Africa Growth Initiative
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Sub-Saharan Africa's debt problem

Mapping the pandemic's effect and the way forward

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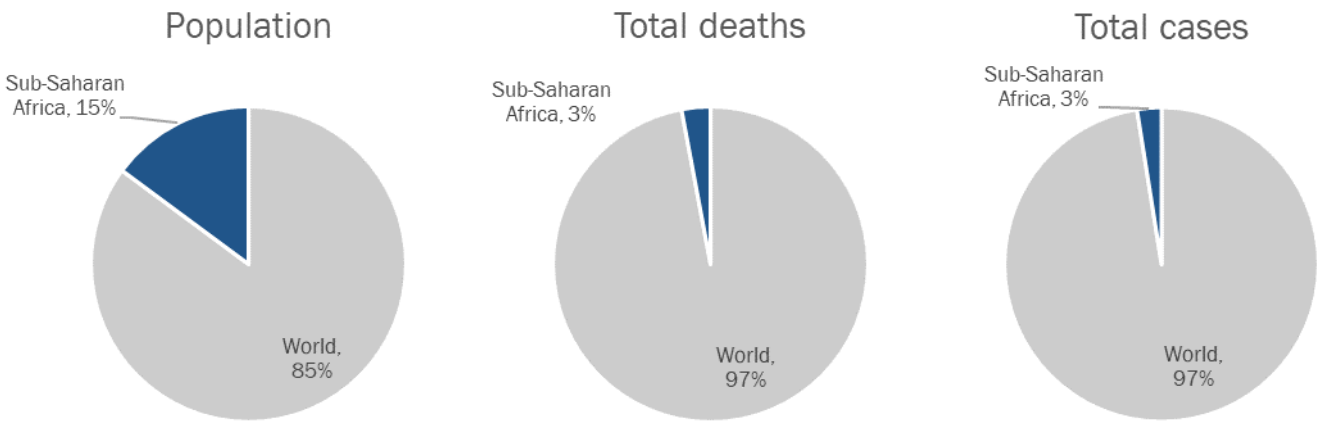
1. Background

The COVID-19 pandemic has, thus far, spared Africa from the high number of cases and deaths seen in other regions in the world (Figure 1). As of April 2021, sub-Saharan Africa accounted for just 3 percent of the world's cases and 4 percent of its deaths. Some experts attribute the relatively low case counts in sub-Saharan Africa to the region's extremely young population or, importantly, the swift and preemptive lockdowns that many countries implemented in March 2020. While these lockdowns have likely saved lives, they have also left significant scars on the fiscal position of sub-Saharan Africa and the market conditions it faces. Dwindling revenues following the fall in global trade met a wave of unemployment among a population that lacks widespread access to safety nets and health infrastructure.

Figure 1. Population, COVID cases, and COVID deaths, sub-Saharan Africa vs world



Source: Our World in Data, 2021. Data taken on September 1, 2021.

In response, African governments have, by and large, borrowed to finance stimulus packages to support at-risk groups, struggling businesses, creative education solutions, and health-related infrastructure. International and regional financial institutions, such as the World Bank, International Monetary Fund (IMF), African Development Bank (AfDB), and European Union (EU) countries (both bilaterally and multilaterally) have responded through debt relief measures and restructurings. The fiscal and monetary responses of sub-Saharan Africa and various financial institutions will have important consequences for indebtedness, debt servicing capacity, and debt sustainability more broadly.

Debt was an increasing problem across all income groups of African countries prior to COVID-19, and the pandemic has only exacerbated the problem. In fact, African countries had been borrowing heavily in the global financial markets in recent years—a trend that has created both new opportunities and new challenges. Rising debt levels have corresponded with rising debt service cost, but countries have not necessarily improved their ability to finance such obligations. Indeed, failure to meet debt service obligations will have devastating impacts, including downgrading of credit ratings (and, hence, future higher costs), heightened pressure on foreign exchange reserves and domestic currency depreciation, and the real possibility of being rationed out of the market—and negative reputational consequences.

This paper utilizes new data to study the impact of the COVID-19 pandemic on debt sustainability and vulnerability in sub-Saharan Africa and sheds light on the channels through which these impacts have taken place. We find that debt levels have risen substantially in sub-Saharan Africa since the onset of

the COVID-19 pandemic. We utilize IMF projections as a comparison to analyze the impacts on the pandemic on debt levels and how they covary with key determinants of growth and fiscal space.

In particular, sub-Saharan Africa experienced a 4.5 percent increase in "pandemic debt"—the debt taken on above and beyond projections due to the COVID-19 crisis. HIPC countries in particular saw large increases in pandemic debt, with levels 8.5 percent higher than projected. Non-HIPC countries took on mostly planned debt and borrowed from both private and official (that is, bilateral or multilateral) credit markets alike. HIPC countries, on the other hand, were largely shut out of private credit markets and instead relied on official credit to fund increases in (largely unplanned) debt. We also find that the domestic bond market played a more important role in private borrowing than it has in recent years and that eurobond issuance was relatively scarce. Countries that rely on metal exports issued less pandemic debt than did those that rely on oil, thanks to the strong growth and relative stability of metal prices during the pandemic.

Despite taking on substantial pandemic debt, HIPC countries experienced less extreme drops in GDP compared to their non-HIPC counterparts, underscoring the need for HIPC countries to accelerate financial sector development and enhance public-sector financial management, including mitigating financial leakages, curbing illicit follows, and galvanizing domestic resource mobilization. Looking forward, this paper argues that both sub-Saharan Africa's recovery and debt sustainability depend on two factors: the success of the African Continental Free Trade Agreement (AfCFTA) and obtaining the participation of private partners in debt restructuring. Economic recovery, in this regard, will affect the millions of informal workers that have lost their jobs at the hands of the pandemic as well as revenue levels that coincide to some degree with the workers' eventual participation in the formal economy.

Box 1: Key findings and recommendations of the paper

Key findings	Policy recommendations
1. Debt levels in 2020 were 4.5 percent higher in sub-Saharan Africa than projections. The increase was particularly acute in HIPC countries, whose debt had mirrored non-HIPC countries the decade prior. 2. Non-HIPC countries and especially upper-middle-income countries retained access to credit markets and used a mixture of private and official creditors to finance increases in debt (which were largely in line with projections). 3. HIPC countries were largely shut out of private debt markets and instead relied on unplanned borrowing from official creditors. 4. Domestic bond markets played a relatively more important role in private borrowing. Eurobond issuance dropped sharply. 5. Some resource-rich countries saw sharp increases in bond yields despite having comparatively low yields pre-pandemic. 6. Metal prices showed more stability and higher growth than oil prices during the pandemic. Consequently, top metal-exporters took on less debt than top oil-exporting countries.	❖ Obtain full participation of all creditors, including private ones, in debt restructuring ❖ Accelerate financial sector development ❖ Enhance public financial management and internal resource mobilization ❖ Mitigate financial leakages and illicit flows ❖ Harness and accelerate opportunities afforded by AfCFTA ❖ Design incentive-compatible and state-contingent contracts ❖ Revisit existing institutional mechanisms for debt resolution

7. Many sectors, especially manufacturing, witnessed "formalization" of employment during the pandemic.	

This paper is organized as follows. Section 2 begins by taking brief stock of the region's debt landscape prior to the advent of COVID-19, before illustrating how the debt burden has changed during the pandemic. It also reviews key reasons why indebtedness has risen, including stimulus packages, current account deficits, and borrowing costs. Section 3 examines key economic channels along which the pandemic shock unfolded. Section 4 considers the magnitude of revenue loss and the vulnerability of the informal workers during the pandemic. Section 5 discusses attempts to rectify the unexpected, unsustainable increases in debt (or "pandemic debt") and explores important considerations of which effective policies must take account. Section 6 recommends a number of policies and the way forward.

