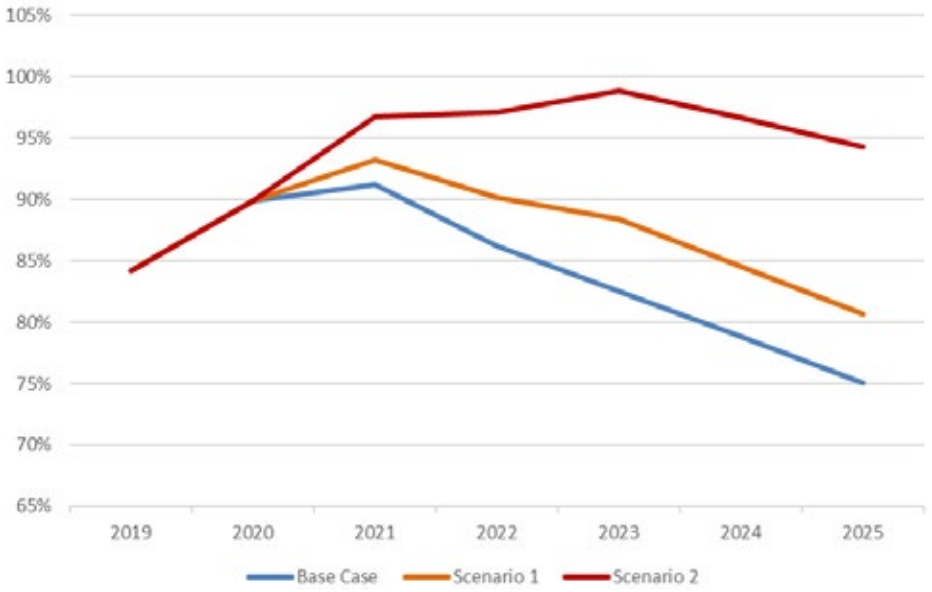
Source: Author's calculation.

In this scenario, GDP growth is reduced by two percentage points for 2021–2023 (assumed to be back at base case level in 2024), and interest rates are assumed to rise by two percentage points throughout, perhaps as a result of the Federal Reserve tapering off the large-scale asset purchases and similar actions by the ECB to deal with inflation.

Figure 4.05 shows the debt ratios for the base case, Scenario 1 and Scenario 2. While it is true that Egypt may not have a choice when it comes to saving the economy from collapsing under COVID-19, it is clear that the country will be in a debt distress situation. Here even the fiscal measures affecting the primary deficit in the base case will not be sufficient to restore sustainability. It can be seen that, while creating some apprehension in the short term when the debt-to-GDP ratio exceeds 95%, this Scenario 1 could still be manageable as long as the authorities adhere to the measures planned in the reform scenario to generate the needed fiscal discipline. This situation calls for rigorous

implementation of a medium-term expenditure framework. Of course, this assumes all other policies remain on track, as in the base case. For instance, if contingent liabilities (in the form of SOE losses) are mounting, fiscal policy would need to immediately find alternative sources of revenue—for instance, in the form of privatization.

Figure 4.05 Egypt's Debt Ratios for Base, Scenario 1, Scenario 2



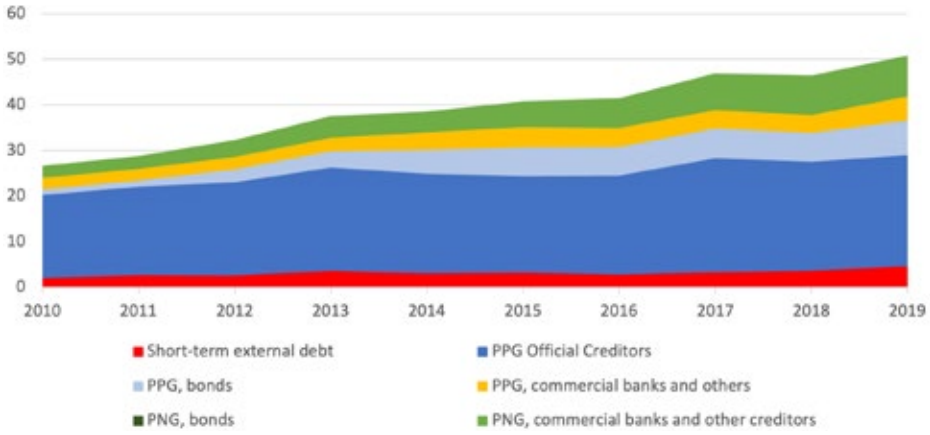
Source: Author's calculations.

Should new COVID-19 variants cause fiscal spending to rise, Egypt will be subject to the vulnerability caused by its debt structure dynamics. Yet, the country will need to preserve its labor force during the crisis and prepare for the pending recovery. In the medium term, no matter what scenario, Egypt's debt situation is precarious and requires close monitoring.

Morocco

Morocco's debt structure at the end of 2019 reflects the general tendency of many lower-middle-income countries to increasingly rely on commercial creditors, both PPG and non-guaranteed. Among the PPG creditors, bonds have become more important than commercial banks (Figure 4.06), while most non-guaranteed creditors are commercial banks.

Figure 4.06 Morocco's Composition of external debt (USD Billion) 2010–2019



Source: World Bank, 2021 International Debt Statistics

Since the pandemic began, Morocco has rapidly accessed emergency funding from donors, including three billion USD from the International Monetary Fund and 460 million USD from the African Development Bank to cope with the pandemic. In September 2020, Morocco also issued one billion Eurobonds. These inflows bolstered foreign exchange reserves, which are sufficient to cover more than eight months of imports and three times the debt due in the short term. General government debt carries a maturity of more than six years, and more than half of Morocco's external debt is owed to multilateral institutions.

The Base Case

Morocco's initial fiscal position before COVID-19 was better than Egypt's; the debt-to-GDP ratio was almost 20 percentage points lower in 2019, but the crisis brought on significant indebtedness (Table 4.10) in 2020 and beyond. The gross public debt-to-GDP ratio is expected to reach 78% in 2024 before starting to decline.

Table 4.10 Morocco's Projected Path of Macroeconomic Variables

Base Case							
Morocco	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	65,2%	76,4%	78,3%	77,9%	77,0%	77,5%	77,3%
Real GDP growth	2,5%	-7,0%	4,5%	3,9%	3,7%	3,6%	3,6%
Inflation	1,3%	0,9%	2,0%	5,0%	5,0%	2,0%	2,0%
Effective interest rate	3,9%	3,9%	3,9%	3,9%	3,9%	3,9%	3,9%
Primary deficit (-= surplus)	1,5%	5,1%	3,8%	3,3%	2,6%	1,8%	1,1%
Exchange rate depreciation	2,5%	-1,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	119,1%	138,5%	138,5%	138,5%	138,5%	138,5%	138,5%
Income velocity of money demand	0,84	0,72	0,72	0,72	0,72	0,72	0,72
Interest rate/growth differential effect	0,0%	6,6%	-2,0%	-4,0%	-3,9%	-1,4%	-1,4%
of which interest rate effect	1,7%	2,0%	1,4%	-1,0%	-1,0%	1,4%	1,4%
of which real GDP growth effect	-1,6%	4,6%	-3,4%	-3,1%	-2,9%	-2,8%	-2,8%
Exchange rate depreciation effect	1,7%	-0,8%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	1,7%	6,2%	-1,9%	-3,7%	-3,5%	-1,3%	-1,3%
Change in debt	**3,2%**	**11,3%**	**1,9%**	**-0,4%**	**-1,0%**	**0,5%**	**-0,2%**

Source: Author's calculation.

In Scenario 1, we assume Morocco will undertake the necessary fiscal spending to vaccinate its population and treat those infected. Table 4.11 shows this scenario. The gross public debt-to-GDP ratio would rise to 85% in 2025. Here, the automatic debt dynamic term does not strongly favor Morocco, as growth is still expected to remain moderate at between 3–4% p.a. Certainly, if this growth can accelerate to 5–6%, the debt-to-GDP ratio would drop significantly.

Table 4.11 Morocco: Expanding Fiscal Spending to Cover COVID-19 Vaccination and Treatment 2021–2023

Scenario 1							
Morocco	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt	65,2%	76,4%	81,1%	83,3%	84,8%	85,2%	84,9%
Real GDP growth	2,5%	-7,0%	4,5%	3,9%	3,7%	3,6%	3,6%
Inflation	1,3%	0,9%	2,0%	5,0%	5,0%	2,0%	2,0%
Effective interest rate	3,9%	3,9%	3,9%	3,9%	3,9%	3,9%	3,9%
Primary deficit (-= surplus)	1,5%	5,1%	6,5%	6,1%	5,3%	1,8%	1,1%
Exchange rate depreciation	2,5%	-1,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	1,19	1,39	1,39	1,39	1,39	1,39	1,39
Income velocity of money demand	0,84	0,72	0,72	0,72	0,72	0,72	0,72
Interest rate/growth differential effect	0,0%	6,6%	-2,0%	-4,2%	-4,1%	-1,5%	-1,5%
of which interest rate effect	1,7%	2,0%	1,4%	-1,0%	-1,0%	1,6%	1,6%
of which real GDP growth effect	-1,6%	4,6%	-3,4%	-3,2%	-3,1%	-3,1%	-3,1%
Exchange rate depreciation effect	1,7%	-0,8%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	1,7%	6,2%	-1,9%	-3,8%	-3,8%	-1,4%	-1,4%
Change in debt	**3,2%**	**11,3%**	**4,6%**	**2,2%**	**1,5%**	**0,4%**	**-0,3%**

Source: Author's calculation.

Morocco's worst-case scenario, in which case both the GDP growth rate and interest rates are changed, is shown in Table 4.12. The debt ratio would reach 94–97% in the period 2023–2025.

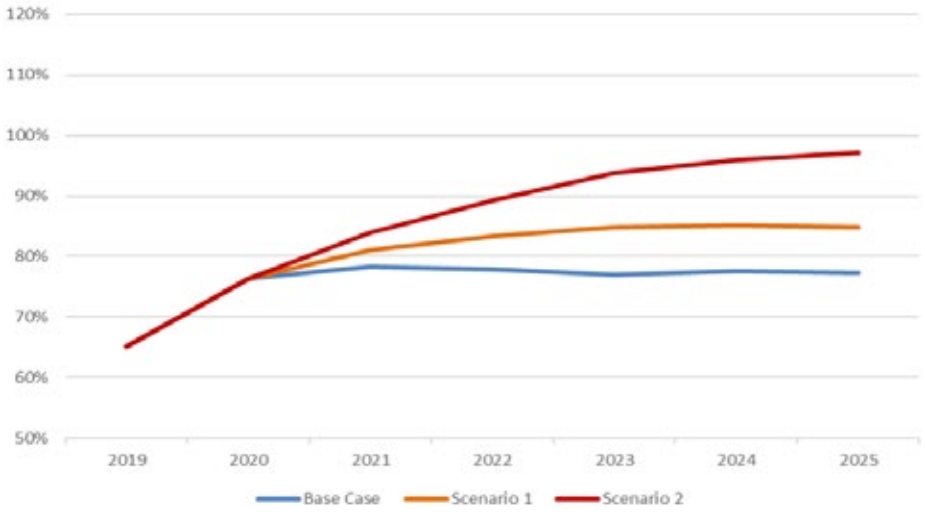
Table 4.12 Morocco Scenario 2 (Scenario 1 with reduced GDP growth in 2021–2023 and higher interest rates)

Scenario 2							
Morocco	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	65,2%	76,4%	84,0%	89,2%	93,8%	95,9%	97,2%
Real GDP growth	2,5%	-7,0%	2,5%	1,9%	1,7%	3,6%	3,6%
Inflation	1,3%	0,9%	2,0%	5,0%	5,0%	2,0%	2,0%
Effective interest rate	3,9%	3,9%	5,9%	5,9%	5,9%	5,9%	5,9%
Primary deficit (-= surplus)	1,5%	5,1%	6,5%	6,1%	5,3%	1,8%	1,1%
Exchange rate depreciation	2,5%	-1,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	1,19	1,39	1,39	1,39	1,39	1,39	1,39
Income velocity of money demand	0,8	0,7	0,7	0,7	0,7	0,7	0,7
Interest rate/growth differential effect	0,0%	6,6%	1,1%	-0,9%	-0,8%	0,2%	0,2%
of which interest rate effect	1,7%	2,0%	3,0%	0,7%	0,8%	3,7%	3,7%
of which real GDP growth effect	-1,6%	4,6%	-1,9%	-1,6%	-1,5%	-3,4%	-3,5%
Exchange rate depreciation effect	1,7%	-0,8%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	1,7%	6,2%	1,0%	-0,8%	-0,7%	0,2%	0,2%
Change in debt	**3,2%**	**11,3%**	**7,6%**	**5,2%**	**4,6%**	**2,0%**	**1,3%**

Source: Author's calculation.

The overall conclusion of this debt analysis is that, like Egypt, Morocco's debt situation remains precarious. Yet, COVID-19 fiscal spending is both necessary and unavoidable. Should the external conditions worsen, resulting in a growth slowdown and/or higher borrowing costs, Morocco's debt situation could deteriorate rapidly and would need to be monitored closely. Table 4.12 shows that Morocco's automatic debt dynamics component would add to the increase in the debt ratio. Figure 4.07 shows the debt ratios in the Base Case, Scenario 1, and Scenario 2.

Figure 4.07 Morocco's Debt Ratios for Base, Scenario 1, Scenario 2



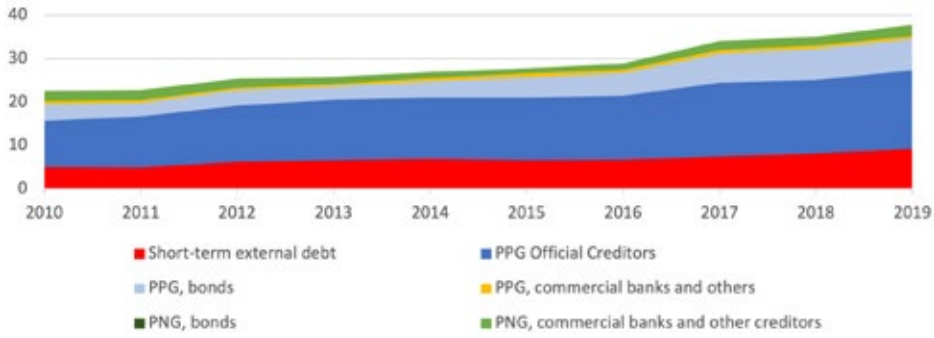
Source: Author's calculations.

While the central government's debt-to-GDP ratio is expected to have increased in 2020 by about 11.2 percentage points relative to 2019, a few characteristics of Morocco's debt stock help to limit potential vulnerabilities—in particular: i) its relatively long maturity (weighted average maturity of about 7.5 years); ii) the relatively low share denominated in foreign currencies (about 25%); and iii) the investment base made up mostly of local investors, many of whom are long-term investors. Thanks to such features and its solid track record and favorable ratings, Morocco's government has maintained steady access to international capital markets at favorable terms over the last 10 years and, more recently, after the COVID-19 crisis. After increasing to 400 basis points (bps) in March, the spread has since fallen; November was close to the last 10-year average of 220 bps. A gradual process of fiscal adjustment and the continued implementation of structural reforms should help the debt-to-GDP ratio return to a downward trajectory over the medium term.

Tunisia

Tunisia's external debt structure (Figure 4.08) shows two broad trends over the 2010–2019 period. First, there was a shift to commercial sources, especially public and publicly guaranteed bonds (the light blue area in Figure 4.08). Second, short-term debt, both in absolute and relative terms, has risen (Figure 4.08).

Figure 4.08 Tunisia's Composition of External Debt (USD Billion) 2010–2019



Source: World Bank, 2021 International Debt Statistics.

Tunisian public debt, 70% of which is external, reached over 100% of GDP in 2020, continuing the rapid upward trend that began in 2011. The cost of servicing that debt absorbs around 28% of the budget and 15% of exports, therefore constraining other developmental spending. The financial difficulties of public establishments and enterprises are another area of concern. At the end of 2019, the debt of public enterprises represented 13% of GDP. Because of the high concentration of external debt, Tunisia is the most vulnerable to exogenous shocks among North African countries.

The Base Case

In the base case, Tunisia's debt-to-GDP ratio still remains above 85% during 2021–2025 (Table 4.13), despite a valiant effort to reduce the primary fiscal deficit from over 7% of GDP in 2020 to virtually zero by 2025. The country's debt, therefore, remains in a precarious situation.