2. A closer look at the debt landscape and debt risk factors

Sub-Saharan African sovereign debt grew substantially in the decade or so following the Paris Club debt forgiveness in 2006. In particular, as shown in Table 1, debt in the region grew from 35 percent of GDP in 2014 to 55 percent in 2019 (Coulibaly, Gandhi, and Senbet, 2019). This new debt is both domestically and externally sourced. Governments are increasingly borrowing from commercial banks and in other private credit markets, including bonds denominated in foreign currencies. Alongside the private sector, China has become the largest bilateral creditor of the region by far: In fact, China holds more African debt than the next 10 creditors combined. Larger stocks of debt have resulted in higher debt servicing costs, which have narrowed fiscal space and, at times, jeopardized macroeconomic stability.

Table 1. General debt by country grouping

Group	Debt (% of GDP) before the pandemic		Debt (% of GDP) during pandemic	
	2014	*2019*	*2020*	*2021*
Southern Africa	43.9	71.2	83.5	82.2
World Bank: IBRD	42.4	68.1	81.2	81.3
East Africa	53.8	74.1	83.5	79.8
Upper middle income	42.9	59.4	73.3	76.3
Not resource-rich	42.9	58.5	65.7	67.1
Low income	46.9	63.1	71.9	66.9
World Bank: IDA	43.7	59.5	67	64.5
HIPC	42.6	59.2	66.5	63.9
Sub-Saharan Africa	35.1	55.4	63.1	60.3
Not HIPC	31.2	52.3	60	57.1
Resource-rich	27.6	50.6	59	50.6
Lower middle income	27.5	49.3	54.3	50.4
West Africa	23.1	37.3	43.7	41.8
World Bank: Blend	21.5	39.1	44.5	40.6
Central Africa	25.5	38.8	41.5	39.1

Note: For a detailed list of HIPC status for African countries, see Table 6 in the Appendix.
Source: World Economic Outlook, IMF.

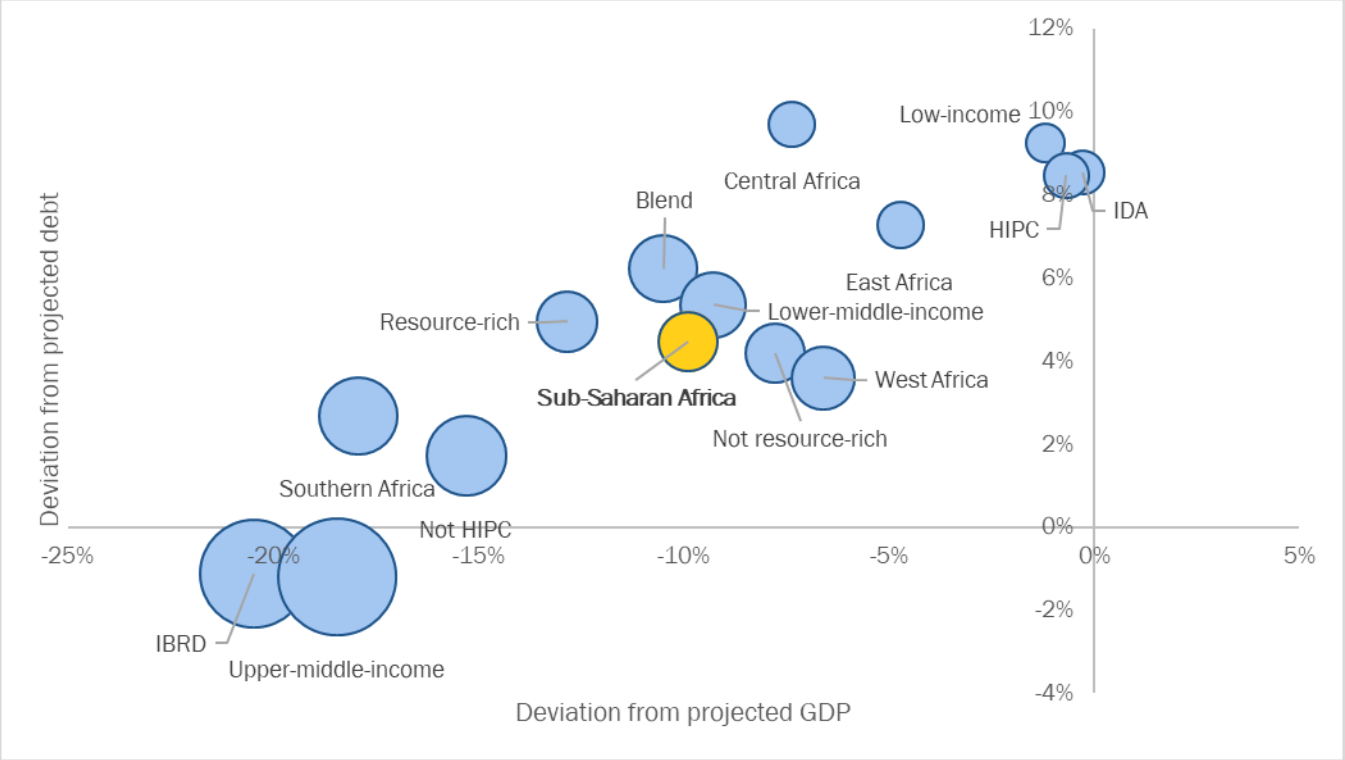
Sub-Saharan Africa's increased access to credit markets is in part due to its recent economic renaissance that propelled the region to 25 straight years of economic growth up to 2020. This improved access also stems from a low global interest environment post-Great Recession that has made higher-yield sub-Saharan African bonds more appealing. However, the region's diverse creditor base also makes COVID-era debt relief significantly more complicated, as it requires buy-in from diverse parties, each with different budget lines, incentives, and legal standing. Consequently, particularly strained economies in the region are much more susceptible to defaulting, as they lack practical ways to relieve or postpone debt should payments become impossible to make. Moreover, as many African currencies are currently under pressure, inflation poses a risk to debt sustainability. Most of Africa's eurobonds are denominated in U.S. dollars; consequently, many countries have witnessed exchange rate depreciations and are facing an increase in the cost of servicing foreign currency-denominated debts.

Debt burden increases in the midst of economic misfortune

Thus, sub-Saharan Africa faced these immense pressures even before it entered the pandemic. These pressures undoubtedly remain at play as the region adapts to the new normal, characterized by higher debt burdens than before the pandemic (Table 1). Yet it is not just that the region will experience more burdensome debt, but that these debt levels were significantly higher than predicted. The accrual of debt was borne out of necessity, not determined by a country's fiscal space and access to markets.

Countries whose debt increased over the five years preceding the pandemic were not highly indebted poor countries (HIPC) nor those vulnerable to fluctuations in global market conditions (resource rich). What is concerning is that, during the pandemic, HIPC and resource-rich countries experienced the highest increase in debt relative to IMF projections in October of 2019, or "pandemic debt." HIPC countries, for instance, took on 8.5 percent more debt in 2020 than was predicted. IDA-eligible countries debt stock increased 8.5 percent more than projected. For resource-rich countries, this figure was 4.9 percent. Curiously, the pandemic had a comparatively small impact on GDP for these three country groupings. Figure 2 illustrates a positive relationship between the impact of COVID on GDP and the impact on COVID on debt levels (note that impact is proxied by deviation from October 2019 IMF projections). The economies of non-HIPC, IBRD countries, and upper-middle income countries suffered the greatest losses in GDP with the onset of COVID-19, but they also took on the least amount of pandemic debt. Interestingly, the IMF predicted that the debt stocks of HIPC countries would increase by 6 percent in 2020, while non-HIPC countries were predicted to decrease by 6 percent.

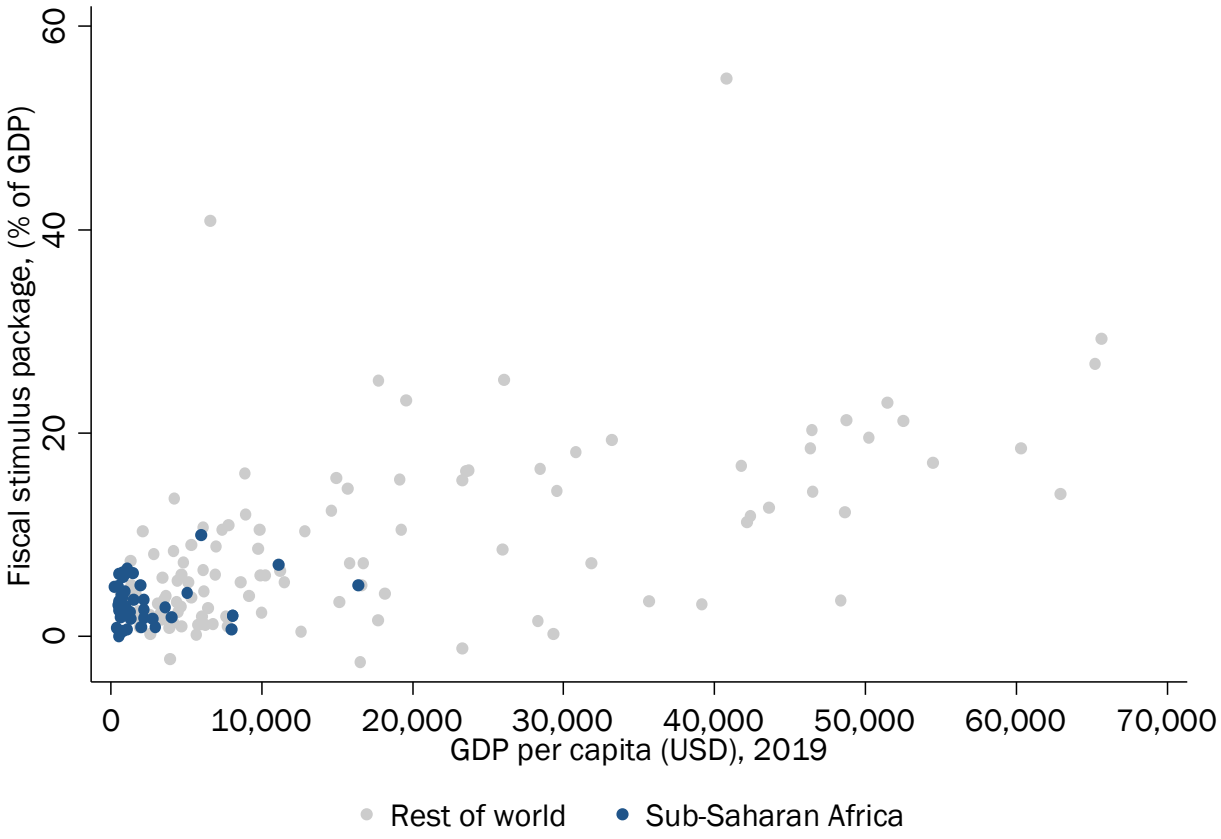
Figure 2. Change in projected debt and projected GDP during the pandemic, 2020



Note: Marker size varies by GDP per capita in 2019.
Source: World Economic Outlook, IMF.

The pandemic itself remains a continued threat to debt sustainability. Even now, unemployment in the region remains high, and there is underinvestment in business and health care. Through COVAX, a global initiative whose objective is to provide affordable COVID vaccine coverage to the poor countries of the world, sub-Saharan Africa has had access to vaccines. However, while the initiative initially proposed to cover injections for 20 percent of the adult population, it has fallen well short of projections (Paton, 2021). Indeed, current projections suggest that, by December 2021, Africa, a continent of 1.3 billion people, will have cumulatively acquired only just over 500 million doses, leaving a vast majority of the continent unvaccinated (Dahir and Holder, 2021). In response, many countries in sub-Saharan Africa may resort to increased borrowing to acquire additional doses of coronavirus vaccines, as they weigh the difficult tradeoff between the cost to human lives and promoting the prudent finances that will support the deployment of essential social services and safety nets in the medium term. Many sub-Saharan African countries, feeling this constraint more acutely, opted for modest stimulus packages, even relative to the size of their economies (Figure 3).

Figure 3. Stimulus packages by country as a percentage of GDP



Source: Elgin, C., Yalaman, A. (2021).

Spreads and debt servicing costs: borrower types and borrowing sources

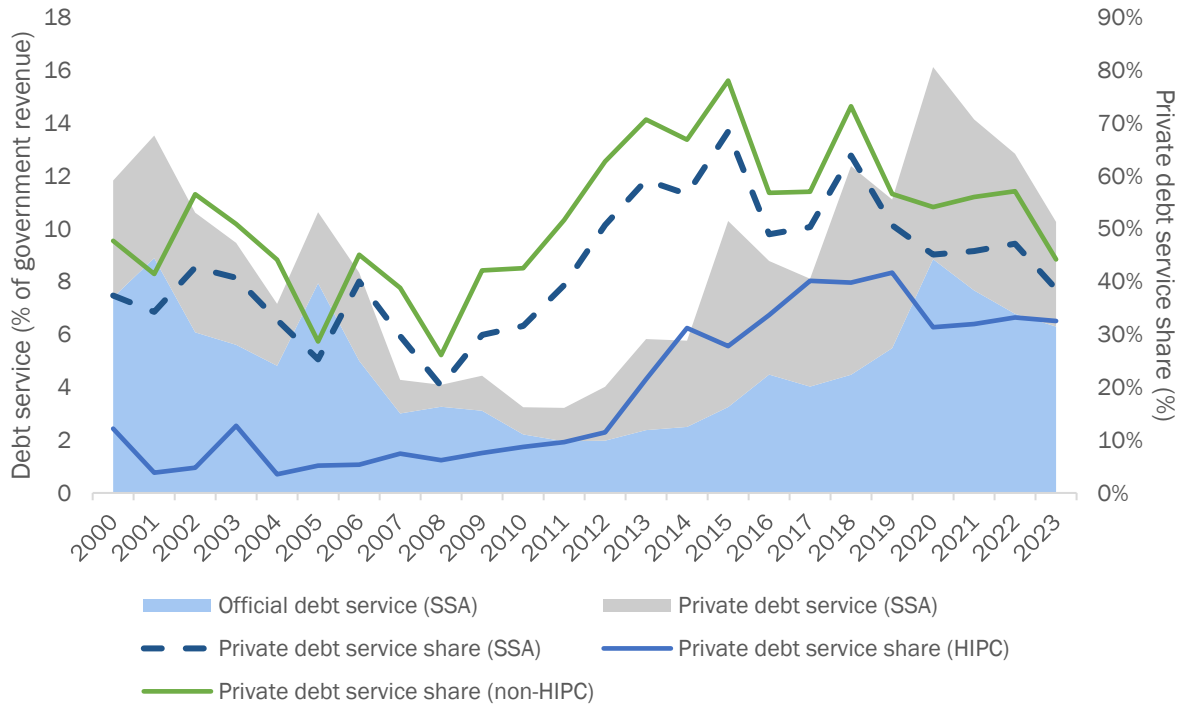
Debt servicing costs, inclusive of principal repayments and interest cost, impose huge pressure on sub-Saharan African countries that are already facing devasted public finances as a result of unanticipated health and stimulus costs and revenue declines associated with the economic shocks. Figure 3 shows the evolution of debt servicing costs (scaled by government revenue). Sub-Saharan Africa's debt servicing, for both private and official debt, has followed a u-shaped pattern. From 2000 to 2010, debt servicing decreased as countries adapted financial liberalization programs, were relieved of significant debt by the Paris Club, and experienced increased government revenue driven by favorable account balances and economic growth more broadly. Beginning in 2012, however, debt servicing began to rise, particularly debt servicing for privately-sourced obligations, and reached its highest point of the last two decades in 2020. In other words, sub-Saharan Africa's debt servicing burden is larger than it's ever been in recent memory.

Although private debt servicing share continued to rise even into the pandemic, its share of total debt servicing peaked at around 68 percent in 2015 before trending downward. In 2020, the private debt servicing share fell to just 45 percent, as many countries were shut out of private markets previously available to them. Figure 3 reveals that HIPC countries and non-HIPC countries had notably different experiences with respect to private debt servicing. While the non-HIPC countries began to shift their debt portfolio toward private sources in 2008, HIPC countries did not begin to shift their portfolio in significant ways until 2012. Whereas the private debt servicing share in non-HIPC countries peaked in 2015, it continued to rise in HIPC countries even until the eve of the pandemic. Furthermore, access

to privately sourced debt during the pandemic differed between these groups. Whereas non-HIPC countries experienced a slight dip in an already-decreasing private debt servicing share, HIPC countries experienced more than a 10-percentage point drop in a private debt servicing share that had been trending upward. While non-HIPC countries retained access to private credit markets, HIPC countries were largely shut out and had to rely on official sources of debt.