Table 4.13 Tunisia Base Case

Base Case							
Tunisia Base Case	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	71,8%	84,1%	85,6%	85,2%	85,8%	85,7%	85,2%
Real GDP growth	1,0%	-8,2%	3,8%	2,4%	2,0%	1,8%	1,8%
Inflation	7,1%	5,4%	5,9%	6,2%	5,0%	5,0%	5,0%
Effective interest rate	3,9%	4,5%	4,3%	4,5%	5,2%	5,6%	5,9%
Primary deficit (-= surplus)	1,1%	7,2%	5,9%	3,0%	2,0%	1,0%	0,3%

Exchange rate depreciation	10,9%	-4,2%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	73,4%	84,5%	84,5%	84,5%	84,5%	84,5%	84,5%
Income velocity of money demand	1,36	1,18	1,18	1,18	1,18	1,18	1,18
Interest rate/growth differential effect	-3,3%	5,6%	-4,7%	-3,7%	-1,6%	-1,2%	-0,8%
of which interest rate effect	-2,6%	-0,3%	-1,5%	-1,6%	0,1%	0,4%	0,7%
of which real GDP growth effect	-0,8%	5,9%	-3,2%	-2,1%	-1,7%	-1,6%	-1,5%
Exchange rate depreciation effect	8,7%	-3,1%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	5,0%	2,5%	-4,3%	-3,4%	-1,5%	-1,1%	-0,8%
Change in debt	**6,1%**	**12,2%**	**1,5%**	**-0,4%**	**0,5%**	**-0,1%**	**-0,5%**

Source: Author's calculation.

As discussed earlier, the fiscal spending associated with COVID-19 vaccination and treatment is both necessary and unavoidable. This health-related expenditure, along with the non-health sector spending on COVID-19 (2.7% of GDP per annum) and other spending, would result in the gross public debt-to-GDP ratio reaching a peak of 96% in 2023 before declining to 95% in 2025 (Table 4.14).

Table 4.14 Tunisia Scenario 1: Expanding Fiscal Spending to Cover COVID-19 Vaccination and Treatment 2021–2023

Scenario 1							
Tunisia	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt	71,8%	84,1%	89,0%	91,9%	95,7%	95,5%	94,9%
Real GDP growth	1,0%	-8,2%	3,8%	2,4%	2,0%	1,8%	1,8%
Inflation	7,1%	5,4%	5,9%	6,2%	5,0%	5,0%	5,0%
Effective interest rate	3,9%	4,5%	4,3%	4,5%	5,2%	5,6%	5,9%
Primary deficit (-= surplus)	1,1%	7,2%	9,2%	6,4%	5,4%	1,0%	0,3%
Exchange rate depreciation	10,9%	-4,2%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	0,734	0,845	0,845	0,845	0,845	0,845	0,845
Income velocity of money demand	1,36	1,18	1,18	1,18	1,18	1,18	1,18
Interest rate/growth differential effect	-3,3%	5,6%	-4,7%	-3,8%	-1,7%	-1,3%	-0,9%

of which interest rate effect	-2,6%	-0,3%	-1,5%	-1,6%	0,1%	0,5%	0,8%
of which real GDP growth effect	-0,8%	5,9%	-3,2%	-2,2%	-1,8%	-1,8%	-1,7%
Exchange rate depreciation effect	8,7%	-3,1%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	5,0%	2,5%	-4,3%	-3,5%	-1,6%	-1,2%	-0,9%
Change in debt	**6,1%**	**12,2%**	**4,9%**	**2,9%**	**3,8%**	**-0,2%**	**-0,5%**

Source: Author's calculation.

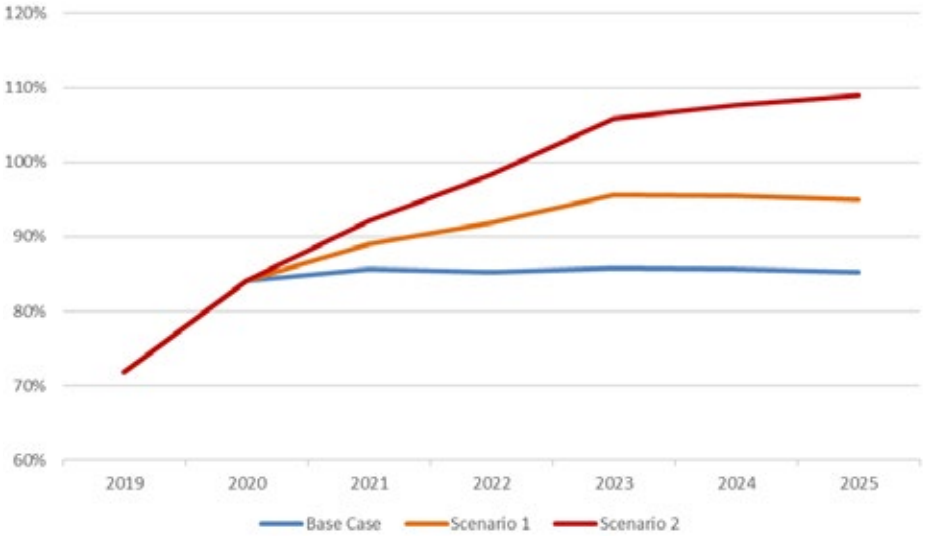
However, in the worst-case scenario, with slower GDP growth in 2021–2023 and higher interest rates, Tunisia's debt-to-GDP ratio would reach over 105% during 2023–2025, as shown in Table 4.15 below.

Table 4.15 Tunisia Scenario 2 (Scenario 1 with GDP growth reduced and higher interest rates)

Scenario 2							
Tunisia	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	71,8%	84,1%	92,1%	98,4%	105,9%	107,6%	109,0%
Real GDP growth	1,0%	-8,2%	1,8%	0,4%	0,0%	1,8%	1,8%
Inflation	7,1%	5,4%	5,9%	6,2%	5,0%	5,0%	5,0%
Effective interest rate	3,9%	4,5%	6,3%	6,5%	7,2%	7,6%	7,9%
Primary deficit (-= surplus)	1,1%	7,2%	9,2%	6,4%	5,4%	1,0%	0,3%
Exchange rate depreciation	10,9%	-4,2%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	0,73	0,84	0,84	0,84	0,84	0,84	0,84
Income velocity of money demand	1,4	1,2	1,2	1,2	1,2	1,2	1,2
Interest rate/growth differential effect	-3,3%	5,6%	-1,3%	-0,1%	2,2%	0,8%	1,1%
of which interest rate effect	-2,6%	-0,3%	0,2%	0,3%	2,2%	2,8%	3,0%
of which real GDP growth effect	-0,8%	5,9%	-1,5%	-0,4%	0,0%	-2,0%	-1,9%
Exchange rate depreciation effect	8,7%	-3,1%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	5,0%	2,5%	-1,2%	-0,1%	2,1%	0,7%	1,1%
Change in debt	**6,1%**	**12,2%**	**8,1%**	**6,3%**	**7,5%**	**1,8%**	**1,4%**

Source: Author's calculation.

Figure 4.09 Tunisia's debt-to-GDP ratios under various scenarios



Source: Author's calculations

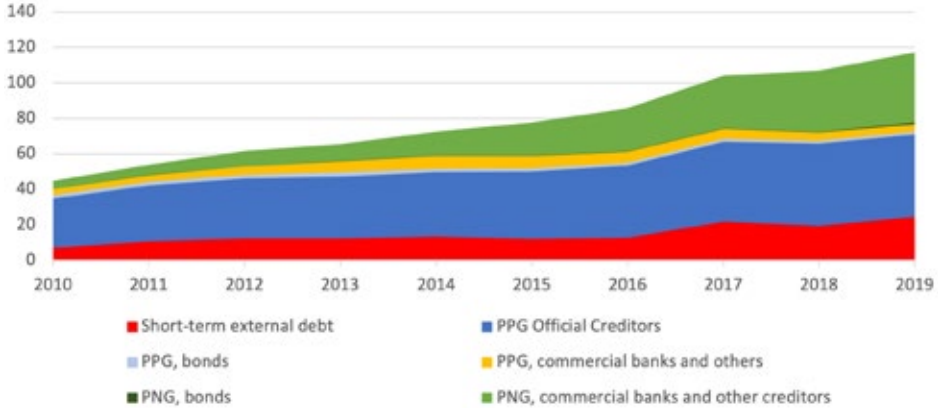
The analysis here clearly demonstrates that Tunisia remains vulnerable to shocks coming from the debt dynamic as well as from additional fiscal spending required for COVID-19 vaccines and treatment. More importantly, should developments in GDP growth rates and interest rates turn out unfavorable for Tunisia, the country will be in debt distress.

Tunisia's public debt is further complicated by SOE-contingent liabilities and guarantees, financing risks, and the real effective exchange rate (REER) overvaluation. In the absence of a credible medium-term framework, the IMF staff forecasts that the central government debt will continue to gradually increase to reach close to 100% of GDP over the medium term. Gross public financing needs would stay in an elevated range of 14–18% of GDP annually. In addition to the rising indebtedness, public debt sensitivity to shocks has also increased, with the most significant risk coming from exchange rate depreciation, especially if combined with sustained lower growth.

Vietnam

Figures 4.10 and 4.11 show Vietnam's structure of external and internal debt, respectively. While Vietnam's external debt rose quickly between 2010 and 2019, most of the increase came from non-guaranteed creditor sources, mostly in the form of commercial banks. Very few international bonds are outstanding at the moment (less than $4 billion as of mid-2021).

Figure 4.10 Vietnam Composition of external debt (USD Billion) 2010–2019

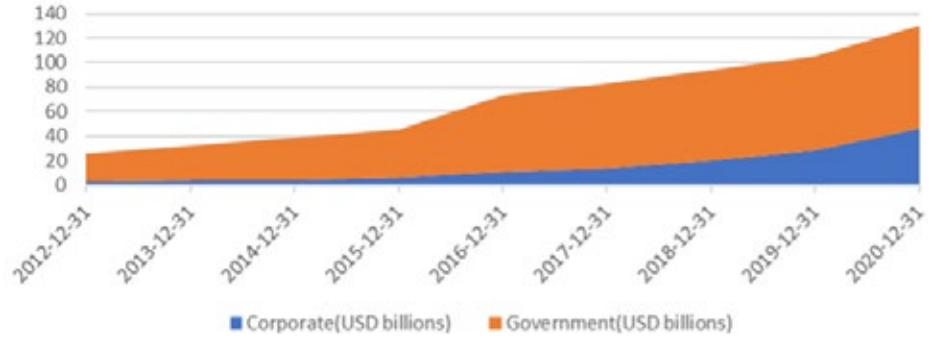


Source: World Bank, 2021 International Debt Statistics.

In fact, Vietnam has relied on the domestic bond market to finance most of its deficit since at least 2012. Figure 4.11 shows that since 2012, when data was first available from Vietnam's Ministry of Finance, both corporate and government domestic bonds have grown rapidly at almost 23 % per annum.

Vietnam's domestic debt consists of treasury securities and SOEs debt. At the end of 2020, Vietnam had about 130 billion USD (48% of GDP) in outstanding domestic bonds according to data from the Ministry of Finance and the Asian Development Bank—about 36% of which were issued by corporations and the rest by the general government. The interest rates on this outstanding debt stock have been low. Hence, Vietnam has relied on domestic financial repression to finance its budget deficits.

Figure 4.11 Vietnam Domestic Bonds Outstanding (USD Billion) 2012–2021



Source: Ministry of Finance and Asian Development Bank, 2021.

In the base case presented in Table 4.16 below, we keep the same assumptions as the IMF (2021) and focus on two major components affecting the public sector debt ratio, namely the primary deficit (budget deficit net of interest payments) and automatic debt dynamics. The primary deficit will be directly affected by COVID-19 spending, while the debt dynamics will be affected by the interest rate effect and GDP growth rate effect. Note that 2019 and 2020 data are actual, and 2021 and beyond are projected.

Table 4.16 Vietnam Base Case

Base Case							
Vietnam	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	43,4%	47,9%	51,7%	51,0%	50,2%	49,0%	47,7%
Real GDP growth	7,0%	2,9%	2,5%	7,2%	7,0%	6,8%	6,6%
Inflation	2,2%	0,4%	0,3%	4,5%	4,6%	4,9%	4,7%
Effective interest rate	4,1%	3,9%	3,6%	3,6%	3,7%	4,0%	4,2%
Primary deficit (-= surplus)	1,9%	4,0%	3,4%	3,2%	2,9%	2,5%	2,0%
Exchange rate depreciation	2,0%	0,7%	0,00	0,00	0,00	0,00	0,00
Base money/GDP	138,1%	152,1%	152,1%	152,1%	152,1%	152,1%	152,1%
Income velocity of money demand	0,7	0,7	0,7	0,7	0,7	0,7	0,7
Interest rate/growth differential effect	-2,3%	0,2%	0,4%	-4,4%	-4,2%	-4,1%	-3,7%
of which interest rate effect	0,8%	1,5%	1,6%	-0,7%	-0,6%	-0,6%	-0,4%
of which real GDP growth effect	-3,1%	-1,3%	-1,2%	-3,7%	-3,5%	-3,4%	-3,2%
Exchange rate depreciation effect	0,9%	0,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-1,3%	0,5%	0,4%	-3,9%	-3,7%	-3,6%	-3,3%
Change in debt ratio	**0,6%**	**4,5%**	**3,8%**	**-0,7%**	**-0,9%**	**-1,2%**	**-1,3%**

Source: Author's calculations.

This scenario shows a debt-to-GDP ratio below 50% throughout the projected period; hence, the country is not in an unsustainable external debt position.

How much is this debt sustainability prospect affected by COVID-19 vaccinations and treatment? Vietnam's spending on COVID-19 (1.5% of GDP) thus far remains below the international average, particularly compared to countries at the same level of economic development. In Scenario 1, Vietnam

is assumed to spend at least 0.6% of GDP on COVID-19 vaccinations and treatment and an additional 1.5% of GDP on non-health spending to cope with COVID-19 between 2021–2023. Table 4.17 shows this scenario where the gross public debt reaches 56% of GDP in 2023, a high but manageable debt situation.

Table 4.17 Vietnam Expanding Fiscal Spending to Cover COVID-19 Vaccination and Treatment 2021–2023

Scenario 1							
Vietnam	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**
Gross public debt (% of GDP)	43,4%	47,9%	53,7%	54,8%	55,6%	54,1%	52,4%
Real GDP growth	7,0%	2,9%	2,5%	7,2%	7,0%	6,8%	6,6%
Inflation	2,2%	0,4%	0,3%	4,5%	4,6%	4,9%	4,7%
Effective interest rate	4,1%	3,9%	3,6%	3,6%	3,7%	4,0%	4,2%
Primary deficit (-= surplus)	1,9%	4,0%	5,4%	5,2%	4,8%	2,5%	2,0%
Exchange rate depreciation	2,0%	0,7%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	138,1%	152,1%	152,1%	152,1%	152,1%	152,1%	152,1%
Income velocity of money demand	0,7	0,7	0,7	0,7	0,7	0,7	0,7
Interest rate/growth differential effect	-2,3%	0,2%	0,4%	-4,5%	-4,5%	-4,5%	-4,0%
of which interest rate effect	0,8%	1,5%	1,6%	-0,7%	-0,7%	-0,7%	-0,5%
of which real GDP growth effect	-3,1%	-1,3%	-1,2%	-3,9%	-3,8%	-3,8%	-3,6%
Exchange rate depreciation effect	0,9%	0,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-1,3%	0,5%	0,4%	-4,1%	-4,0%	-4,0%	-3,6%
Change in debt ratio	**0,6%**	**4,5%**	**5,8%**	**1,1%**	**0,8%**	**-1,6%**	**-1,6%**

Source: Author's calculations.

What would be worrisome is if Scenario 1 is combined with slower economic growth and interest rate increases, perhaps as a result of new COVID-19 variants ravaging the labor supply and/or the Federal Reserve tapering off large-scale asset purchases. Table 4.18 shows Scenario 2, where GDP growth is reduced by two percentage points from 2021–2023 and interest rates are raised by two percentage points throughout the projected period. In this case, the debt-to-GDP ratio approaches 61% in 2023 and only reaches below 60% in 2025, which is the critical ratio set by the government.

Table 4.18 Vietnam Scenario 2 (Scenario 1 with GDP growth reduced and higher interest rates)

Scenario 2							
Vietnam	2019	2020	2021	2022	2023	2024	2025
Gross public debt (% of GDP)	43,4%	47,9%	55,6%	58,6%	61,2%	60,4%	59,4%
Real GDP growth	7,0%	2,9%	0,5%	5,2%	5,0%	6,8%	6,6%
Inflation	2,2%	0,4%	0,3%	4,5%	4,6%	4,9%	4,7%
Effective interest rate	4,1%	3,9%	5,6%	5,6%	5,7%	6,0%	6,2%
Primary deficit (-= surplus)	1,9%	4,0%	5,4%	5,2%	4,8%	2,5%	2,0%
Exchange rate depreciation	2,0%	0,7%	0,0%	0,0%	0,0%	0,0%	0,0%
Base money/GDP	1,38	1,52	1,52	1,52	1,52	1,52	1,52
Income velocity of money demand	0,7	0,7	0,7	0,7	0,7	0,7	0,7
Interest rate/growth differential effect	-2,3%	0,2%	2,3%	-2,4%	-2,4%	-3,7%	-3,3%
of which interest rate effect	0,8%	1,5%	2,6%	0,5%	0,5%	0,5%	0,7%
of which real GDP growth effect	-3,1%	-1,3%	-0,2%	-2,9%	-2,9%	-4,2%	-4,0%
Exchange rate depreciation effect	0,9%	0,3%	0,0%	0,0%	0,0%	0,0%	0,0%
Automatic debt dynamics	-1,3%	0,5%	2,3%	-2,2%	-2,2%	-3,3%	-3,0%
Change in debt	**0,6%**	**4,5%**	**7,7%**	**3,0%**	**2,6%**	**-0,8%**	**-1,0%**

Source: Author's calculations.