Meanwhile, as Figure 4 shows, external bond spreads for sub-Saharan countries have increased across the board in the wake of COVID-19. No country in the region was spared; however, there is variation across sub-Saharan Africa in terms of magnitudes, with the resource-rich countries facing wider spreads. The widening of the spreads coincides with the rising debt servicing costs discussed in connection with Figure 3 above.

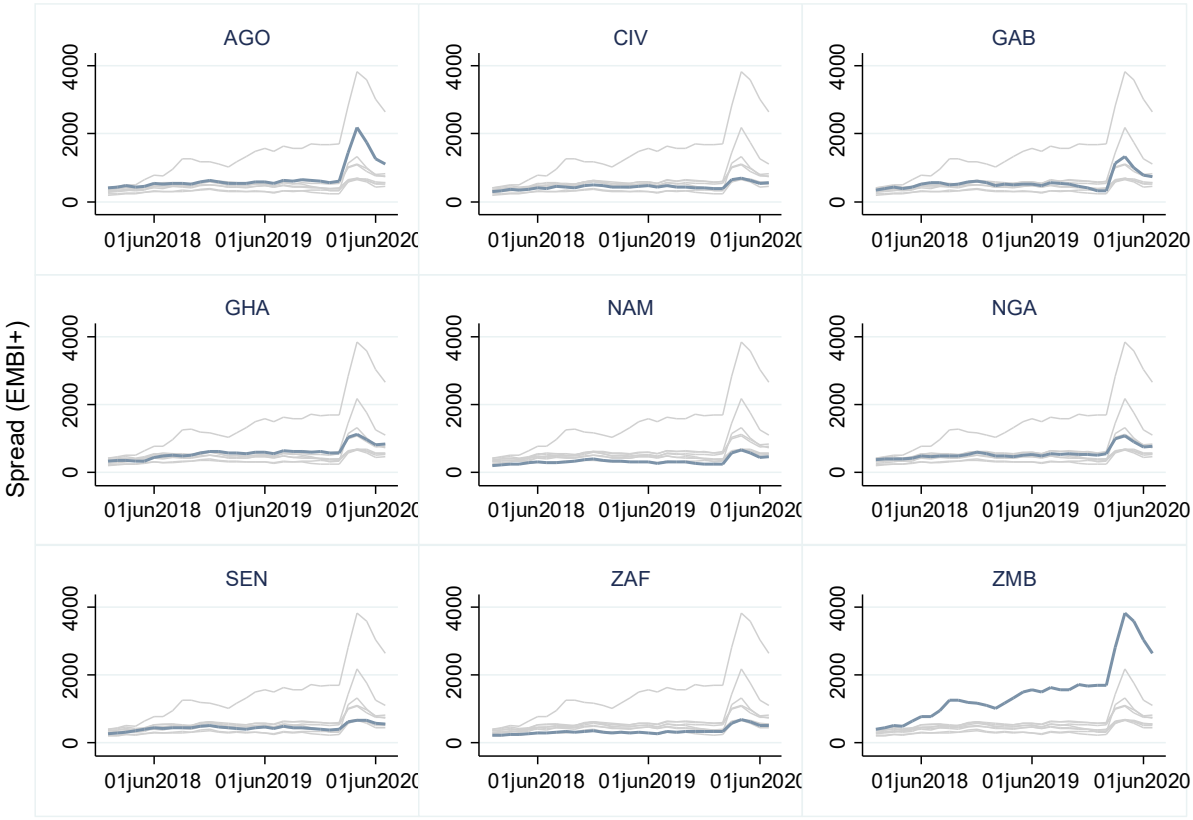
Figure 4: Scheduled and paid debt service by source, sub-Saharan Africa



Note: Values after 2020 are "scheduled" and will not likely reflect the debt servicing that country groupings will eventually pay.
Source: International Debt Statistics. World Bank Group.

Four outcomes could possibly emerge as a result of the dire debt situation—credit downgrades, debt distress (both economic and liquidity), reduction in access, or outright rationing out of the credit markets altogether. Eighteen of the 32 African countries that are rated by one or more of the three-largest credit-rating agencies experienced credit downgrades (Fofack, 2021). These countries must access future financing at steeply higher costs at the very same time that their financing needs have jumped due to COVID-19. While the exact distress landscape is yet to be determined, the signals coming from the widening spreads and dearth of new eurobond issuance (Figure 5) may be pointing to a distress map likely to be more severe than in the pre COVID-19 era.

Figure 5. Sovereign bond spreads by sub-Saharan African country



Source: Bloomberg, 2020.

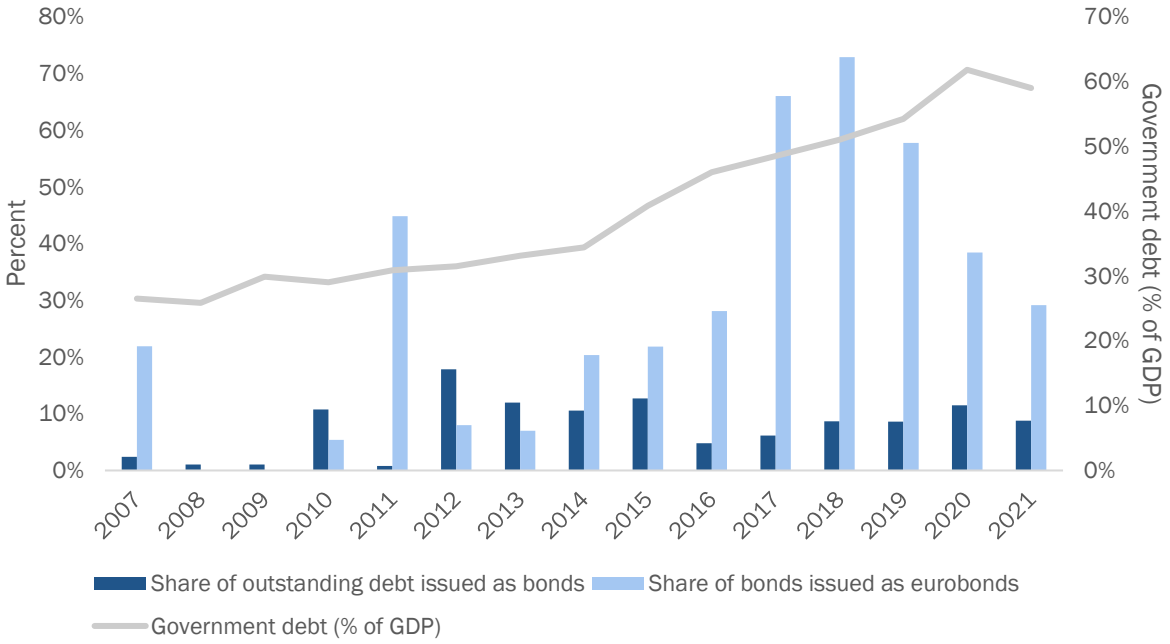
The state of eurobond issuance in the face of COVID-19

In terms of access to international credit markets, eurobond issuance is at its lowest levels since 2016 (Figure 6). In the face of low eurobond issuance, domestic sovereign debt has risen. Part of the rise in privately sourced government debt can be explained by the increase in the issuance of domestic sovereign bonds, which are already 42 percent higher than the 2017-2019 average. These dynamics seen in the pandemic emerge from the preceding two decades during which the issuance of both eurobonds and domestic bonds rose, both absolutely and relative to gross government debt. In particular, eurobonds gained importance as a debt instrument, rising from $1.7 billion in outstanding debt in 2011 to $47 billion in 2019.

During the pandemic, countries of sub-Saharan Africa turned to domestic bonds, rather than eurobonds, to finance new debt. Whereas the value of outstanding domestic bonds more than doubled from 2019 to 2020 ($34 billion to $73 billion), the value of eurobonds declined over this period ($47 billion to $45 billion). In fact, only two sub-Saharan African countries (Côte d'Ivoire and Benin) have accessed international bond markets since the start of the pandemic (Dooley and Kharas, 2021). After averaging 8 percent from 2017-2019, the share of debt issued as bonds increased to 12 percent in 2020, reflecting the increased reliance of sub-Saharan Africa on the domestic bond market. Despite the renewed preference for domestic bonds, eurobonds engender rollover risks. COVID-19 has brought heightened attention to a menu of eurobond issues that will be maturing in the near term—with one batch maturing in 2022-2023 and others between 2024 and 2030. This episode has come to be

known as a "wall" of eurobond issuances, posing rollover risks in the sense that countries may find it difficult to roll over these bonds when they mature.

Figure 6. Role of eurobonds and domestic bonds in government debt, sub-Saharan Africa



Note: Eurobonds include bonds denominated in dollars, euros, or British pounds.
Source: Bloomberg, 2021; IMF, 2021.

3. Channels for adverse economic shocks

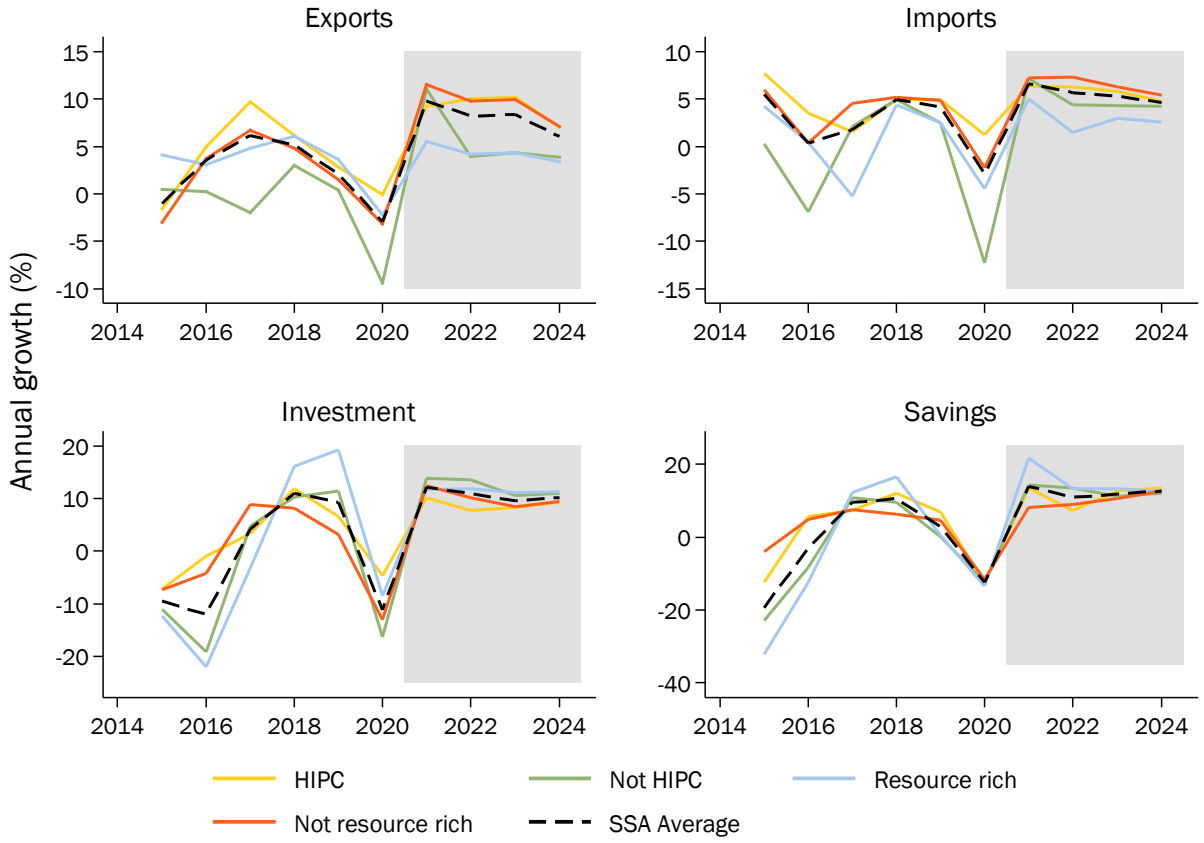
The direct and indirect effects of the pandemic have resulted in what the IMF estimates to have been a 1.9 percent contraction in regional GDP, which is nearly 8 percentage points lower than IMF forecasts in October of 2019 (IMF, 2020a). At this stage, it would be useful to catalogue some key channels for the COVID-19 effect leading to the adverse shocks to the sub-Saharan African economies, particularly in the near term. These channels have combined effects, and they include shocks to trade volume (export/import); services such as tourism, hospitality, and the airline industry; remittances, commodities; disruptions in domestic economic activities resulting from containment measures; and disruptions to supply and global value chains.

We single out those shocks that also adversely affect the debt levels and debt servicing costs facing sub-Saharan African countries. These negative economic shocks hit the region even before the virus itself arrived on African shores due to Africa's interconnectedness with the EU, U.S., and China. Figure 7 below shows the specific shocks. There are sharp declines in exports, imports, investment, and savings for all categories of countries—HIPC, non-HIPC, resource-rich, and sub-Saharan Africa as a whole. This trend is particularly concerning, given that over a third of African countries derive most of their resources from the export of raw materials. Importantly, import shocks also matter. In particular, the decline in Chinese imports, resulting in shortages of basic consumer goods, has been particularly damaging to the vulnerable and small traders. Chinese goods have become a source of livelihood for the lowest economic segments.

High commodity prices were at the center of the Africa growth renaissance pre-COVID 19. Crude oil was already facing huge demand shock pre-COVID-19: The price fell to just 39 percent of its pre-

pandemic level in April 2020 and spent much of 2020 significantly below expectations. Hence, the oil exporters—Angola, Nigeria, Cameroon, Chad, Gabon, Republic of Congo, Equatorial Guinea, etc.—have been badly hit. According to one estimate, Nigeria and Angola alone are expected to lose $65 billion in income (African Union, 2020). These negative shocks, in turn, lead to dwindling revenues and a reduction in debt-servicing capacity, as we discuss later. The good news is, though, in contrast to oil exporters, eastern African countries are economically diverse and conduct higher levels of intra-regional trade, and, hence, have been least impacted economically by COVID-19.

Figure 7. The pandemic's impacts on key drivers of growth



Note: The shaded region indicates projections.
Source: World Economic Outlook. IMF 2021.