Therefore, the case of Vietnam dealing with COVID-19 could be considered a very conservative one indeed. Of all the fiscal measures taken by the Vietnamese government, cash transfers remain the most important and urgent policy to help the poor. This is especially true in the informal sector, where physical contact is most important and workers are most affected.

The Three Debt Scenarios for Selected Lower-Middle-Income Countries

Figure 4.12 shows the detailed base case, Scenario 1, and Scenario 2 for all 11 low- and lower-middle-income countries reviewed in this chapter.

Figure 4.12 Debt-to-GDP Ratios of the Base Case, Scenario 1, and Scenario 2 for the 11 countries

Source: Author's calculations

Summary of the debt analysis:

- Developing countries' external debt increased significantly in 2020 after the COVID-19 crisis. It is estimated that the debt of low-income developing countries increased by about five percentage points of GDP compared to about 10 percentage points for emerging economies and 16 percentage points for advanced countries.
- Yet, this is only the beginning for developing countries because greater fiscal spending will be needed to overcome the crisis through vaccine acquisition and deployment and treatment of the infected population. This chapter's analysis shows that most low-income and lower-middle-income countries will be under debt stress when facing Scenario 1 (adjustment scenario but with additional fiscal spending for COVID-19 vaccinations and treatment), with the debt-to-GDP ratio exceeding 65%. Out of the 11 countries studied, only four (Cote d'Ivoire, Ethiopia, the Philippines, and Vietnam) would have their debt ratios drop below 65% by 2025. The ratios for the remainder of the countries will continue to stay above 75%. A few countries will experience liquidity issues, but most face solvency problems that require addressing the debt stock issue.
- The developing countries are facing a stark choice between avoiding a collapse through vaccinating at all costs and risking further debt distress. The debt situation will be made worse if global economic growth slows down while borrowing costs rise as a result of monetary policy tightening in the developed economies. Most developing countries will face serious debt difficulties if this combination is to happen.
- As a result of the pandemic, inequality within and without countries will rise, calling for fiscal measures to reduce the degree of inequity.

Conclusion

Prior to the pandemic, developing countries' debt problems came from slow growth, unproductive use of debt, and borrowing on commercial terms, which entail high costs and short maturity. The two components affecting the debt ratio directly are the primary deficit and automatic debt dynamics term. The former is the most direct and can affect the ratio significantly. The latter can be a potent force when international lending conditions turn against a country, especially combined with lower growth.

Until now, fiscal spending by developing countries to cope with COVID-19 has been very relatively low compared to the developed economies, not because

the pandemic is less devastating but because of resource constraints and lack of access to the right vaccines and treatment. But until COVID-19 is under control, these countries have no chance to recover, so spending on COVID-19 vaccines and treatment will be a priority in 2022–2023. In addition, priority has to be placed on protecting the labor supply, especially in the informal sector.

Should the government borrow domestically or externally to finance this extra spending? In countries where the capital market is still in its infancy, policymakers may not have many choices but to borrow from abroad. In this regard, developing countries should take advantage of the IMF's new Special Drawing Rights (SDR) allocation (countries do not have to repay for this allocation specifically designed for COVID-19) supplemented by borrowing from international organizations to lengthen maturities and reduce borrowing costs. Some countries, such as Algeria and Vietnam, have continued to use financial repression to finance the budget deficit, but there are high risks that the continuing budget monetization would lead to higher inflationary pressures.

An important portion of the potential increase in fiscal spending could and should be used for cash transfers to help the vulnerable groups most adversely affected by COVID-19: the poor and workers in the informal sector (especially the services sectors: street vendors, coffee stands, restaurants, transportation), where physical contact is unavoidable. The most difficult part remains the microeconomic aspects of cash transfers: how to transfer this money most effectively and transparently to the targeted population to reduce the pandemic's scarring effects on the labor force and the country's long-term productivity while preserving and protecting the lives of the poor.

The COVID-19 crisis has increased external vulnerabilities and markedly reduced external buffers. The necessary containment measures implemented to slow the pandemic›s spread led to a significant erosion of fiscal space. The shift in debt structure from official bilateral to private creditors, mainly Eurobond and commercial sources, to finance the budget and current account deficits has raised the costs of debt service and increased its sensitivity to interest rate and exchange rate movements. In the short to medium term, some economies will be liquidity-constrained to meet financial obligations as the pandemic continues beyond 2021, which it most likely will with the new variants.

Currently, there is no debt workout framework for middle-income countries. Such a framework would require efforts from all sides. From the creditor side, continuing support to help North Africa overcome the crisis, including debt relief linked to investments where relevant. From the debtor side, there is a need to develop and implement a medium-term debt framework to ensure continuing sustainability of both domestic and external debt. In the longer term, North

African governments should develop the necessary skills to be more proactively involved with lead issuance advisers in managing the bond negotiations for lower interest rates. They should also be more actively involved in exercising their choice of accepting or rejecting investors' bids.

Annex 4A Derivation Of The Debt Sustainability Model Of The Bretton Woods Institutions

In theory, the concept of debt sustainability is widely understood and accepted; in practice, different practitioners use different definitions. Here, we use a simple debt sustainability model based on the formal model used by the IMF/World Bank[29] for their analysis of country debt sustainability, modified to take into account the amount of seigniorage.

Let

$$D_t = (1 + i_t^d)(1 - \alpha)D_{t-1} + (1 + i_t^f)\,\alpha e\, D_{t-1} + PD_t - MC_t \ldots (1)$$

where D_t is the total public debt of a country in period t, i_t^d is the domestic interest rate in period is the proportion of total debt held by foreign residents in the previous period (hence, a constant in the current period), i_t^f is the nominal interest rate abroad, e is the exchange rate and ϵ is the exchange rate devaluation, r_t is other factors affecting debt, such as primary deficit, contingent liabilities, etc., PD_t is the primary deficit, and MC_t is money creation (change in monetary base)

Let

$$Y_t = Y_{t-1}\,(1 + g)\; P_t = P_{t-1}(1 + \pi)$$

where Y_t is real GDP in period t, g is real GDP growth, P_t is price level, and π is inflation rate.

$$Y_t P_t = (1 + g)(1 + \pi)Y_{t-1}P_{t-1} \ldots (2)$$

Divide (1) by $Y_t P_t$

$$\frac{D_t}{Y_t P_t} = (1 + i_t^d)(1 - \alpha)\frac{D_{t-1}}{Y_t P_t} + (1 + i_t^f)\,\alpha e\frac{D_{t-1}}{Y_t P_t} + pd_t - s_t \ldots (3)$$

where pd_t is $\frac{PD_t}{Y_t P_t}$, and s_t is the ratio of seigniorage to GDP.

29. See, for instance, Acosta-Ormaechea and Martinez (2021).

Let $\Delta = (1+g)(1+\pi)$ and $d_t = \frac{D_t}{Y_t P_t}$ and $d_t = \frac{D_t}{Y_t P_t}$ and utilizing (2) $\frac{D_{t-1}}{Y_t P_t} = \frac{D_{t-1}}{\Delta * Y_{t-1} P_{t-1}} = \frac{d_{t-1}}{\Delta}$, then (3) becomes

$$d_t = \frac{(1+i_t^d)(1-\alpha)}{\Delta} d_{t-1} + \frac{(1+i_t^f)\,\alpha e}{\Delta} d_{t-1} + pd_t - s_t \ldots (4)$$

Let $e_t = (1+\epsilon)e_{t-1}$

so (4) becomes

$$d_t = \frac{(1-\alpha)(1+i_t^d)}{\Delta} d_{t-1} + \frac{(1+i_t^f)\alpha(1+\epsilon)}{\Delta} d_{t-1} + pd_t - s_t \ldots (5)$$

$$d_t = \left[\frac{(1-\alpha)(1+i_t^d) + (1+i_t^f)\alpha(1+\epsilon)}{\Delta}\right] d_{t-1} + pd_t - s_t \ldots (6)$$

Subtracting d_{t-1} from both sides of equation (6) yields

$$d_t - d_{t-1} = \left[\frac{(1-\alpha)(1+i_t^d) + \alpha(1+i_t^f)(1+\epsilon) - \{(1+g)(1+\pi)\}}{\Delta}\right] d_{t-1} + pd_t - s_t \ldots (7)$$

$$= \left[\frac{\{(1-\alpha)(1+i_t^d) + \pi(1+g) - 1 + \alpha(1+i_t^f) + \epsilon\alpha(1+i_t^f) - g\}}{\Delta}\right] d_{t-1} + pd_t - s_t \ldots (8)$$

The term $\frac{(1-\alpha)(1+i_t^d) - \pi(1+g) - 1 + \alpha(1+i_t^f)}{\Delta}$ is the contribution of the effective interest rate. When $i_t^d = i_t^f$, this becomes $i_t^f - \pi(1+g)$.

For $i_t^d = i_t^f$, equation 8 becomes

$$d_t - d_{t-1} = \left[\frac{i_t^f - \pi(1+g) - g + \epsilon\alpha(1+i_t^f)}{(1+g)(1+\pi)}\right] d_{t-1} + pd_t - s_t \ldots (9)$$

The term $\frac{\epsilon\alpha(1+i_t^f)}{\Delta}$ denotes the exchange rate effect.

The term $\frac{g}{\Delta}$ denotes GDP growth contribution.

Note that if there is no change in real debt stock $d_t = d_{t-1}$ then a sustainable budget has to generate a primary surplus equal to

$$= \left[\frac{\{(1-\alpha)(1+i_t^a) - \pi(1+g) - 1 + \alpha(1+i_t^f) + \epsilon\alpha(1+i_t^f) - g\}}{\Delta}\right] d_{t-1} - s_t$$

Note that s_t, the seigniorage term, includes both inflation tax and the real growth in demand for base money:

$s_t = \frac{\pi+g}{v}$, where v is the velocity of base money. Or, in the case of $i_t^a = i_t^f$

$$-pd = \left[\frac{i_t^f - \pi(1+g) - g + \epsilon\alpha(1+i_t^f)}{(1+g)(1+\pi)}\right] d_{t-1} - s_t$$

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Chapter 5

A Priority Program of Policy Actions and Longer-Term Growth Issues

Policy programs that existed or were designed before COVID-19 are no longer valid in the presence of the pandemic. Developing countries need to focus on a priority program of policy actions covering the short- term (2021-2023) to survive the pandemic and the medium-term (2023-2025) to ensure full economic recovery. Even then, it is still important to lay the groundwork for addressing the long-term growth issues as the last chapter has brought out the importance of economic growth for assessing a country's external and internal debt solvency and sustainability. While the automatic debt dynamics depends on both the GDP growth rate and international interest rates, it is the economic growth rate that is under the developing countries' control.

A Priority Program of Policy Actions

As discussed in Chapter 2, fiscal spending on COVID-19 is both urgent and unavoidable. It is critical that low-income and lower middle-income countries find access to funding for this spending from any source, be it internal, such as Treasury bills, or external, such as international financial organizations, as soon as possible to secure vaccines, tests, and treatments in the next 12–24 months. As these policies are for survival, they should be considered a top priority.

The lockdowns have decimated the labor force in many countries, with many migrant workers moving back to the countryside. This threatens to reverse the structural transformation that countries took decades to achieve. The government would need to help bring back the workers to the factories and work with foreign-owned enterprises to ease up any constraints they are facing. Similarly, there may be a need to stimulate domestic demand to help the non-tradable sector get back to its level before the pandemic. Other measures to complement these short-term measures to restore growth include: i) completing ongoing infrastructure investment, especially in roads, ports, etc.; ii) accelerating education and training system reforms to replace the traditional teaching methods with online resources; iii) undertaking digital transformation of the economy to foster innovation; and iv) reducing/eliminating administrative and red tape requirements in the economic decision-making mechanism.

A specific program of actions includes policies in the following areas:

COVID-19 Management. Short term measures to bring COVID-19 under conrol by: i) timely purchasing of adequate doses of vaccines (Pfizer, Moderna, J&J, Astra Zeneca) and implementing vaccination for at least 70% of the population; and ii) purchasing and implementing treatments for COVID-19, including Molnupiravir (if approved by the FDA), Casirivimab, and Imdevimab. In the medium term, undertake health sector reform, focusing on improving efficient decision making and delivery mechanisms of the Ministry of Health

Supply Chain Recovery. In the shortest time possible, restore the global supply chains prior to COVID-19 by: i) helping bring back workers in foreign-owned enterprises to their employers by offering attractive incentives, such as a relocation bonuses, housing incentives, and facilitating their return by eliminating administrative restrictions and/or impediments; ii) working closely with foreign-owned enterprises to facilitate bringing back workers who have gone to the provinces. In the medium term, encourage the development of personal protection equipment activities (PPE)and medical-related industries; improve worker skills through training programs and technical assistance; strengthen the subcontracting business by providing incentives to domestic companies to link up with foreign-owned companies; and strengthen the links between domestic enterprises and foreign-owned enterprises. This may require a review of FDI law to focus on higher-value-added activities.

Demand stimulation. Stimulate domestic demand for non-tradable goods industries aiming to help low-skilled workers in the informal market and services and trade sectors by providing a one-time grant to all households making less than a threshold and reviewing and reducing social charges paid for by employers.

Long-term growth. Restore long-term economic growth potential by: i) completing ongoing infrastructure investment, especially on roads, ports, etc.; ii) accelerating education and training system reforms to replace traditional teaching methods with online resources; iii) undertaking a digital transformation of the economy to foster innovation; vi) reducing/eliminating administrative and red tape requirements in the economic decision-making mechanism; v) placing the annual budget within a medium-term framework so that extraordinary spending can be made in any period without jeopardizing macroeconomic stability.

The Medium-Term Expenditure Framework. COVID-19 has pushed economic and social stress to the limit and leaves policymakers with no choice as far as fiscal spending is concerned. They have to bring the pandemic under control no matter the cost. But what about macroeconomic stability? As Chapter 4 made clear, an economy's internal and external balance depends fundamentally on debt sustainability, which, in turn, depends on two critical variables: the primary deficit and the automatic debt dynamics.

The debt sustainability analysis of Chapter 4 also shows that it is entirely possible for the budget deficit to deviate from an expected path for a few years as long as it returns to a sustainable path in subsequent years. But what mechanism could ensure a government will return to this path? The answer is the medium-term expenditure framework, which not only sets the deficit on a multiyear basis but also ensures that the objectives, both aggregate and sectoral targets, are achieved. Box 5.01 provides a summary of an MTEF's features.

Box 5.01 What Is a Medium-Term Expenditure Framework and How Does It Help The Budget?

The Medium-Term Expenditure Framework (MTEF) integrates policymaking with economic planning and budgeting in the context of a multiyear budget cycle and ensures that expenditure programs are driven by strategic priorities and disciplined by hard budget constraints. This framework helps governments manage the tension between demands for expenditure ("needs") and the resources realistically likely to be forthcoming from both domestic and external sources ("availabilities"). The strategic priorities (SP) need to be concrete and quantifiable so that progress can be assessed both at mid-term and at the end of the period concerned.

Ideally, an MTEF should be based on medium-term sector development plans prepared using the sector-wide approach, which requires institutions with similar aims and complementary activities to work together. For example, sector-wide plans could be prepared for health, education, main roads, agriculture, district roads, social development, etc. The government budget aims to deliver the objectives of the SP over time, and each sector must understand its role within the SP's pillars. Equally, each institution must understand its role within the parent sector or sectors so that actions that may have a negative impact on the SP's overall objective are not taken unilaterally.

The SP, in turn, should be based on a medium-term program for economic and social development. This plan is specific to each country's current constraints and development stage. For example, in Vietnam's case, they could be grounded in three pillars: i) economic growth and structural transformation; ii) improvement in administration and governance; and iii) raising the poor's ability to earn income. The essential elements under Pillar I include the need to preserve macroeconomic stability, the provision of macroeconomic incentives for private sector investment, removing the constraints for investment and private sector development, and providing the necessary infrastructure and skilled human capital. Pillar II aims to create an enabling environment for economic growth through better decision making, transparent and effective public expenditure, access to public information, and justice and security of persons and property. Pillar III involves actions geared toward promoting access to productive assets, such as land, increasing access to the markets, improving resource use through the use of better technologies, and promoting self-employment and non-agricultural wage employment.

The Productivity Growth Issue

The source of long-lasting growth in all economies is productivity growth. Unfortunately, global productivity growth had broadly declined in the last decade before the arrival of COVID-19 (World Bank 2021). Specifically, global labor productivity growth slowed from its peak of 2.8% in 2007, just before the 2008–2009 global financial crisis (GFC), to a post-crisis trough of 1.4% in 2016, and remained below 2% a year in 2017–18. This slowdown affected about 70% of developed countries and emerging markets and developing economies (EMDEs). For EMDEs, the slowdown was from 6.6% in 2007 to 3.1% in 2015—the steepest, longest, and most synchronized multiyear slowdown in recent decades. The slowdown in productivity growth has to do with the declining reallocation gains in labor going to the services sectors, where productivity tends to be lower than in the industrial sector. At the sectoral level, labor reallocation toward higher-productivity sectors has historically accounted for about two fifths of overall productivity growth in EMDEs.

Between the global financial crisis of 2008 and the arrival of COVID-19 in January 2020, fading productivity gains from labor reallocation accounted for about one-third of the productivity slowdown in EMDEs. The COVID-19 pandemic may have compounded this trend. In particular, Sub-Saharan Africa (SSA) countries experienced the steepest and longest productivity slowdown in recent decades. Labor productivity growth in SSA dropped from 2.9% during the period of 2003–2008 to 0.8% during 2013–2018. Oil- and metal-exporting countries experienced the steepest slowdowns after the commodity price slump of 2014–2016. The decline in productivity in SSA countries therefore was due to the region's overdependence on commodity production and export.

COVID-19 has actually created an anomaly in productivity growth in some countries: instead of labor going from low to higher productivity sectors, for example from agriculture to manufacturing, as normally occurs in the economic development process, the reverse has happened: some workers have gone back to rural areas after experiencing COVID-19 lockdowns in an urban setting. Some of these workers may not move back to their former jobs. This has been the experience of some East Asian countries, especially Vietnam, and will have an adverse effect on productivity growth.

It is likely therefore that productivity has been adversely affected by COVID-19 on account of this reverse structural transformation as well as by the fact that labor productivity tends to experience a large and protracted decline following major economic disruptions (Dieppe 2021). In a way, COVID-19 could not have come at a worse time when the entire world was experiencing an adverse trend in productivity. Addressing the factors affecting this declining

trend is important because restoring economic growth is needed for poverty reduction and to resolve the solvency and sustainability issues discussed above.

Most cross-country differences in per capita incomes are due to differences in labor productivity. Productivity can be measured either by labor productivity, which is usually defined as output per worker, or by total factor productivity (TFP), which measures the efficiency with which capital and labor are used in the production process. The derivation of TFP is straightforward. In a neoclassical production function linking output to factors of production:

$$Y = AK^{\alpha} L^{(1-\alpha)},$$

where Y is output (value added), A is the productivity term (or the efficiency with which inputs are used in the production process), K is the capital stock, and L is the labor force.

Taking the log and differentiating the above equation yields:

$$\hat{Y} = \alpha\hat{K} + (1-\alpha)\hat{L} + \hat{A}$$

where $\hat{Y}$ denotes output growth, $\hat{K}$ and $\hat{L}$ denote growth rates of capital and labor, α and $1-\alpha$ denote the share of capital and labor, and $\hat{A}$ is the productivity growth rate. This equation says output growth is a weighted average of capital and labor growth plus the productivity growth rate. This last term is commonly referred to as total factor productivity (TFP):

$$TFP = \hat{Y} - \alpha\hat{K} - (1-\alpha)\hat{L}$$

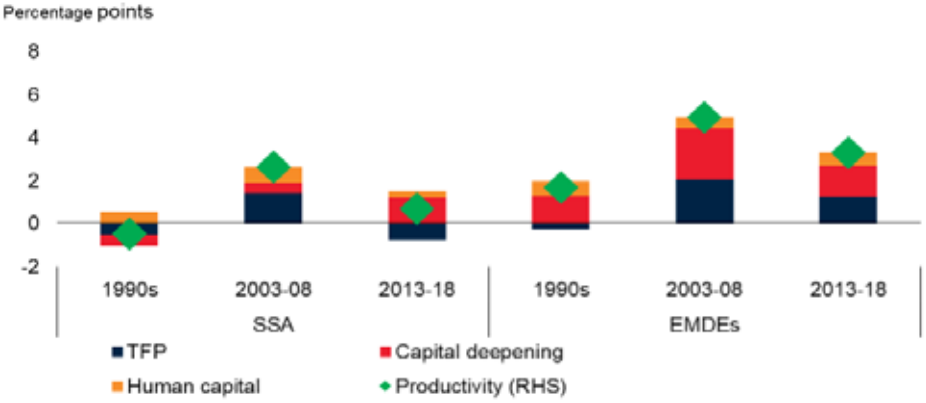
TFP is sometimes called an ignorance term because it summarizes everything we do not know, including technology progress, machinery per worker, institutional arrangement, structural transformation. It is usually measured as a residual term. The seminal work of Denison (1982), Jorgenson (2005), Solow (1970), Solow (1974), and others show that TFP amounts to almost half of the total growth of output.

Figure 5.01, which is derived from Dieppe (2021), shows the evolution of TFP for Sub-Saharan Africa (SSA) countries over the three periods: the 1990s, 2003–2008 (before the global financial crisis in 2008), and post-2008. Compared to emerging markets and developing countries (EMDEs) shown on the right panel of Figure 5.01, TFP in SSA countries is much lower.

The TFP for SSA countries rose from -0.5% in the 1990s to 1.4% from 2003–2008; since then, it has declined to about -0.8%. The increase in 2003–2008 was attributed to, among other things, stronger investment, infrastructure development, and a better macroeconomic framework (Dieppe, 2021). Another factor is the commodity price boom during that period that lifted productivity

in SSA countries. This is because the calculation of TFP includes the increase in natural resource extraction. The slowdown in TFP in SSA countries in the post-2008 period followed the collapse in commodity prices and the subsequent collapse in investment and FDI inflows.

Figure 5.01 Factor contributions to productivity growth



Source: Figure 5.31 in Dieppe (2021) based on Barro and Lee (2015); International Monetary Fund; Penn World Table; United Nations (Human Development Reports); Wittgenstein Centre for Demography and Global Human Capital; World Bank.
Note: EMDE = emerging market and developing economies. Productivity is defined as real GDP per worker (at 2010 market prices and exchange rates). Country group aggregates for a given year are calculated using constant 2010 U.S. dollar GDP weights. Data for multiyear spans shows simple averages of the annual data. Productivity growth is computed as log changes. Sample includes 30 SSA economies and 93 EMDEs.

Because TFP measures the efficiency of inputs used in the production process, it typically comes from an aggregate production function which has only one sector as output. This type of aggregate production function does not show a very important component of output growth—namely, structural transformation, defined as the gain in productivity arising from resource movement from low-to higher-productivity sectors. This shortfall could be corrected with the use of a multi-sector production function, but in that case, to keep the analytics simple, the number of inputs has to be limited to one and labor is the most obvious choice. Productivity is then measured as labor productivity, i.e., the value added per worker.

In addition to data convenience, it turns out that labor productivity, and not TFP, is the right measure for the prospective standard of living. Baumol et al. (1989) pointed out that labor productivity can be taken as a measure of prospective consumption or standard of living, unlike total factor productivity,

which measures the efficiency that inputs are used in production. In their view, "What is special about the labor productivity concept is that it indicates how hard humanity must work to achieve the current economic yield" (Baumol et al., 1989, p. 227).

For an economy with n sectors, one can decompose overall output growth (McMillian and Rodrik (2011), McMillan et al. (2014); Timmer et al. 2014) into two components as follows:

$$\Delta Y_t = \sum_{i=1,n} \theta_{i,t-k} \Delta y_{i,t} + \sum_{i=1,n} y_{i,t} \Delta \theta_{i,t} \quad (1)$$

where ΔYt denotes the change in economy-wide labor productivity in period t, $\theta i,t\text{-}k$ is the employment share of sector i in period t-k, and $\Delta yi,t$ is the change in labor productivity of sector i in period t.

The left-hand side is the change in economy-wide labor productivity, defined as GDP divided by the number of workers over the period concerned. The first right-hand term in the decomposition equation is the weighted sum of productivity growth within individual sectors, where the weights are each sector's employment share at the beginning of the period. This is the 'within sector' component of productivity growth, which occurs if capital deepening or new technology (high variety yield, better inputs, and so on) is adopted in sectors and assuming no change in the sectoral distribution of employment. The second term, called the 'between-sector' effect, captures the productivity effect of labor reallocation across sectors. It is sectoral productivity (at the end of the period) multiplied by the change in employment shares across sectors. This second term is the structural change term. If changes in employment shares are positively correlated with productivity, this term will be positive, and structural change will increase economy-wide productivity growth.

The decomposition technique above clarifies how partial analyses of productivity performance within individual sectors (such as agriculture) can be misleading when there are large differences in labor productivities (yi,t) across economic activities. In particular, a high rate of productivity growth within an industry can have quite ambiguous implications for overall economic performance if the industry's share of employment shrinks rather than expands. If the displaced labor ends up in activities with lower productivity, economy-wide growth will suffer and may even turn negative.

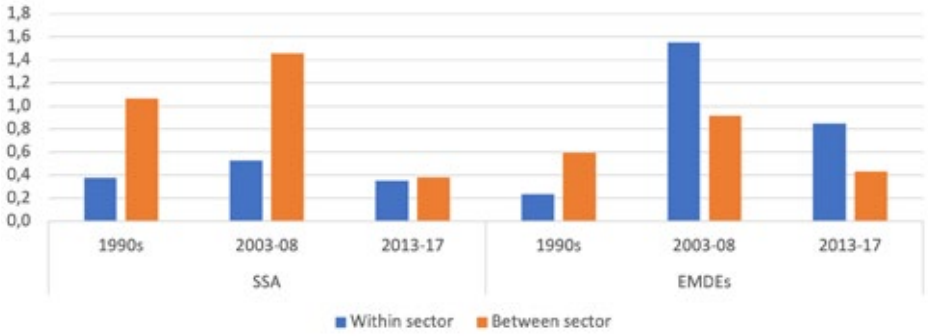
The World Bank's comprehensive 2021 study on productivity, led by Dieppe (2021), shows that, like TFP, labor productivity (output per worker) growth had broadly declined in the last decade before the arrival of COVID-19. Specifically,

global labor productivity growth slowed from its peak of 2.8% in 2007, just before the 2008–2009 global financial crisis (GFC), to a post-crisis trough of 1.4% in 2016. It then remained below 2% a year in 2017–18. This slowdown affected about 70% of developed countries and emerging markets and developing economies (EMDEs). For EMDEs, the slowdown was from 6.6% in 2007 to 3.1% in 2015—the steepest, longest, and most synchronized multiyear slowdown in recent decades. The slowdown in productivity growth has to do with the declining reallocation gains in labor going to the services sectors, where productivity tends to be lower than in the industrial sector. At the sectoral level, labor reallocation toward higher-productivity sectors has historically accounted for about two fifths of overall productivity growth in EMDEs.

Between the global financial crisis of 2008 and the arrival of COVID-19 in January 2020, fading productivity gains from labor reallocation accounted for about one-third of the productivity slowdown in EMDEs. In particular, Sub-Saharan Africa (SSA) countries experienced the steepest and longest productivity slowdown in recent decades. Labor productivity growth in SSA dropped from 2.9% during the period of 2003–2008 to 0.8% during 2013–2018. Oil- and metal-exporting countries experienced the steepest slowdowns after the commodity price slump of 2014–2016. The decline in productivity in SSA countries was therefore due to the region's overdependence on commodity production and export.

Figure 5.02 shows the breakdown of SSA productivity growth into the two components of equation (1) for each of the periods concerned. The slowdown in productivity growth in SSA countries during the post-2008 period reflects slowing structural transformation gains from labor reallocation from low-productivity sectors (e.g., agriculture) to higher-productivity sectors. Recall from equation (1) that an economy's productivity growth can come either from 'within-sector' sources, labor movement, or low- to higher-productivity sectors. 'Within-sector' productivity growth has continued at a slower pace (Figure 5.02). SSA countries continue to have large productivity differences across sectors. Productivity in agriculture—the least productive sector that employs more than half of the workforce and accounts for less than 20% of GDP—is between 3%–5% of the productivity of mining and finance, the two most productive sectors.

Figure 5.02 Within and Between Sector Contributions to Productivity Growth in SSA and EMDE Countries



EMDE = Emerging market and developing economies
Source: Dieppe 2021.

COVID-19 has actually created an anomaly in productivity growth in some countries: instead of labor going from low to higher productivity sectors, for example from agriculture to manufacturing, as normally occurs in the economic development process, the reverse has happened: some workers have gone back to rural areas after experiencing COVID-19 lockdowns in an urban setting. Some of these workers may not move back to their former jobs. This has been the experience of some East Asian countries, especially Vietnam, and will have an adverse effect on productivity growth.

Therefore, it is likely that productivity has been adversely affected by COVID-19 on account of this reverse structural transformation, as well as by the fact that labor productivity tends to experience a large and protracted decline following major economic disruptions (Dieppe 2021). In a way, COVID-19 could not have come at a worse time when the entire world was experiencing an adverse trend in productivity. Addressing the factors affecting this declining trend is important because restoring economic growth is needed for poverty reduction and to resolve the solvency and sustainability issues discussed above.

COVID-19 and the Sub-Saharan Africa (SSA) Countries

COVID-19 has impacted SSA economies through a range of channels (Zeufack et al. 2020, World Bank 2020a). The first is the disruption in trade and global supply chains. Growth deceleration in major economies, including

the U.S., the EU, China, and India, has reduced demand for SSA exports (both goods and services) and sharply reduced the international price of commodities exported by the region—especially oil, mineral ores, and metals. The impact was also severe for countries that have participated in global value chains, such as Ethiopia and Kenya (agribusiness and apparel), Tanzania (manufacturing), South Africa (auto industry), and DRC and Zambia (mineral exporters within the electronics value chain).

In addition, SSA countries are also affected by patterns of market diversification that have taken place over the past two decades, with South-South trading opportunities (particularly with China and other Asian economies) expanding rapidly in the aftermath of the 2008–09 global financial crisis. Unfortunately, this change in the pattern of export markets means that the effect on SSA economies has been more severe than it would be otherwise because the southern economies tend to have less of a buffer to withstand a pandemic than their northern counterparts. Since 2013, emerging and developing Asia has been trading more with Sub-Saharan Africa (in value) than with the European Union. For instance, the region's top five export destinations in 1998 were the United States, the United Kingdom, France, Germany, and Belgium, for total exports of $26 billion. By 2017, the top five export destinations had changed to China, India, the United States, South Africa, and Switzerland; and total exports to these countries had risen to $126 billion. Similarly, SSA's top five import partners in 2017 were China, South Africa, India, the United States, and Germany.

The second broad channel of transmission is foreign financing flows and FDI into SSA countries. Disruptions in FDI inflows affect not just the extractive sectors but also other sectors, including manufacturing and/or infrastructure investment. Resources from bilateral and multilateral donors have been restricted because these donors have to channel them for other needs, such as healthcare in their own countries and other global necessities. The continuing travel stoppage hurts tourism earnings in many countries, including Botswana, Kenya, Mauritius, and South Africa.