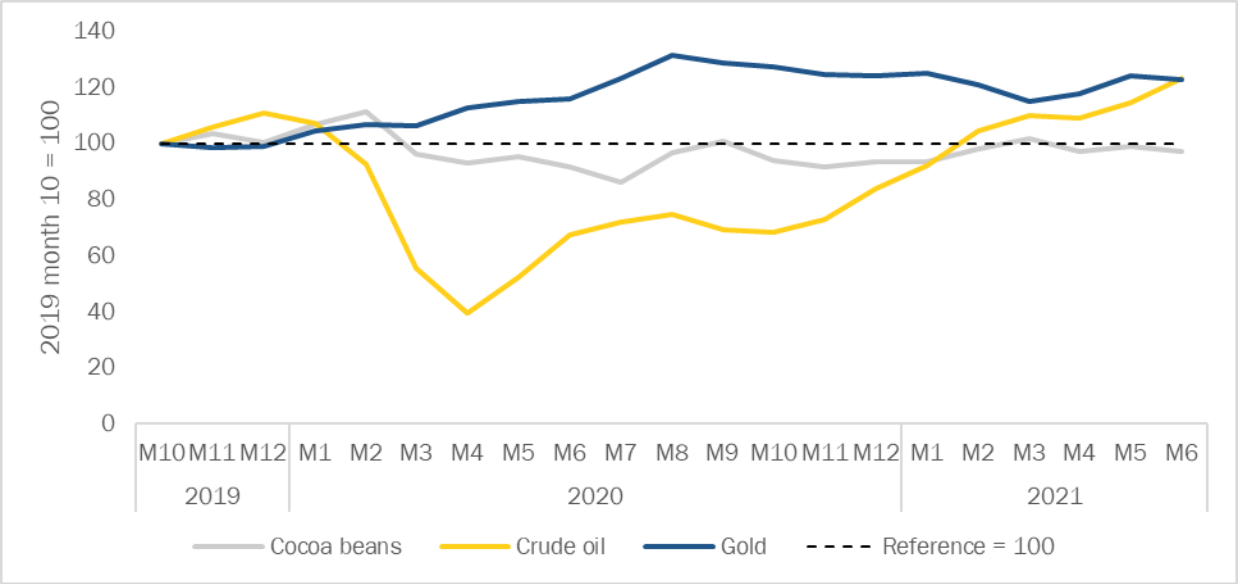
Remittance flows, as opposed to foreign direct investment (FDI), private flows, and official development assistance (ODA), have become the largest source of international flows in recent years. Surprisingly, remittances remained a robust source of capital entering developing markets despite other sources of capital-like private equity and FDI leaving them (World Bank, 2021a). Remittances in sub-Saharan Africa, apart from Nigeria, continued to grow during the pandemic at 2.3 percent. Nigeria, the region's largest recipient of remittances, saw its sum fall by nearly 28 percent. On the whole, remittances showed durability at a critical moment as a source of incoming capital for a region that is a net creditor to the world.

The tourism and hospitality sector has been crucial for the economic growth of many countries in Africa and has been massively impacted by COVID-19. For example, African airlines—such as Ethiopian Airlines, South African Airways, and Kenya Airways—were immediately hit by COVID-19 as a result of border closures, travel restrictions, traveler anxiety, and social distancing mandates. In March 2020

alone, African airlines lost $4.4 billion in revenue. Ethiopian Airlines reported that, by March 11, it already lost $190 million due to COVID-19 (African Union, 2020). Related, tourism employs millions, especially in countries like Nigeria, South Africa, Kenya, and Tanzania. For the island states, such as Mauritius and Seychelles, tourism is among the most dominant employment sectors. Due to stringent border restrictions both internal and external to Africa, tourist arrivals were just a small fraction of their pre-pandemic levels, one reason why the African Union estimates that the tourism and travel sector is expected to lose $50 billion as a result of COVID-19.

One of the key determinants of pandemic debt is the behavior of prices of key commodity exports. Gold-exporting countries (that is, those whose top export is gold), for example, witnessed an increase in the price of their primary export, increasing by as much as 30 percent during the pandemic (Figure 8). The bump in prices provided these countries with sorely-needed revenue and sustained domestic demand, which, in turn, provided support for other industries. Unsurprisingly, therefore, gold exporters took on comparatively little pandemic debt. On the other hand, oil-exporting countries, which derive a significant amount of revenue through state-owned companies or contractual dividends and taxes[1] experienced comparatively high levels of pandemic debt.

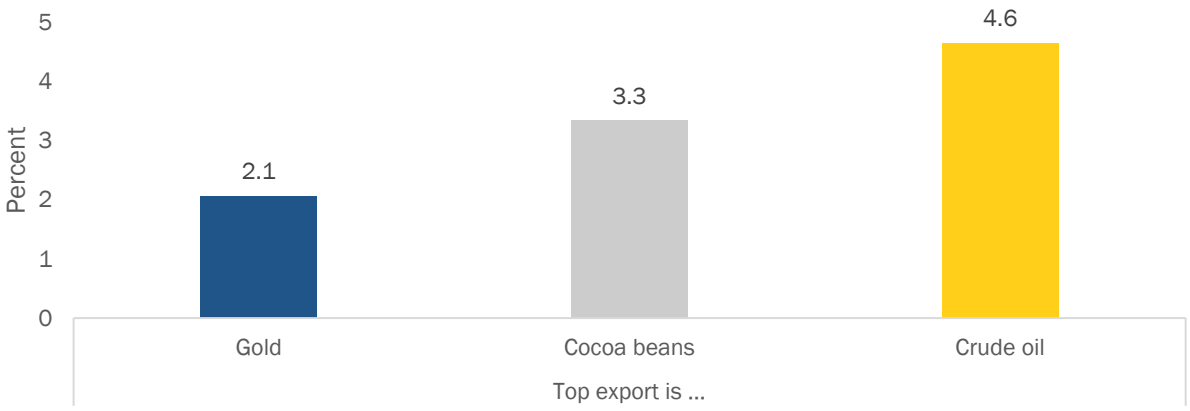
Figure 8. Evolution of key export commodity prices during the pandemic



Note: Oil prices are Brent crude prices, which compares to many crude oil exports from Africa in that they are light and sweet. In general, Brent crude is often used as a benchmark for crude oil prices across the world.
Source: International Monetary Fund, 2021.

[1] See (Stiglitz, 2007) for a discussion of how governments maximize revenues from their natural resource endowments.

Figure 9. Percent change in debt compared to 2019 projections, sub-Saharan Africa

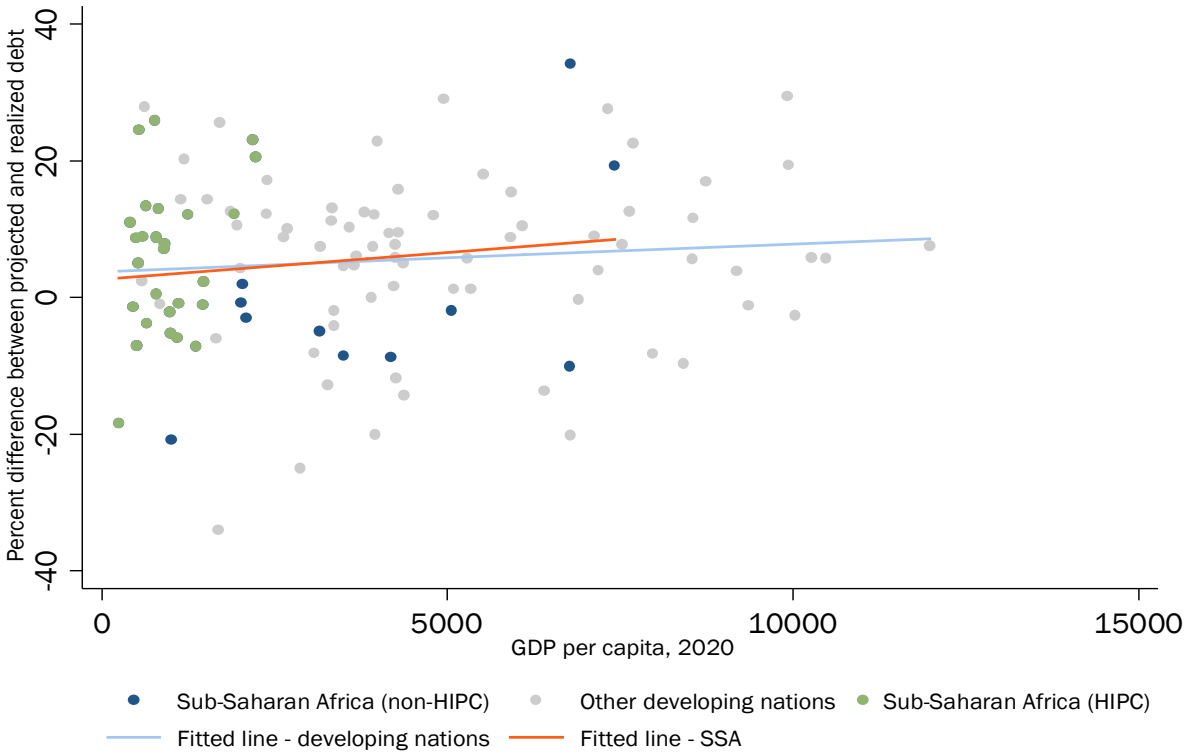


Source: World Economic Outlook. International Monetary Fund, 2021. UN Comtrade Database, 2021.