The third broad channel of transmission is at a more microeconomic level through job and income losses. The pandemic has caused widespread pay cuts, furloughs, and layoffs, with businesses and workers in the service industry (hospitality, tourism, and transportation sectors) adversely affected. Moreover, to cope with this crisis, countries have implemented lockdown measures, including travel bans, restrictions on public gatherings, and closures of workplaces, schools, and bars. These containment restrictions have disrupted labor markets, raised unemployment, cut supply and food chains, contracted business and consumer demand, and threatened many peoples' livelihoods. World Bank (2020b) found that informal sector workers in SSA were critically exposed to the COVID-19

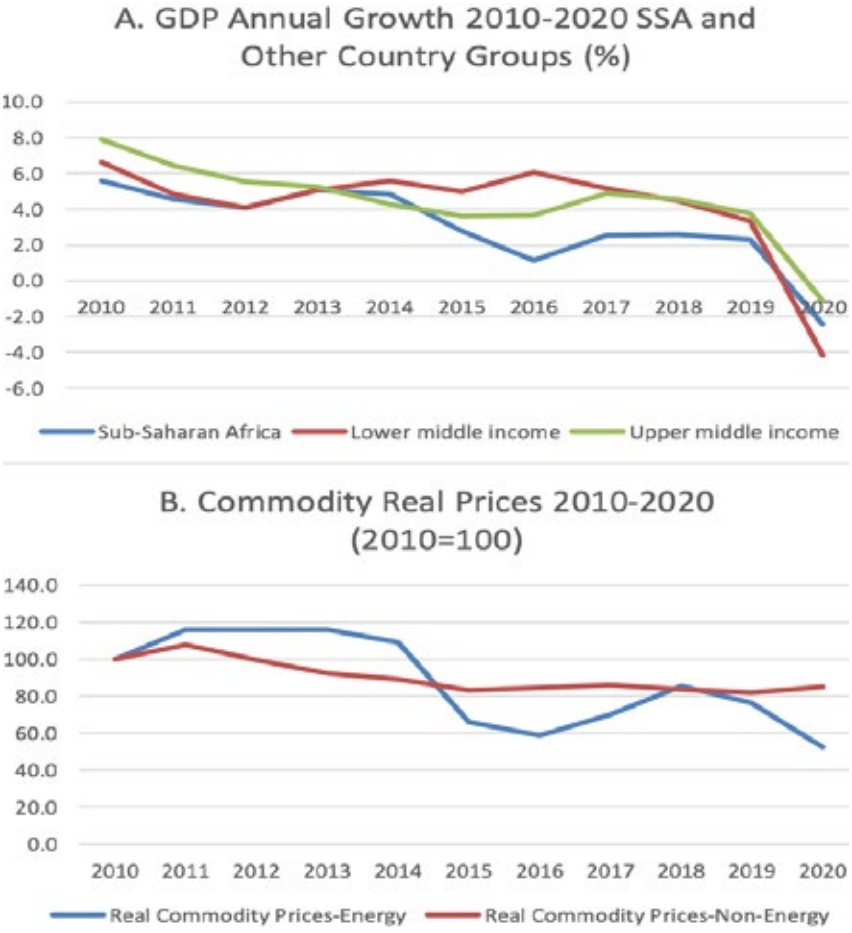
pandemic, not only because they are most vulnerable to socioeconomic shocks but also because they live and work in close proximity, increasing the likelihood of infection.

Finally, perhaps the most important channel is the human capital impact. COVID-19 has had a serious impact on human capital, a critical factor affecting Africa's long-term economic prospects. It threatens to reverse gains that took years to achieve. While schools are closed, distance learning protocols are difficult to implement in sub-Saharan Africa because of the region's modest internet availability. On average, less than 20% of the SSA population has access to the internet—compared to 90% of the population in advanced countries and 60% in other developing countries (Zeufack et al. 2020). But the regional average does not account for the wide variation in internet usage across countries in the region: Gabon (62%), South Africa (56%), and Mauritius (55%) are among the countries with the highest shares of internet users. The Central African Republic and Guinea-Bissau (4%) are among the countries with the lowest percentage of users.

Africa has enormous potential. It is blessed with approximately 30% of the world›s known mineral reserves. The largest global reserves of cobalt, diamonds, platinum, and uranium are in Africa. But natural resources are not Africa's only comparative advantage. Sub-Saharan Africa is also potentially competitive in light manufacturing, based on a number of advantages (Dinh et al., 2012). First, SSA has a labor cost advantage. In Ethiopia, for example, labor productivity in well-managed firms can approach the levels in China and Vietnam. At the same time, Ethiopia's wages are only a quarter of China's and a half of Vietnam's. Its overall labor costs are lower still. Second, SSA has abundant natural resources that supply raw materials, such as skins for the footwear industry, hard and soft timber for the furniture industry, and land for agribusiness. Third, SSA enjoys duty-free and quota-free access to U.S. and EU markets for light manufactures under the Africa Growth and Opportunity Act and the Cotonou Agreement.

However, institutional obstacles and unsuitable policies have prevented local producers from taking advantage of some resources. Trade and logistics costs in SSA have been generally high, as have some raw material costs. For example, timber costs are far higher in some African countries than in China or Vietnam, leading SSA to import Asian furniture, despite the continent's enormous unexploited potential to supply domestic timber. Thus, despite the mining boom of the past decade, and being so richly endowed, Africa has derived little benefit from this mineral wealth and remains one of the world's poorest continents with about 40% of the population living on less than $1.25 per day. Figure 5.03 shows the growth performance of SSA countries over the last 10 years compared to other income groups. It also shows that this performance closely follows the movement of global commodity prices, both oil and non-oil.

Figure 5.03 Growth Performance and Commodity Price Movements



Source: WDI, Pink Sheets, World Bank, accessed August 24, 2021.

Overdependence on natural resources. SSA's predominant role in world trade has been to provide raw materials to global value chains (GVCs). A large number of SSA countries are officially classified by the World Bank as resource rich, but an even higher number of countries are classified as resource dependent. Although progress has been made in product diversification for oil-abundant countries and non–resource-abundant countries, the export basket has become more concentrated for others. The region›s level of product diversification as a whole is significantly lower than in emerging and developing Asia, including in Bangladesh, Cambodia, Indonesia, and Vietnam. This dependence has led to several issues.

First, natural resources make countries susceptible to the Dutch Disease, a reference to a situation where a resource boom causes distortions in an economy, leading to rising input costs and a contraction in tradable sectors like manufacturing.[30] During the resource boom, revenues from mineral exports rise, and the demand for domestically produced goods and services expands. Because the government is likely to take a large share of the mineral revenues, public spending will also rise. The real exchange rate will appreciate as a result of higher relative prices for nontraded goods and because resources including skilled labor, capital, and public spending are drawn from both the tradable and non-tradable sectors to the mineral sector. When the boom is over, the manufacturing sector will not come back. A food producer like Gabon or Angola becomes a food importer after an oil boom.

Second, natural resource industries generate very few jobs because they are capital intensive by nature. The few jobs needed generally require highly specialized skills not suited for the vast majority of unemployed or underemployed people in SSA countries. These industries create enclaves within poor countries and generate elite groups that protect the resource owners' vested interests. A political economy is established that becomes hard to alter. Third, resource wealth can undermine governance and create a vicious cycle. Natural resources generate rents that lead to greedy rent-seeking. Corruption and a lack of transparency, accompanied by ongoing conflicts, are also typical in resource-rich countries. Mineral wealth gives rise to governments that are less accountable to the people, have little interest in improving institutional capacity, and fail to implement policies conducive to sustainable growth. Corruption remains endemic in most resource-rich countries. For instance, the 2020 corruption perceptions index of the Transparency International Report[31] showed that nine out of the top 20 most corrupt countries in the world are resource-rich SSA countries.

Finally, many resource-rich countries do not have a strong institutional capacity to manage natural wealth effectively and provide efficient investment incentives. Without reliable policies or strong administrative structures, government institutions are incapable of transforming resource wealth into economic development. This worsens the public sector's inefficiency in managing resource wealth, which, in turn, can lead to reckless and excessive spending.

Reduction in Resource Dependency. In an earlier paper (Dinh 2021), we argued that resource-abundant countries should use natural resources to fund job creation—in line with what Hartwick (1977) suggested. That is, the proceeds

30. The Dutch Disease can also result from any large increase in foreign currency, including foreign aid, FDI, or a substantial increase in natural resource prices.

31. https://www.transparency.org/en/cpi/2020/index/nzl.

from these resources should be invested in reproducible capital (for example, machines or factories) so that per capita consumption remains constant across generations, hence achieving intergenerational equity.[32]

For structural transformation to take place, jobs have to be created in the "right" sectors—i.e., sectors in which productivity is higher than those where labor was drawn from. In addition, these newly created jobs have to absorb large numbers of (relatively unskilled) workers without affecting the productivity level. McMillan et al. (2014) noted a disturbing issue in many African countries: the reallocation of factors was observed in the opposite direction, meaning that the labor factor shifted to lower-than-average productivity, indicating negative structural transformation. Latin America and Africa are the only two regions in the world where this occurs (McMillan and Rodrik, 2011).

This "reverse structural transformation" has intensified during COVID-19 because many international supply chains have frozen due to lockdowns and migrant workers in some countries have moved back to rural areas. Many of these workers are not moving back to their former job locations. Governments in these countries need to design and implement a package to offer attractive incentives for moving back, including relocation and housing incentives, and reduced administrative burden. The objective is to bring these global value chains back to the level that existed prior to COVID-19.

For other countries, the lackluster growth in service industries, especially travel and tourism, offers an opportunity to consider job creation in labor-intensive manufacturing. In a series of books and articles, this author has argued that light manufacturing—with its low capital requirements, limited scale economies, readily available technology, and sales possibilities in domestic and international markets—retains potential as a springboard and the best hope to expand output, employment, productivity, and exports in SSA countries. Many SSA countries have all the inputs needed for a competitive light-manufacturing sector: a comparative advantage in low-wage labor, abundant natural resources sufficient to offset lower labor productivity relative to major competitors, privileged access to high-income markets for exports, and, in most cases, a sufficiently large local or regional market to allow emerging producers to develop capabilities in quick-response, high-volume production, and quality control in preparation for breaking into highly competitive export markets. SSA countries can accomplish this by accelerating the realization of latent comparative advantage in areas of light manufacturing in which specific, feasible, sharply focused, low-cost policy interventions can deliver quick boosts to output, productivity, and, perhaps, exports—opening the door for expanded entry and growth.

32. As defined by Solow (1974). Natural resources, especially the exhaustible ones, pose a fundamental intergenerational issue: how to ensure equitable distribution of resources across generations.

Middle-income SSA countries face different issues. They need to create jobs not only for unskilled or semi-skilled workers but also jobs that would create more added value in global value chains. In parallel, they need to actively promote innovation to move to the next stage of economic development. Policies in this group include those that integrate SMEs and the informal sector into value chains, measures to adopt, adapt, and disseminate technology at the firm level, and measures that address education and training. The nature and extent of relevant public policy in areas such as institutional support, skills upgrading, and coordination between lead firms and firms vary by country. These issues will be discussed in the next section.

Improving productivity growth. There are essentially two ways to enhance productivity growth, which is the foundation of wealth creation in an economy. One is to improve the productivity within each sector, i.e., the "within-sector component" of equation 1 above. The second is through the process of structural transformation, i.e., moving resources from less productive to more productive activities, i.e., the second component of equation 1.

Among the first set of policies are those that improve productivity in agriculture. Some researchers attribute low agricultural productivity in SSA to the failure to adopt technology to improve yields, small farm size, subsistence farming, suboptimal crop selection, and poor land quality amid unfavorable climates. Price controls also distort resource allocation and adversely affect incentives to invest in human capital or adopt new technologies. The agricultural sector's contribution to total GDP, combined with the disproportionate share of employment devoted to the sector, helps explain SSA's low aggregate productivity relative to other emerging markets and developing economies. Given the low level of productivity in EMDE agricultural sectors and agriculture's role as the primary source of jobs in LICs, policies to raise agricultural productivity, such as boosting infrastructure and land property rights, would likely pay significant dividends.

Equally important are policies to support structural transformation. The contribution of this second set of policies to overall SSA productivity growth could be twice that of the first set for two reasons. First, the level of sector productivity varies a great deal more across sectors in developing countries than in developed countries. In a previous study (Dinh, 2017), we showed that in Ethiopia, the ratio of productivity of the finance sector to that of agriculture (the sector with the lowest productivity) exceeded a factor of 24. In Senegal, this ratio was 46. Thus, even if sector productivity remains the same year after year, Ethiopia and Senegal can achieve much higher and more sustainable growth by shifting activities from low-productivity sectors to higher-productivity sectors. Second, developing countries that do not implement this structural transformation will increasingly face growth problems because "between-productivity" growth may be rapidly exhausted.

Policy implications. Thus, SSA countries, with their limited capacity, have to deal with the most urgent problems arising from COVID-19 while also addressing the two structural trends discussed above: an overdependence on natural resources and the slowdown in productivity growth.

Fiscal policy must work to mitigate the adverse impact caused by the disease and the rapid deceleration of economic activities, while monetary policy should aim to provide an adequate flow of liquidity to businesses and households and ensure adequate government financing. Governments should revise their investment programs to shift resources to the health and education sectors. In this pandemic, the return to investment would be greatest in the health sector, not only because it helps address the most urgent issue of the day but also as an investment in human capital and a country's long-term prospects. Another area of high return is education which, in conjunction with labor market reforms, could prepare the countries for growth when normalcy resumes. These expenditures should be financed from external debt relief provided by the international community, but this debt relief has to be done deeply, widely, and permanently to eliminate any uncertainty for investors.

The pandemic adversely affects workers in the formal and informal sectors. The most vulnerable groups include those in the informal sector and/or part-time workers, unskilled youth, and school dropouts. It is important for countries to extend the safety net to include those recently laid off due to the coronavirus. In many countries, charities and volunteer organizations should be encouraged to continue helping affected workers.

For the formal sector, the demand shock affects firms differentially in different sectors. Governments thus need to target the worst-affected firms first. There are three types of firms: i) firms with continuous demand (such as groceries and medical products); ii) firms facing lost demand (including restaurants, travel, entertainment, transport, and tourism); and iii) firms facing delayed demand (including consumer and producer products and related business services). Firms in the first category do not need assistance, while those in the second and third categories are priorities for assistance. Those in the second category could be given one-off cash grants, while those in the third category could be given loans since demand for their output is likely to bounce back. Each country's current safety net program should expand to cover at least the basic needs of workers in these firms.

Job creation. Governments need to encourage job creation in the private sector by creating a level playing field in which small- and medium-sized domestic enterprises (as well as micro-enterprises) enjoy all the same advantages as foreign-owned companies. This will help local companies mobilize capital and

new knowledge and technology in manufacturing and exporting. Governments also need to help these enterprises link up with foreign-owned enterprises in the country to learn more about technology and world market demand. For large companies, state-owned enterprises (SOEs) are where the biggest losses take place. Thus, the privatization of these SOEs needs to speed up with the view to supplementing budgetary resources during the pandemic. In addition, corporate governance practices should be introduced and monitored in SOEs and large enterprises to move towards OECD standards.

The industrial sector in developing countries would benefit from economy-wide policies that include macroeconomic stability, infrastructure creation (including resolving trade logistics issues), and human resource development. For some countries, the most important policy lever among the macroeconomic stabilization policies is a competitive exchange rate, which would help the tradable sectors, especially labor-intensive manufactured exports.

Lowering labor costs while preserving salaries would help increase formal employment, reduce the number of precarious jobs, and boost worker competitiveness. Different minimum wage schemes could be introduced to attract low-productivity workers to the formal sector and provide them with social security coverage. Greater social security financing, transparency, and efficiency would create the fiscal flexibility needed to finance a universal unemployment insurance system, improve worker protection, and facilitate the mobility of labor based on the principle of protecting people rather than jobs.

Many studies have documented the FDI's significant role in economic development around the world. FDI contributes to structural transformation, technology adoption, and industrial upgrades among domestic firms of the economy. It also enables host nations to gain access to world markets for goods, technology, and capital. FDI, however, is more pronounced in some industries than others. It made particularly large contributions to the recent expansion of both East Asia's apparel industries.

To facilitate the structural transformation by moving workers from low- to high-productivity sectors, it is essential to create jobs in the modern industrial sectors. Studies of the constraints on light manufacturing expansion in sub-Saharan Africa have typically produced staggeringly long lists, which seem to suggest that no feasible policy adjustments can make the countries attractive to investors. Often, the implication has been that light manufacturing cannot grow unless all the shortcomings are fixed.

The vicious circle of pervasive poverty and low industrialization means that the economy-wide policies recommended by the Washington Consensus are unlikely to overcome the inertia impeding low-income countries' progress.

Furthermore, because the binding constraints vary by subsector and size, economy-wide policies are not even effective at addressing the constraints. Development experience from as early as the 1950s demonstrates that such policies, however fruitful in improving long-term prospects, do not establish a self-supporting process of reform and development. These economies need a focused initiative to inject new elements of prosperity and growth, even as large segments of the economies remain unaffected. Without such a breakthrough, low-income countries are unlikely to eliminate the persistently low equilibrium of poverty and limited industrialization. The targeted development of light manufacturing—specifically, consumer goods manufactured using modest inputs of fixed capital and technology, and the extensive application of unskilled or semi-skilled labor—is a promising entry point for accelerating industrialization and prosperity in low-income countries.

In Africa, as in East Asia, applying limited funding and administrative personnel to implement a set of tightly focused reforms holds the promise of initiating new clusters of production, employment, and, eventually, exports without first resolving the economy-wide problems of land acquisition, utility services, skill shortages, administrative shortcomings, and the like. In Dinh et al. (2012), we have identified six binding constraints on African competitiveness in light manufacturing: (a) the availability, cost, and quality of inputs; (b) access to industrial land; (c) access to finance; (d) trade logistics; (e) entrepreneurial capabilities, both technical and managerial; and (f) worker skills. These constraints vary by country, sector, and firm size. Thus, among small firms, entrepreneurial skills, land, inputs, and finance are the most important constraints, while, among large firms, trade logistics, land, and inputs are among the most important.