Role of HIPC status

It could be the case that the channels of impact on debt and GDP are wrapped up in the wealth of a country. Figure 10 shows how the COVID impact on debt varied according to GDP per capita. There is a positive but flat correlation between debt increase and GDP per capita. More importantly, however, countries that are above the trend lines—that is where the debt impact of COVID was higher than their GDP per capita would suggest—are predominantly HIPC countries. There are only two countries above the trend lines that are non-HIPC, and one of these is a resource-rich country (Gabon).

Figure 10. Heterogeneity of projected debt change by HIPC status



Source: World Economic Outlook, IMF.

4. Government revenue loss and the plight of the informal economy: Toward debt vulnerabilities

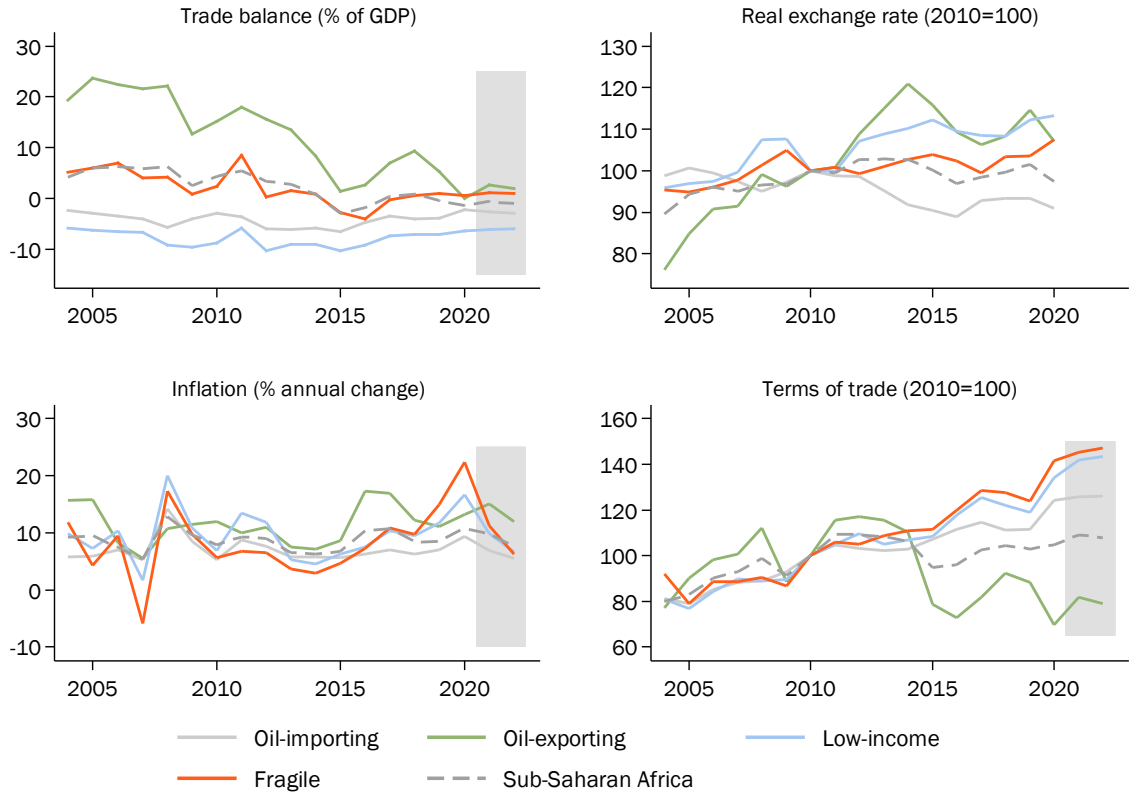
COVID-19 has an adverse impact on government revenues (Table 2). The pandemic ushered in large negative fiscal balances, led by a drop in revenue stemming from decreased trade and increased unemployment as well as increased expenditure in the form of stimulus packages to cover the most vulnerable enterprises and workers. On average, economies of sub-Saharan Africa collected 13.6 percent less revenue than projections in 2020. In 2021, revenue loss is expected to be 9.3 percent. The downward pressure on fiscal balance unequips economies with the most important tool to pay off debt: revenue. The revenue loss is particularly high for resource-rich and non-HIPC countries and, as noted above, correlates significantly with GDP losses.

Table 2. Impacts of the pandemic on revenue

Group	Revenue (% of GDP) before the pandemic		Revenue (% of GDP) during the pandemic		Deviation from October 2019 WEO Projections	
	2014	*2019*	*2020*	*2021*	*2020*	*2021*
IBRD	30.1	26.0	24.5	25.0	-24.4	-17.3
Blend	21.2	18.7	17.3	18.8	-22.9	-12.5
Upper middle income	30.9	25.3	23.4	23.5	-22.6	-16.5
Resource-rich	21.9	19.6	18.3	19.3	-21.1	-12.5
Southern Africa	27.5	25.7	24.9	24.9	-20.8	-16.6
Not HIPC	28.3	26.6	24.9	25.6	-18.0	-10.7
West Africa	17.5	18.5	18.5	18.6	-16.2	-10.6
Sub-Saharan Africa	**21.2**	**20.9**	**20.5**	**20.7**	**-13.6**	**-9.3**
Lower middle income	21.8	20.4	20.4	19.7	-13.3	-12.2
Not resource-rich	20.9	21.4	21.4	21.3	-9.6	-7.9
Central Africa	23.0	18.5	19.0	17.9	-8.5	-4.7
HIPC	18.0	18.3	18.6	18.5	-5.3	-4.6
Low income	17.9	19.5	19.3	20.0	-4.5	-2.4
IDA	18.7	19.9	20.1	19.9	-2.3	-2.9
East Africa	16.8	19.8	19.0	20.5	-1.2	1.5

Source: World Economic Outlook (2021). International Monetary Fund.

Figure 11. Impacts of the pandemic on key determinants of revenue



Note: Shaded regions indicate projections.
Source: World Development Indicators. World Bank Group, 2021.

Informal sector fragility

Microenterprises and informal economies have historically been engines of African employment creation: In fact, informal employment accounts over 85 percent of all employment in sub-Saharan Africa (ILO, 2018). The informal economy also accounts for a majority (55 percent) of Africa's GDP (AfDB, 2013). Yet, informal workers are often not protected by health and unemployment insurance, and other benefits which are common in more advanced countries (Table 3). In all four sub-Saharan African regions, no more than 1 percent of the poorest quintile is covered by social insurance programs. Scant social protection correlates strongly with the provision of social services and healthcare infrastructure in these countries. For instance, in East Africa where just 0.2 percent of the poorest quintile has coverage, there are only 0.07 physicians per 1,000 people.