The general policy solutions that have been used in East Asia to deal with these specific constraints include industrial parks, industrial clusters, and trading companies. The system of plug-and-play industrial parks, industrial clusters, and trading companies oriented toward small and medium enterprises is an important factor behind China›s competitiveness in light manufacturing. These policy tools have been used extensively in East Asia and have resolved binding constraints in light manufacturing simultaneously: industrial land, input industries, finance, trade logistics, worker skills, and infrastructure (Dinh et al. 2012).

Many studies have documented the contributions of the special economic zones in East Asia as platforms for attracting export-driven foreign direct investment (FDI) and as a testing ground for key reforms. Plug-and-play industrial parks in China, Malaysia, and Vietnam have also greatly reduced the start-up costs and risks among small and medium enterprises with sufficient scale, capital, and growth prospects to take advantage of larger facilities during a phase in their development when they are unable to obtain bank loans. They have also

facilitated industrial clusters, generating substantial spill-overs and economies of scale and scope among Chinese industries. The clusters are likewise fostered by government support for input and output markets.

The pandemic has brought to the fore how important domestic manufacturing is for national security and has led some countries to insist that products critical to the health sector must be made domestically. Simple medical gear, including facemasks, gloves, gowns, and basic medical equipment, is being made domestically. To survive the economic downturn, many SMEs have taken advantage of the severe shortage of these products by adjusting their factory production lines and retraining their workforces to produce basic medical products for local hospitals. More complex medical equipment, including hospital beds, medical instruments, and medical transport vehicles could be produced by firms in the metal products, machinery, electronics, and automobile and aircraft parts sectors. This would be consistent with some countries' desires to be self-sufficient in producing these products for national security in the wake of the COVID-19 crisis. These efforts can serve as a reminder for developing countries to implement structural changes to ensure more self-reliance. Many medical products needed to address COVID-19 are produced with well-known, off-the-shelf technologies that firms anywhere can purchase if they have the skills and know-how to use them. Retooling could be encouraged through: (i) credit promised by the government so that firms can continue to pay workers while they retool; (ii) easy access to information and availability of technologies; and (iii) efficient connectivity between critical parties (suppliers, medical facilities, and other buyers).

Conclusion. By mid-2021, the world has seen some of the most effective COVID-19 vaccines, including Pfizer-BioNTech, Moderna, and J&J. These vaccines—and others to come—offer a way out of the pandemic. However, the complexities and risks associated with relaxing social distancing imply that, at best, economic activities can only be resumed gradually. Furthermore, it will take at least another year before developed countries (North America and Europe) return to full normalcy. This implies that, for developing countries, the full resumption of international trade in goods, services (especially tourism and worker remittances), and capital flows will begin in 2023 at the earliest. SSA countries therefore must be prepared to live with the pandemic for at least two years before complete global normalcy is restored.

Moreover, it is likely that both trade and capital flows will become much more differentiated, meaning that, for some countries, they will reach the pre-pandemic level, or even beyond, while other nations may not reach that level at all. This is because the pace of globalization and the formation of global value chains had begun to slow down even before COVID-19 (World Bank, 2020a). This pace could accelerate further given the bitter experience that some

developed countries had during the pandemic concerning imports of personal protection equipment.

Even before COVID-19, commodity demand growth was expected to moderate in the long term as growth in China—the largest source of commodity demand—slows and shifts toward less resource-intensive sectors, as China is in the process of rebalancing its economy from export-led to more consumption and domestic-focused. COVID-19 has accelerated this demand, weakening and rendering SSA countries' recovery prospects uncertain.

The general forecast consensus for SSA recovery from COVID-19 therefore is a long and steep road. It is unclear whether second or third waves of infections will come and when the pandemic will be over. Yet, policymakers have to make clear choices about policy priorities. While the region's long-term prospects no doubt depend on two exogenous factors, namely commodity prices and the recovery of SSA's main trading partners, SSA policymakers should seize this opportunity to lay the foundation for sustained growth recovery. The key to this strategy is moving away from the dependence on commodity production and exports through policies to improve productivity and create jobs.

COVID-19 and the Middle-Income Countries

For the middle-income countries, especially those that have successfully joined the global value chain production, the long-term growth issue is not so much raising the growth rate as raising the quality of growth by upgrading production of the existing products or making new products. These efforts are, in practice, often led by the government because the fragmentation of production and consumption in the global value chains (GVC) makes it difficult to break away from the low-value-added assembly-type jobs that all lower-middle-income countries must go through (Dinh, 2017).

To boost productivity growth at the firm level, middle-income countries need to reinvigorate technology adoption and innovation. Policies to strengthen intellectual property rights, reduce state ownership, revamp rigid labor regulations, improve access to finance, especially for small- and medium-sized enterprises, and leverage technology could reduce bottlenecks to firm productivity. Education and training policies to help equip workers with skills needed for new production techniques and policies to make room for labor relocation and for moving to high-value-added service sectors—including finance, information and communication technologies, accounting, and legal services—provide opportunities for rapid productivity catch-up.

Moving Up the Value Chain

Broadly speaking, the product cycle stages can be divided into three stages: concept, fabrication, and logistics. The fabrication stage is normally associated with the lowest value added because, unlike the upstream stage (concept) or the downstream stage (logistics), the skill level required for the fabrication stage is low. It requires very few innovative activities. Most lower-middle-income countries are currently in the fabrication stage for all their products.

Moving up the value-added scale implies moving either into the upstream stage (R&D, branding, design) or the downstream stage (distribution, marketing, sales/services). In economics literature, this is considered upgrading. The World Trade Organization (WTO) defines this process as "climbing up the value ladder, moving away from low-skilled activities characterized by low entry barriers and high competition" (WTO Annual Report, 2014). Although definitions vary on where the upgrading takes place, whether within the same or between different value chains, there is general agreement that upgrading results in an increase in the share of value added in total output value. Note that this does not exclude innovations at the fabrication stage. Innovations, both in processes and products, can lead to higher value added, shifting the curve upward. For a middle-income country, the innovation process typically begins at the fabrication stage, either in processes or products.

In general, industrial upgrading starts from process to product upgrading, then to functional upgrading, and finally to inter-sectoral change. The process of moving from original equipment manufacturing to original design manufacturing and then to original brand manufacturing is usually seen as a sequence of functional upgrading, while the upgrading process from the non-strategic links to strategic links is a symbol of role change. Each industry's unique characteristics lead to different status quos and trends in the upgrading process.

Policies in this area include short-term measures to upgrade the existing production capability and long-term policies to enhance technology capability. The former deals with the short term, where the stock of human capital is considered a given, while the latter belongs to the medium and long term, when education and training policies will have produced tangible results. Yet, even the long-term measures need to be implemented right away due to the long gestation lag.

Upgrading Existing Production Capability. Historically, East Asian economies (including Japan, the Republic of Korea, Singapore, and Taiwan) have relied on a number of policy instruments to promote development in local industries. These include equal treatment for direct and indirect exporters, establishing trading companies, using industrial parks and industrial clusters (cluster-based industrial development) to reduce transaction costs and enhance

competitiveness, and introducing policies to enhance global value chain (GVC) spill-over effects. Note that these policies are not exhaustive and can be combined.

Technology Adoption, Adaptation, and Diffusion. The successful adoption, adaptation, and diffusion of modern technology are critical to innovation and economic growth. Technology's effect on an economy only happens when there is a diffusion of the technology.

A key channel by which industrialization contributes to economic development is through learning by doing. This occurs through knowledge externalities derived from imitation activities and later through innovation activities. This phenomenon caused the industrial revolution to spread from the United Kingdom to other countries in Western Europe, the United States, Russia, and Japan (Chandra, Lin, and Yang, 2013). By providing an ever-greater variety of inputs, some in the form of new capital goods, and an ever-greater degree of technological sophistication, knowledge creation fuels the manufacturing sector's development and expansion. Initially, technological knowledge can be acquired through mere imitation of foreign processes, but imitation entails decreasing returns, whereas innovation occurs under constant or increasing returns to scale—at least for a while. The expansion of the manufacturing sector eventually requires a shift from imitation activities to true innovation to achieve sustainable growth (Agénor & Dinh, 2015, 2013a).

However, this transition may require access to highly skilled labor and more sophisticated inputs, such as advanced communication and information technologies. These can be critical in the shift from labor-intensive, light manufacturing activities (which tend to be associated with an imitation regime) to higher–value-added manufacturing (which requires broader and more sophisticated inputs). In this context, after an economy has reached the stage where assembly-type light manufacturing creates jobs, the appropriate development policy should not only emphasize innovation and the knowledge and learning externalities associated with imitation, it must also increasingly foster local absorption capacity and technological innovation.

Digital Transformation

Governments could take advantage of COVID-19 to launch digital transformation aimed at stimulating demand for digital applications, digital skills, and digital platforms to support governments, businesses, and individuals to participate more fully in the digital economy. Fostering digital inclusion is of critical importance.

The three key policies to benefit from technological progress in digital technology are fostering digital inclusion, prioritizing education and building

their workforce's digital skills, and developing secure, reliable digital systems, including strengthening cybersecurity and data protection.

The Governments' Roles

Governments' roles in spearheading innovations in middle-income countries are crucial. There are three roles the government can play. First, it must commit to continued economic growth through industrial technology development. Second, it must formulate a strategy for this development. Third, it must take an active role in guiding the implementation of this strategy.

The Asian experience in industrial development presents a number of lessons in this respect. First, the institutional framework for the adaptation of imported technology and promotion of R&D has to be linked to industrial needs. In Korea, the creation of many state-related, autonomous technological R&D institutes was related to the government's efforts to develop the heavy metals and chemical industries. In Taiwan, the Industrial Technology Research Institute (ITRI) focuses on helping the laptop industry. Second, because of resource scarcity, there is a need to identify and develop key sectors and address their technology development needs. Third, it takes time to develop. In East Asia, the efforts can only yield results in two decades, transforming the industrial structure into an increasingly technology-intensive structure with a sizable technological and innovative capacity. Fourth, the effort must be broad based, covering reinforcement of graduate school education, expansion of overseas training programs for scientists, repatriation of experts from abroad, joint efforts among the R&D institutes, universities, and industries, assistance with in-house R&D efforts, and financial assistance for industrial technological development.

Governments can play a critical role by offsetting the risks associated with the tacit aspects of technological adaptation. Chandra and Kolavalli (2006) found that government support for specific industries was most effective when it was embedded in institutions and policies that were internally consistent, had an explicit purpose, and were blessed with political commitment. Latecomers can avoid failures in industrial policy if the global market is used to judge positive performance. In practice, public support for specific export industries, not firms, preserved overall efficiency and fostered high rates of export growth. Government support in promoting the use of known and tried technologies significantly minimized the risks of failure associated with the costs of innovation.

An important finding in their study pertains to public investments in tertiary technical and scientific education and research used to promote technological deepening and the conditions in which they are effective. Firms adopt new technologies in response to competitive forces in both domestic and international

markets, not because they have access to government R&D facilities and support programs. Public research contributes significantly to technological upgrading only when it is pursued in tandem with a growing industry exposed to competitive pressures that demand excellence. Without industry links, public research may not be a point of focus. Some useful models of public R&D include the research consortia in Taiwan, the Chilean wine industry's network with research institutions, and the links between public research initiatives related to grapes and maize and producer organizations in India. With funding from industries, greater accountability, and guidance from an industry exposed to market forces, public research can be more effective at fostering technological development.

Improving the quality and adequacy of human capital is essential to promote productivity, reduce skills mismatches, and promote innovation. Empirical studies have shown that labor quality also plays an important role in the promotion of direct foreign investments, which, in turn, can lead to the development of a range of new, high-value-added sectors. Strengthening the quality of the education system can thus create a virtuous circle, accelerating the country's process of industrial transformation and contributing to a sustainable increase in the economic growth rate. Realistically, reforming the education system will take time so the impact on the quality of researchers (which depends on an increase in the quality of the country's tertiary education) will be slow. These reforms must be complemented early on by policies aimed at boosting the existing workforce's productivity by increasing investments in advanced infrastructure and providing greater public support for R&D activities.

Ultimately, policies used to promote innovation go back to the fundamental issue of education and training. These policies are country specific and will not be discussed here but suffice to say the labor market in many middle-income countries contains many distortions that should be eliminated or reduced. Some of these distortions are related to the institutional and regulatory characteristics of this market—for example a high minimum wage relative to per capita income, strong dismissal restrictions, high non-wage labor costs, a job matching process with unproven efficiency, and unions with strong bargaining power. These distortions contribute to high labor costs and downward rigidity in real wages. In turn, these distortions complicate labor market adjustments and remain a major constraint on growth and job creation. Therefore, this contributes to high unemployment (especially for youth), both directly and indirectly.

Innovation is strongly linked to science and technology. In this regard, the government should clearly define science and technology objectives. These objectives should work to: i) develop and utilize technology to the fullest; ii) gain continued improvements in productivity; iii) expand high-value-added output in products that are technologically sophisticated, energy efficient, and strongly export-oriented; and

iv) enhance the role of small and medium industry (SMI) in reducing industrial concentration and overdependence on imported parts and materials.

In line with these priorities, the education sectors objectives should be to develop R&D capacity in both educational institutions and research institutes, develop indigenous technology to overcome the increasing difficulty of importing technology from abroad, and upgrade and restructure the skill mix requirements to better meet the demands of an increasingly technology-intensive industrial sector. Korea's infrastructure landscape illustrates this structure. A Science and Technology Advisory Committee composed of scientists, experts, and academics was created to advise the president on related policies. Korea then set targets for R&D and the number of scientists and engineers.

Other Issues Related to the Developing Countries in the Medium and Long Term

Managing the SOES' Large Outstanding Debt

Monitoring and mitigating contingent government liabilities are integral for sound public debt management. A cursory review of low and lower middle-income countries suggests that the risk of contingent liabilities can be significant and stem from different sources. Some national governments have been made aware of the risks posed by contingent liabilities; and, in a few cases, risk mitigation tools are being considered and/or implemented. Because contingent liabilities may be fully justifiable under certain circumstances, a more systematic risk mitigation approach, such as setting up reserve accounts or strict exposure limits on contingent liabilities, may be needed.

In Egypt, the materialization of contingent liabilities or a call for government guarantees on state-owned enterprises (SOEs) is estimated to account for as much as 13% of GDP. The debt of commercial SOEs was high, at about 25% of GDP at the end of 2019—of which about 11% of GDP was explicitly guaranteed by sovereign (mainly external) debt that is concentrated in a few large SOEs, including the National Electricity and Water Company (ONEE), the National Railway Company (ONCF), and the National Highway Company (ADM). This would have a direct impact on the primary fiscal balance and, therefore, on the level of indebtedness. While SOEs are supervised by the Directorate of Public Corporations and Privatization (DEPP), which implements a set of best practices, including the publication of a comprehensive report on SOEs as an appendix to the budget, fiscal risks related to SOEs need to be identified and assessed on a more systematic basis.

To address this risk and its impact, the government is moving on multiple fronts. To strengthen the budget process, the new Public Finance Law will include a fiscal responsibility provision and accounting rules for all budget entities. Budget details will be published throughout the process, including fiscal risks and contingent liabilities showing the impact through sensitivity analysis around the macroeconomic framework. The Ministry of Finance recently established a unit for fiscal transparency and citizen engagement. Egypt's scores at the International Budget Partnership and rank in the Open Budget Index continue to improve and are expected to improve further in the next round to be announced in 2021, with more notable progress identified in areas related to citizen engagement.

In Morocco, the government is changing the management framework of sovereign guarantees. Those extended in response to the crisis will be transferred to a new financial institution under the Central Bank's (BAM) supervision. BAM will absorb the first layer of losses from the potential activation of guarantees. The stock of sovereign guarantees extended to SOEs before the crisis would be managed by a new special budgetary fund. Any triggering of such guarantees would directly impact the budget. Credit guarantee schemes launched by the government in response to the crisis brought on new contingent liabilities of up to about 6.5% of GDP, according to the IMF.

In Tunisia, state-owned enterprises with large outstanding guarantees pose significant fiscal and financial risks. While comprehensive data on all SOEs is not available, partial data on 30 SOEs shows a debt stock of almost 40% of GDP, with 20% due to banks and suppliers and the rest to social security funds, other SOEs, and the government. In addition, partial data shows that SOEs benefit from significant government guarantees, estimated at 15% of GDP at mid-2020. Adding SOE debt to central government debt would push total public debt well above 100% of GDP.

In addition to the direct burden on the budget, SOEs present significant fiscal risks, as their weak financial performance generates high indebtedness. SOEs are highly indebted, with the total debt of the 30 largest SOEs reaching almost 40% of GDP in 2019 (and expected to have increased further in 2020). Almost half of that debt is to banks, with the balance due mainly to the state, other SOEs, and social security. Furthermore, a significant part of SOE debt to domestic banks and international multilateral and bilateral lenders (estimated at 15% of GDP in mid-2020) is covered by government guarantees. These guarantees present a significant contingent liability for the government, estimated at 6.3% of 2020 GDP.

Issues Related to Eurobond

Ethiopia, Zambia, and the three emerging countries of North Africa—Egypt, Morocco, and Tunisia—were participants in the Eurobond issuances as part of a surge in pandemic-related borrowing by developing countries in the last decade (Chapter 3). However, since the pandemic's start, there has been no Eurobond issuance from Sub-Saharan Africa. Ethiopia and Zambia have stopped issuing Eurobonds since 2014 and 2015, respectively.

The North African emerging economies have increasingly relied more on sovereign Eurobond issuances to meet their external financing requirements. Most of these bonds were denominated in US dollars, except for an issuance €1 billion by Morocco. Since the pandemic, Egypt and Morocco have collectively raised 13.6 billion US dollars in the bid to extend the maturity of their debt profiles. Both have succeeded in extending the maturity of their Eurobond to 30 years in 2020. In its last issuance, Egypt was able to extend the maturity to 40 years, which represents the longest maturity bond not only in North Africa, but also in the Middle East.

Tunisia has issued 10 Euro-denominated bonds. Six of those bonds were supported by Japanese (for Yen-denominated privately placed Samurai bonds with cover provided by Japan Bank for International Corporation, JBIC) international bank or U.S. government guarantees and launched at interest rates of between 1.2% and 2.5%, while three unsupported bonds had interest rates of 3.5–5.7%. Earlier in 2021, Moody's downgraded Tunisia's rating (from B2 to B3 with a negative outlook) on account of weakening governance and rising social constraints that would inhibit the implementation of fiscal adjustment and public sector reforms needed to stabilize the markedly higher debt burden.

Even though the recent Eurobond issuances from North African countries were heavily oversubscribed, there have been some concerns that the North African countries may have been paying too much for their debt and that, by accepting higher yields in their Eurobond issuances, North African countries may indirectly reinforce the perception that they are high-risk issuers.

Using JP Morgan's emerging market diversified bond index (EMBI diversified), it can be shown that between 2006 and 2015, African countries paid similar spreads to the index average, including during the global financial crisis. However, since late 2016, African Eurobonds have traded at a premium. While the premium or higher yields have made it possible for the sharp increase in Eurobond issuances from Africa, most of this could be attributed to the fact that only 2% of African Eurobonds in the EMBI-diversified fund had investment grade ratings represented by Morocco's sovereign issuance.

Because the interest rate plays an important role in the debt sustainability assessment and debt dynamics (annex), the North African countries' governments can and should act to address the large and rising interest burden and avert falling into a debt trap through two sets of policy measures. The first is the need for governments to take better control of the bond structuring and bond issuance process. The second involves the allocation and use of the proceeds for productive investments in an environment of integrity and transparency.

On the bond structuring process, for lack of capacity and with severe time constraints, government officials involved in negotiating and launching the issuance of bonds leave more room to syndicates of lead-managers, originators, and investment banks. African governments should develop the necessary skills to be more proactively involved with lead issuance advisors in managing the negotiations for the lowest interest rates possible to avoid unnecessary costs. Since North African economies consist mostly of lower- and middle-income countries, they often have more room to maneuver on this matter than low-income countries. They should also be more actively involved in exercising their choice of accepting or rejecting investors' bids.

Independent assessments of the creditworthiness of the country that provide investors insight into the level of risk associated with investing in the debt of a particular country play an important role in the process of bond issuance. Most credit risk assessments are focused on the extent of the country's indebtedness, reserve accumulation, growth forecasts, and the overall macroeconomic outlook. Under the current practices in many developing countries, little information is provided on how the issuance proceeds will be used. The result is that Eurobonds have become an expensive source of discretionary spending. Without more concrete information about the countries' longer-term priorities, such as critical infrastructure and economic diversification, Eurobond proceeds are often perceived as resources needed to plug fiscal deficits and balance payments shortfalls.

For countries where concerns about debt management and governance issues are gaining status, environmental, social, and governance (ESG) evaluations could be a gamechanger. They could focus attention on often-overlooked debt management and governance issues—factors that experience has shown to be material to sovereign risk. Scoring those factors would offer investors a more accurate risk profile of sovereign issuers. Thematic bonds, such as green, blue, and social bonds, raise money for investments that deliver sustainable economic and social outcomes and offer investors the opportunity to earn competitive financial returns and diversify their portfolios while supporting positive societal impact. These bonds are bought by a growing number of investors who have begun to embed environmental, social, and governance (ESG) standards into their investment decisions.

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Chapter 6

Policy Recommendations

COVID-19 has worsened the macroeconomic imbalances of the developing economies and exposed some structural weaknesses in their social and economic fabric, including a heavy reliance on commodities, undiversified economic activities, low productivity growth, external trade concentration, and weaknesses in debt and financial management.

The growth recovery will be hampered by a rising debt burden and absent significant debt restructuring. Prior to COVID-19, the developing economies experienced large current account deficits leading to higher borrowing. Different countries pursued different strategies to deal with this issue. Some countries (e.g., Egypt, Ethiopia, Morocco, Tunisia, and Zambia) borrowed from external commercial sources, particularly from Euro bond markets, leading to shortened debt maturities, higher interest payments, and a higher risk of a foreign currency crisis. Other countries (e.g., Algeria and Vietnam) decided to rely on domestic borrowing, leading to money creation and the risk of inflationary pressures. In addition, developing countries face the additional risk of contingent liabilities caused by state-owned-enterprise (SOEs) losses.

Until now, with the exception of some countries that have access to debt relief in the context of the Debt Service Suspension Initiative (DSSI), most developing countries are coping with COVID-19's effects and managing their debt burdens the best they can. But to bring the pandemic under control, the developing countries would need to spend more fiscal resources on vaccination and treatment of COVID-19 at least until 2023. Under this situation, many countries will likely face debt solvency and liquidity issues, especially among low-income countries in Africa.

The actual debt situation in developing economies will be determined by the speed of world trade resumption and the recovery of tourism and travel. The debt dynamics will also be affected by economic growth rates and by international interest rates, which might rise on account of larger budget deficits in the developed economies. A high interest rate will make foreign borrowing costs quite expensive for many emerging economies. Moreover, it is not clear if the world (other than the U.S.) can reach the point of herd immunity by 2022 so that global recovery can take hold promptly. These factors are beyond the control of developing countries' governments. However, these governments can safeguard their productive capacity for growth by limiting the virus's spread, providing relief for vulnerable populations, and overcoming vaccine-related challenges.

As many countries begin to gradually reopen, policymakers will be tasked with mitigating the ongoing public health threat while also taking steps to rebuild economies and ensure that adequate social safety nets are in place. In

the medium and long term, these governments need to balance the continued support for economic recovery with: (i) investments that will help them reduce the fiscal costs of coping with the current pandemic (and perhaps future ones) and (ii) investments in public goods necessary for structural transformation, i.e., diversification from natural resource dependence and towards industries of higher productivity that create large-scale employment for all.

The medium- and longer-term policy agenda will necessarily pose tough fiscal challenges for developing governments, not only in terms of the generation of resources but also in terms of their management. The range of fiscal space is constrained by domestic revenue mobilization capacity. Fiscal and relief measures will face sustainability considerations. This may tempt them to postpone critical investments necessary for structural change. As an example, investments in skills development, which has long-term payoffs, may be postponed in favor of expenditures with larger political payoffs in the short term. Similarly, in middle-income countries, new investments in functional and efficient health systems, including universal health insurance to cope with future pandemics, may be deemed low priorities in the pandemic's immediate aftermath, although early investments and preparedness will reduce the fiscal burden on governments in coping with future pandemics, which have a high risk of recurrence. In countries with mounting debt like Zambia, the costs of debt servicing may preempt early investments in the diversification and structural change agenda altogether.

A comprehensive and coordinated approach to deliver this policy agenda includes three types of policy reforms:

- Short-term policies that respond to the pandemic's immediate health impact as it persists through 2021, and possibly into 2023, and provide financial stimulus to fuel economic recovery in subsequent years.

- Medium-term policy priorities to further stimulate post-pandemic economic recovery and lay the foundation for longer-term structural transformation by initiating investments and policies to close the skills gap and equip SMEs and workers to acquire market-relevant skills commensurate with a modern middle-income economy, digitalization, and formalization of the informal sector through SME development. A pivotal aspect of the medium-term agenda is establishing an efficient fiscal-monetary and debt management system that facilitates fiscal expenditures while maintaining a sustainable debt level.

- Long-term investments and policy reforms should foster economic and market diversification, technological innovation, and large-scale job creation to reduce poverty and put developing countries on a clear path of inclusive, green, and sustainable growth.

Short-Term/Quick Wins: Defensive Actions for Damage Management

- Obtaining and delivering good COVID-19 vaccines for at least 70% of the population. This should be considered the highest priority, alongside obtaining medication to treat COVID-19. No country can be considered safe unless and until these two actions are taken.
- Continuing social distancing and other practices (face mask wearing, hand washing, restricted large public gatherings) and vaccinations to prevent disease transmission and protect against severe illnesses and mortality due to the virus.
- Avoiding policies such as premature reopening or stop-start containment, which impacts productivity, as furloughs and reduced working hours tend to lead to permanent job losses.
- Protecting lives and livelihoods. Extending safety nets and social protection programs through cash transfers, food aid, unemployment assistance, and free treatment to workers in the informal sector, women, youth, and the poor. For instance, in 2020, Egypt undertook targeted cash transfer programs and increased strategic food reserves to aid the most vulnerable 30% of the population. In Mauritania, a special social solidarity fund that collected 5.4 million US dollars helped in the fight against COVID-19. Efficiency requires social protection programs to be flexible to better target the most vulnerable over time. Community-based targeting has proved to be more efficient than individual targeting.
- Continuing fiscal measures to finance the health system and vaccinations to cope with the pandemic.
- Building preparedness for timely detection and treatment of the coronavirus and monitoring the situation. Tunisia established an organization to take charge of this responsibility called the National Observatory of New and Emerging Diseases. In Morocco, an emergency committee chaired by the Minister of Finance is in charge of monitoring the situation as long as the pandemic or its negative impacts exist.
- Ensuring liquidity of the financial system and timely support for firms. In most countries, the central banks have reduced the reserve requirement ratios and policy interest rates to avoid liquidity constraints in coping with the crisis. Morocco has granted interest-free loans to the self-employed, and sovereign guarantees to SME loans have also been implemented until economic activities return to normal.

- Extending the 2020 interventions leveraged by governments to provide direct financial support to enable SMEs to retain employees, cover necessary costs, and survive the pandemic. In Morocco, a special fund totaling 3% of the GDP was financed by the government and voluntary, tax-deductible contributions supported businesses, including in the informal sector. Egypt used a new tax of 1% on public and private sector salaries and 0.5% on state pensions to support the SMEs.

- Avoiding the accumulation of unsustainable debt. The COVID-19 pandemic has exacerbated pressure on public debt while raising the need for large additional and unplanned fiscal spending. Instituting efficient debt management systems that foster long-term debt sustainability through debt re-profiling or restructuring will be important toward sustainability.

- Harnessing digital technology, restructuring state-owned enterprises (SOEs) to hive off contingent liabilities, and combating illicit financial flows can also boost domestic revenues. In North Africa, fiscal subventions to SOEs have crippled the central government's ability to stimulate private sector-led growth.

- Developing the capacity to do debt sustainability analyses, which allow the issuance of debt reports at fixed intervals. More countries should be encouraged to adopt this practice, working in tandem with the multilateral institutions and liaising with other bilateral and private creditors to promote prudent decision-making by borrowers and lenders alike.

- Some economies may need more liquidity to meet financial obligations if the pandemic lasts longer than expected and/or the world's economic recovery is delayed. At the moment, the Debt Service Suspension Initiative (DSSI) is no more than a temporary fix for the debt problems for low-income countries. Further, no debt workout framework exists for middle-income countries.

- Countries often face challenges in debt management because of: (a) a lack of proper recording of the full stock of the sovereign›s actual and contingent debt liabilities; (b) a lack of transparency, sometimes, of key financial commitments; and (c) governance failures due to a lack of proper processes and structures. This is further complicated by the entrance of non-traditional creditors and new commodity-based (collateralized) commitments with unclear rules. Structuring debt management agencies with clear powers and governance to address these challenges must be one of the priority goals of African sovereigns. Creditors, including international financial institutions such as the AfDB, the World Bank, and the IMF, should work to support transparent and sustainable lending practices like the more proactive implementation of the IMF's fiscal transparency code.

- Strengthening the coordination among fiscal, monetary, and exchange rate policies to closely monitor the direction, speed, and magnitude of capital flows and their effects on the economy. During the last decade, some low- and lower-middle-income countries have relied heavily on private creditors, mainly Eurobonds and commercial sources, to finance the budget and current account deficits. As a result, their debt burden has become highly sensitive to interest and exchange rate movements, and the risk of a balance of payments crisis has increased.

- Carrying out a thorough public expenditure program to establish a core protected group of investment projects needed to restore economic growth. Focus on improving the efficiency of capital projects through procedures to enhance projects' identification and implementation.

Medium-Term Actions: Dynamic Measures to Foster Strong, Sustainable, and Inclusive Growth

As discussed in previous chapters, many low-income developing countries ran into debt problems even before COVID-19, and the pandemic has exacerbated these problems. Some problems were caused by the use of external debt, as the proceeds were used to finance non-viable investment projects. In other cases, the use of proceeds financed consumption and not investment. But an important part was caused by excessive borrowing from commercial creditors under non-transparent terms. It is important to note that some countries, such as Argentina and Lebanon, have defaulted since the pandemic's onset.

The shifting composition of Africa's debt towards non-concessional market financed external debt, denominated primarily in foreign currency (the U.S dollar and euro), implies that countries are increasingly becoming more exposed to higher real interest rate risks and, more importantly, exchange rate depreciation risks. Depreciation of the local currency causes an upward revaluation of a country's debt and also makes debt service repayments in the foreign currency more expensive. This currency-mismatch exposure explains a significant portion of the deteriorating debt dynamics shown in recent years. Shorter debt maturities—due to less favorable tenures from external commercial and non-Paris club creditors—have created a bunching of external loan repayments coming due within the next five years. Sharp rises in risk premia for many emerging economies, especially in Africa, is also a factor in escalating debt costs.

Collateralized debt (also called commodity secure loans) is often used by low-income commodity producers to access financing. For instance, oil-

producing countries such as Angola, Chad, or the Republic of Congo use collateral borrowing and are more sensitive to commodity price fluctuations. A decrease in oil prices leads to pressure on their oil production to avoid default. A major consequence is that a large share of oil revenues is used to repay loans, translating into fewer resources for governments. This also creates an uneven hierarchy of creditors that could complicate debt resolution negotiations.

The recent increase in public-private partnerships, together with explicit or implicit government guarantees, increasingly expose African sovereign debt to contingent liabilities in the event of bankruptcies of the private partner. This is especially true in cases of PPPs without a clear demarcation of fiscal risks. The risk is compounded by limited reporting on SOE debt obligations (some as large as 4.5 and 1.3% of GDP in Zambia and Ghana) in sectors with systemic importance, such as energy, finance, transport, and telecommunications.

Middle-income countries should explore the option to create fiscal space to pursue the needed diversification and inclusive growth agenda, provided the funds are used well and sustainably. Proper sequencing of reforms and investments can make the diversification agenda's implementation more efficient. Middle-income countries could initiate critical investments and policy reforms for SMEs and workers (formalization, education, skills development, digitalization, etc.) that have a longer gestation lag. This would prepare the workforce for the future and formalize the informal sector. In the longer term, a modern workforce and a larger formal sector will raise the productivity of investments in large-scale public goods projects and deeper structural reforms to accelerate economic and export diversification, diversify trading partners, and initiate technological change and innovation in goods and services. These are essential for decent and sustainable job creation, inclusive growth, and achieving an upper-middle-income status.

To reduce external resource dependency, priority should be given to structural reforms through digitalization, industrialization, and diversification. To foster strong, sustainable, and inclusive growth, it is recommended that policymakers:

- In the medium-term, manage public debt and enhance domestic resource mobilization. Developing countries need to put mechanisms and institutions in place that enable them to strike the proper balance between additional debts' benefits and costs. These include sound debt management, high debt transparency, proper use of non-concessional resources, and thorough monitoring of contingent liabilities. Restructuring state-owned enterprises and using debt efficiently to finance productive investments are important measures to avoid the debt trap. External financing should favor concessional terms and long maturities on reasonable borrowing terms.

- Middle-income countries could undertake new investments in functional and efficient health systems to cope with future pandemics and lessen the burden on the government. Unlike most low-income countries, where affordability and implementation are critical constraints, going forward, middle-income countries could consider universal health insurance to reduce government expenditures.

- Provide fiscal support and undertake policy reforms to enable formalization of the informal sector through training for workers and businesses to close the skill mismatch. Public investment in active labor market policies to informally train employed/unemployed workers, especially youth and women, as well as entrepreneurial training of informal SME owners, in coordination with the private sector, could accelerate private investment in industries constrained by the availability of skilled labor. Middle-income countries could incentivize the private sector toward specific sectors that foster economic diversification, low carbon industries, help diminish regional disparities, and reduce the large-scale female and youth unemployment problem. While resource intensive in the medium term, in the longer term, formalization will expand the taxable base, generate new streams of tax revenues, and contribute to fiscal stability.

- Investments in modifying the education system from the traditional to one with a technological bias. Investments in science, technology, engineering, and mathematics (STEM) and problem-solving skills will automatically groom the workforce for the future. These investments will also trigger the adoption of new technologies and the emergence of new service sectors to support diversification.

- Investment in network infrastructure that facilitates digital transformation by expanding internet connectivity economy-wide to ensure that everyone—children, adults, workers, and businesses—can benefit from online learning. This will also boost managerial and production productivity in small and medium enterprises (SMEs) through technological and financial innovations and more efficient trade through e-commerce and financial inclusion across all sectors. Importantly, it will create large-scale employment and could disproportionately benefit youth and women. Digital transformation is already the hallmark of most upper-middle-income countries. Lower-middle-income countries could invest in it to leapfrog and catch up.

- Support to SMEs. Access to finance remains a critical impediment for SMEs' development in African countries. Over the medium-term, an accelerator program that supports small business owners in strengthening leadership, management, and capacity skills to run their business can enhance access

to finance. New legal frameworks for alternative collateral requirements would allow credit institutions to obtain collateral both on movable and immovable assets, thus allowing small businesses to obtain a loan or improve borrowing terms. Credit scoring mechanisms may help central banks more closely monitor SMEs. Fiscal incentives may also be used to provide training to small businesses. Access to sustainable financing should be conditional on the formalization of small businesses, with the fiscal stimuli oriented towards firms with potential for wealth creation and employment of youth and women.

- Take measures to promote financial inclusion, including using technology-based fintech solutions. For example, despite its middle-income status, North Africa lags behind other African regions in digital finance and financial inclusion. Only 15% of Egyptians have a bank account. Investing in financial inclusion would earn high payoffs, even in the medium term, by increasing domestic savings and enabling a lower interest rate. This could spur profits by directly reducing the cost of private investments, individual loans, and sovereign borrowing on local currency debt markets.

- The domestic bond market needs to be deepened, but policymakers need to consider the risk of foreign ownership of treasury bills and bonds since the "on-and-off" impact of market sentiment may lead to capital flight under changing market conditions, such as interest rate changes in the advanced countries. There is a need to carefully manage capital flows and create incentives for more stable and long-term flows, such as FDI. In Egypt, the share of foreign purchases of government securities reached 40% of total outstanding government securities, most of which are in short-term Treasury bills. The start of the COVID-19 pandemic led to major portfolio outflows in early 2020. These flows have recently stabilized and reversed thanks to higher yields following interest rate hikes in Egypt. Support from creditors, including international institutions and bilateral donors, can help promote more comprehensive techniques and facilitate South-South collaborations and peer dialogues.

- Monitoring and mitigation of contingent government liabilities are integral for sound public debt management. Governments and debt managers need to carefully review state-owned enterprises' financial liabilities, subnational debt, guarantees, and other contingent debt. Guarantees and other legally committed liabilities must be closely monitored in case the sovereign's legal commitment to pay is triggered or even when they are not legally obliged to support it. The inability for these SOEs or subnationals to roll over their maturing principal debt obligations may well require the central government to step in.

- Environmental and social risks are becoming increasingly important in investment decisions. Increasingly, investors are explicitly focusing on environmental and sustainable development goals (ESG) criteria in investment analysis and decisions. Systematic and proactive engagement with investors on ESG can make a difference. Egypt's recent success in issuing a five-year, $750 million sovereign green bond is a case at hand. The bond was five times oversubscribed and has broadened Egypt's investor base.

- Fiscal consolidation reforms and reducing subsidies. In North Africa, public wages, debt service, and subsidies still represent a high share of current public expenditures impeding investment in public goods, especially infrastructure. In Tunisia, subsidies and debt service account for 68.4% of the 2021 budget and corporate taxes raise less than 6% of Egypt's GDP. In Mauritania, the tax burden is only 17% of GDP. Reducing subsidies will free up resources for necessary public investments.

- Efficient and productive public investment can serve as a catalyst for private investment. Debt-financed public investments should be guided by efficiency gains. Their limited fiscal space suggests that many lower and middle-income countries should finance more public goods by tapping the capital market and public-private partnerships (PPPs). Nonetheless, fiscal risks from PPPs and other instruments should be rigorously scrutinized, quantified, and mitigated. Debt-financed public infrastructure projects should, however, be self-liquidating, supported by strong institutional frameworks allowing for resource channeling into sectors with the potential for higher revenue streams and labor-absorptive capacity. Policies to improve public expenditure efficiency and rationalization of public spending should be consistent with existing legislation to enhance oversight and accountability through improved investment monitoring and evaluation.

Long-Term Actions

- Promoting economic and export diversification through trade policy reforms and fiscal investments in public goods and industrial clusters for non-extractive goods and services sectors. This is key to inclusive and sustainable growth and large-scale job creation in natural resource-dependent economies. Their presently low levels of industrialization suggest that concerted public investments in industrial clusters, especially for greenfield export-oriented investment, could fast-track linking firms in the clusters to national and regional value chains, thereby fostering diversification. Morocco's positive experience with industrial clusters that facilitated high-value manufacturing and exports along competitive logistic chains is a shining example. Enhancing

competitive local production in the clusters through innovation-driven manufacturing can nurture new sectors, including supporting downstream production by small-scale farmers and SMEs. This will widen the sources of key products and raw materials outside the traditional import markets while creating much-needed jobs across the entire production value chain.

- Improving economic resilience to exogenous, especially climate-related, shocks and future challenges (food security, water security, and climate change). Many regions, including the entire North Africa and Southeast Asia regions are susceptible to high water stress and desertification. Each affected country could evaluate the specific climate-related risk that most jeopardizes its economic stability and adopt mitigating measures. There is also an opportunity for governments to prioritize climate change adaptation and mitigation measures by promoting green economic activities.

- Investing in public goods necessary to reduce regional disparities and foster inclusive growth. The formalization of informal businesses, digitalization, and a skilled workforce in the medium-term will begin to bridge regional disparities in many countries. In the longer term, governments could invest in public goods, especially large infrastructure, to further shrink regional disparities. This could be especially valuable in stemming gender disparities and nurturing women's economic empowerment in areas with a concentration of unemployed or poor women.

- Deepening regional integration. For example, in the context of the African Continental Free Trade Area (AfCFTA), the North African countries could strategically benefit from opening more trade with sub-Saharan Africa, especially following the implementation of AfCFTA. Furthermore, they could benefit from deep preferential trade agreements (PTAs) with European partners. Deep PTAs demand much larger commitments in areas that are part of the WTO's rulebook and cover topics that fall outside the current WTO mandate and are often not directly related to trade.

- Middle-income countries should develop the necessary skills to be more proactively involved with lead issuance advisers in managing the bond negotiations for lower interest rates. They should also be more actively involved in exercising their choice of accepting or rejecting investors' bids. It is important to take a comprehensive review of the overall debt maturities covering Eurobonds, other external debt, and the foreign-owned domestic debt amortization schedule to smooth their overall debt maturity, reduce spikes in debt service costs, and reduce repayment risks. The 2018 sell-off of frontier Eurobonds in North Africa underscored the volatile nature of global debt markets and that the window for issuance can shut when market sentiment deteriorates.

Considerations for the International Community

The recent changes in the landscape of international debt, e.g., the emergence of new creditors, the lack of transparency that complicates burden-sharing, contingent liabilities, and the race to seniority, make it difficult to organize future debt restructuring operations. New changes to the international financial architecture for sovereign debt restructuring seems to be needed. In addition, there is the need to have a differentiated response corresponding to different debt situations. It seems that both principal debt reduction and well-designed maturity extensions (re-profiling) can bring debt down to sustainable levels. Re-profiling may be less effective when a country faces a large debt overhang—when the burden of debt is so large that a country certainly cannot pay it back. In those situations, it may simply imply that debt restructuring operations continue to deliver debt relief too little and too late.

- Debt Service Suspension Initiative (DSSI). The DSSI was the first attempt to help the poorest countries during the COVID-19 crisis. After being endorsed in mid-April 2020, it was implemented starting on May 1. As of the end of 2020, 43 countries are benefitting from 5 billion US dollars in debt service suspension from the initiative. This initiative enabled a fast, coordinated response to enhance fiscal breathing space for the world's poorest countries. The DSSI suspends debt service payments from the poorest countries (73 low- and lower-middle-income countries) to bilateral official creditors from May 2020 to June 2021. However, it is only temporary relief and does not fundamentally address the debt issue. The debt service that was suspended from May to December 2020 is due for repayment after a one-year grace period, with payments spread over the following three years. For the debt service suspended in the first six months of 2021, the grace period remains the same, but the repayments are spread over five years to avoid overlaps and bunching of debt service payments. DSSI does help by providing more time to properly assess and address debt sustainability on a country-by-country basis.

- Until now, private creditors have not participated in the DSSI and are reluctant to accept reduced payments/haircuts from debtors. Key concerns that deter debtor countries from requesting private creditors' participation include: (i) reputational concerns; (ii) rating downgrades; and (iii) legal risks. Greater private creditor participation would enhance DSSI benefits for participating countries; a general requirement for comparable treatment of private creditors could, however, significantly lower DSSI participation. The lack of private creditor participation in the DSSI raises concerns that official debt service suspension would partially benefit private creditors. This issue is particularly important if DSSI support defers the recognition

of unsustainable debts. The G20 could consider options to mitigate such concerns in the context of the DSSI.

- The G20 has agreed on a Common Framework for Debt Treatments beyond the DSSI, which should help facilitate debt restructuring on a case-by-case basis and burden-sharing across creditors. When the Common Framework is used to provide liquidity relief, the debt service rescheduling is tailored to the country's specific needs, with the potential to cover all or part of debt service payments due over a number of years. The terms of repayments, including the grace period, are to be adjusted to meet the duration and depth of the liquidity pressures facing the country.

- The DSSI is insufficient to deal with the magnitude and urgency of the developing countries' current debt problems. First, it is only temporary relief. So, the problem will come back. It could make the problem become worse because, as time goes by, more and more countries will be downgraded and fall into debt crises. The total amount of relief is quite small, at close to $5 billion. Second, it fails to distinguish appropriately between countries with liquidity problems and those with solvency problems. Third, it restricts eligibility to a few low-income countries, although serious debt servicing problems will likely occur in middle-income countries also. Finally, it does not address the liquidity problems of the public sector (increasing fiscal space) or private businesses in developing countries to resume growth as soon as possible.

- More importantly, no satisfactory solution to the debt problem in Africa could come without addressing the issue of China's debt, as the above discussion on Zambia and Ethiopia shows. China plays a key role because its government, banks, and companies lent over $150 billion to Africa from 2000 to 2019. About 10 African countries have a debt problem with China, and Chinese lending was concentrated in a small number of countries: Djibouti, Ethiopia, Kenya, Angola, and Zambia. All these countries are currently facing very serious debt issues.

- Chinese lenders are opportunistic in modifying standard contract tools to maximize their repayment prospects and protect a broad range of Chinese interests in the borrowing country. The precise terms and conditions of Chinese lending are opaque, and the contracts have confidentiality clauses. The so-called commercial lenders, such as China Development Bank or Ex-IM Bank, are intimately linked to the broader Chinese government investment program. A recent study (Gelpern et al. 2021[33]) on how China

33. Gelpern, A., Horn, S., Morris, S., Parks, B. and Trebesch, C., 2021. How China lends: a rare look into 100 debt contracts with foreign governments. Aiddata, Center for Global Development, Kiel Institute, and the Peterson Institute.

lends shows Chinese contracts expressly prohibit the borrowing country from restructuring their outstanding debts to China in coordination with Paris Club creditors and/or on comparable terms with them. This practice suggests that state-owned Chinese banks are effectively seeking to position themselves as "preferred creditors," therefore breaching the "negative pledge" clause of multilateral lenders, including IMF/WB. These contracts also allow lenders to cancel loans and/or demand full repayment ahead of schedule if there is a change in the borrower policy.

- So, the only feasible way to deal with the overall debt problem of Africa is to have a concerted effort by all lenders, bilateral and commercial, Chinese and non-Chinese, under the leadership of an international institution, such as the IMF or the World Bank, to agree on a common and orderly framework for debt workout. This requires greater transparency in sovereign lending, including but not confined, to government-to-government loans. This will also require that private and emerging creditors are open to accepting loan repayment haircuts.

- The change in the financial architecture is also needed so that a longer-term resolution of the debt problem can be found, which would provide more certainty to the macroeconomic and investment policy framework to restore economic growth. Such a resolution would need to provide a differentiated response to the developing countries' varied needs, making a distinction between the provision of liquidity versus a permanent reduction in the debt overhead between countries willing and able to undertake deep adjustment reforms to restore inclusive economic growth and between the different creditors being accountable to different owners of capital.

- For countries that are currently insolvent, there is no way out except for creditors taking a substantial reduction in principal. It is not clear that innovative debt workouts, such as auctions to buy debt at below-face-value prices or debt/nature swaps, would work for private creditors like bondholders and/or commercial banks. After all, the wide distribution of bondholders and investors makes it difficult to come to any timely decisions—unlike the case with official creditors.

- The international community needs to fully recognize the desperate situation of the indebted countries and take decisive and prompt actions to help restore growth. Another round of the HIPC Debt Initiative may be needed. Debt relief could be linked directly to acquisition and deployment of COVID-19 vaccines and treatment medications. One important resource is the IMF's newly created Special Drawing Rights (SDR) allocation of $650 billion to support global recovery from the COVID-19 crisis. The new SDR allocation will be distributed to IMF member countries according

to the respective country's quota at the fund. This resource could provide significant help to developing countries. The IMF needs to combine this new issuance of SDRs with a program to voluntarily reallocate SDRs from countries with a surplus to those in need. Oversight mechanisms are needed to ensure resources are well-spent. The IMF also has its standard array of liquidity support mechanisms available.

- Multilateral development banks (MDBs) must also step in to provide additional liquidity, perhaps through higher leverage in the capital market, and bilateral creditors need to do their shares. Commercial creditors could take a longer view of the debt situation: By allowing more debt relief now, the prospects of getting the money back are enhanced in the long run. All lenders need to be more flexible and understanding when using traditional debt burden and debt service criteria for lending.

- The shift to Eurobonds raised the issue of how to prepare for debt restructuring should the need arise. A collective action clause (CAC) allowing for a supermajority of bondholders to agree to a debt restructuring that is legally binding on all holders of the bond, including those who vote against the restructuring, is called for to avoid holdouts. Bondholders generally opposed such clauses in the 1980s and 1990s, fearing that it gave debtors too much power. However, following the experience of Argentina and Ecuador in Latin America, CACs have become more common, as they are now seen as potentially warding off more drastic action but enabling easier coordination of bondholders. In this context, experience sharing aimed at developing a collaborative process and voluntary exchange of information with creditors is critical.

- There is a need for a debt workout framework for the middle-income countries. No such framework exists at the moment. Such a framework would require efforts from all sides. Creditors need to continue support to help lower-middle-income countries overcome COVID-19—including, where relevant, debt relief linked to COVID-19 vaccines and treatment medications, as well as investment in the health sector. Debtors need to develop and implement a medium-term debt framework to ensure continued sustainability of both domestic and external debt. Over the long-term, governments of these countries should develop the skills needed to be more engaged with issuance advisers in managing bond negotiations for lower interest rates. They should also be more active in exercising their choice of accepting or rejecting investors' bids.

COVID-19 & Developing Countries— the Road to Recovery

COVID-19 has ravaged nearly every country, with the globalization of recent decades intensifying its spread. As of mid-2021, the world had spent $16.5 trillion—18% of global GDP—to fight the disease. And that amount does not even include the most important losses such as deaths, mental health effects, restrictions on human freedom, and other nonmonetary suffering. Nearly 90% of this spending was by developed economies, with the rest by emerging market and developing economies. As a result, developed countries are on their way to taming the pandemic. But at just $12.5 billion, coronavirus-related spending by low-income countries amounts to virtually nothing. This book shows that low- and middle-income countries still have a long way to go to control COVID. To survive the pandemic and restore economic growth, these countries must increase fiscal spending to vaccinate against and treat COVID-19 over the next two years. Because their ability to do so depends on individual country circumstances, the book examines the fiscal space of selected low- and lower-middle-income countries and finds that most are not in a position to increase fiscal spending without jeopardizing debt solvency and sustainability. Thus the conclusion is that developing countries must bite the bullet and be willing to risk further debt stress to emerge from the crisis. The international community must be willing to accept these exceptional conditions and adopt measures to ease the pain and suffering of the developing world. The book also recommends policies for dealing with the long-term growth issues of developing countries.

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