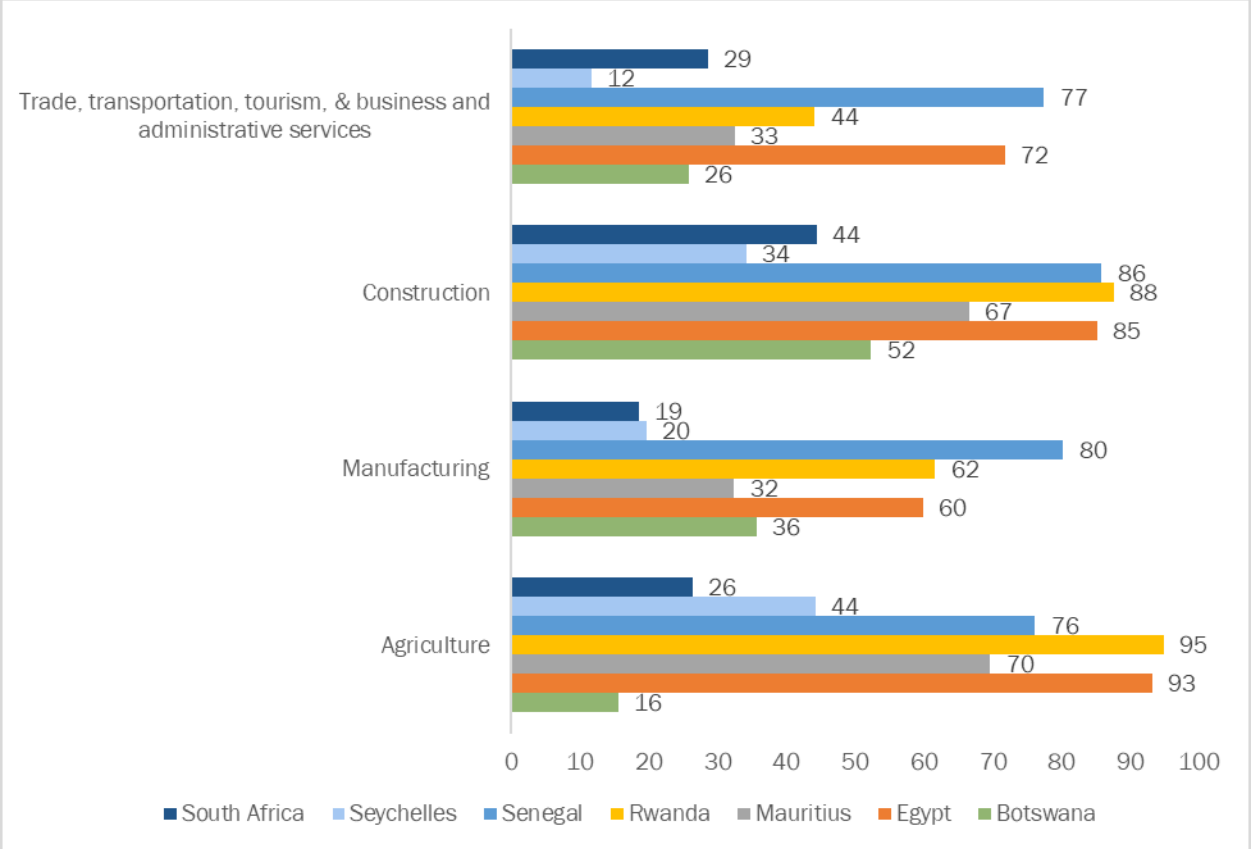
Informal workers are, unfortunately, concentrated in sectors hit hardest by COVID-19, including hospitality, retail, tourism, and transport. Lockdowns, the disruption of global value chains, the closure of domestic small businesses, including retail, informal commerce, restaurants, and bars, have greatly disrupted informal activities and, hence, decimated informal livelihoods. Figure 12 depicts informality by sector (excluding tourism and hospitality) for seven African countries. One notable feature is the high degree of informality found in many sectors. In construction, three of the seven countries have informal employment shares exceeding 85 percent. In Rwanda and Egypt, more than nine in 10 workers in agriculture is an informal-sector worker. The large informal economy renders significant shares of the population susceptible to economic shocks that drive up rates of poverty due to loss of income .

Table 3. Health care and poverty resilience by sub-Saharan African region (average from 2010-2018)

	Health care				Poverty	
Region	*Current health expenditure (% of GDP)*	*Hospital beds (per 1,000 people)*	*Nurses and midwives (per 1,000 people)*	*Physicians (per 1,000 people)*	*Poverty headcount ratio at $1.90 a day (2011 PPP) (% of population)*	*Coverage of social insurance programs in poorest quintile (% of population)*
East Africa	6.2	1.4	1.0	0.07	44.1	0.2
Central Africa	4.0	2.0	0.9	0.13	36.9	0.6
West Africa	5.0	0.7	0.6	0.11	39.1	0.6
Southern Africa	6.5	1.9	1.4	0.22	27.7	1.0

Source: World Development Indicators. World Bank Group, 2020.

Figure 12. Informal employment (% of total non-agricultural employment), by sector

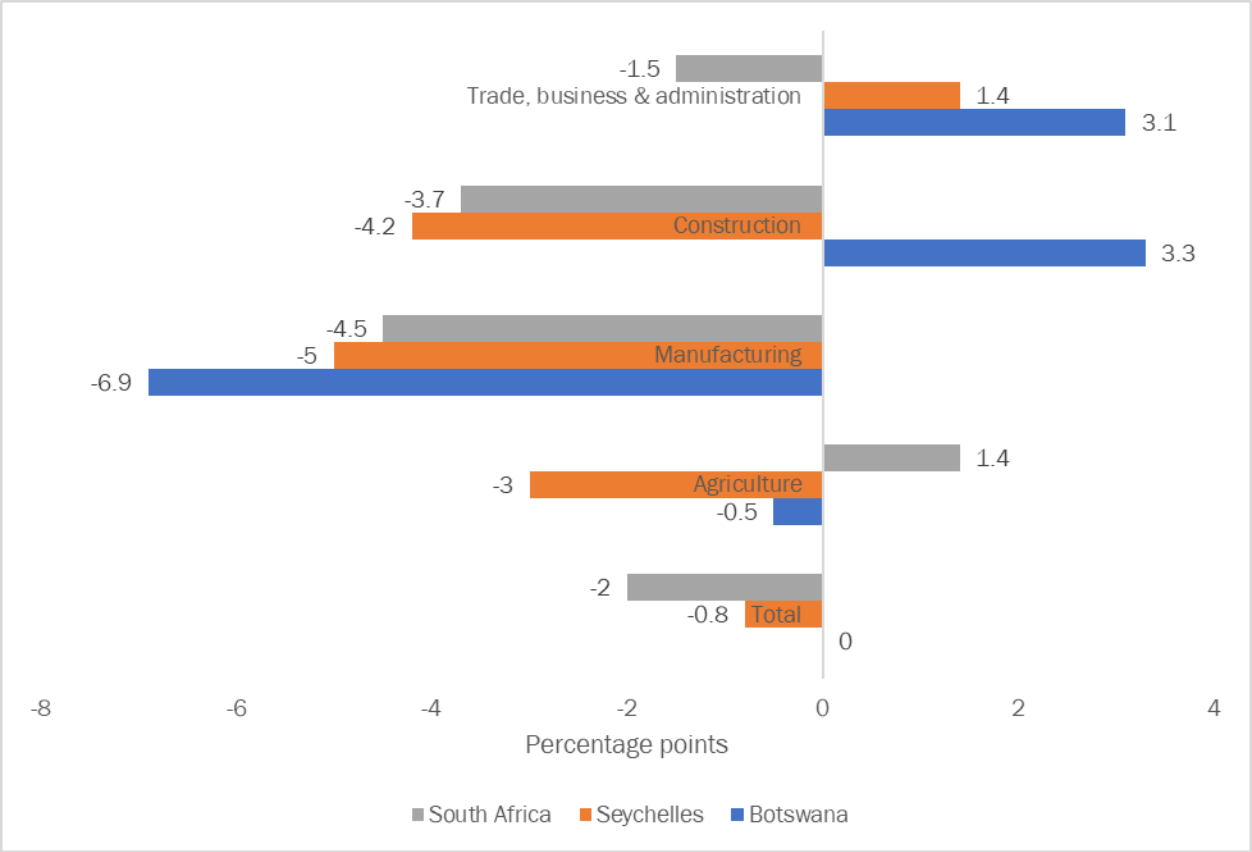


Source: International Labour Organization, ILOSTAT database.

Figure 13 shows the absolute change in the share of non-agricultural employment by sector. In South Africa, Seychelles, and Botswana, there was a general trend away from informality as the pandemic eliminated informal sector jobs. The shift away from informality was most pronounced in manufacturing, where the informal employment share in all three countries decreased by at least 4.5 percentage points. Interestingly, in two of the three countries surveyed, employment in the trade, business, and administration sectors shifted toward informality during the pandemic rather than away from it. Data reveal that agriculture was only very briefly impacted by the pandemic before returning

to pre-pandemic output (Heitzig and Ordu, 2021). Figure 13 suggests that structural change in terms of employment informality did not accompany the temporary shock to the agricultural output.

Figure 13. Absolute change in informal employment share (non-agricultural employment), by sector



Source: International Labour Organization, ILOSTAT database.

The plight of the informal economy, as well as microenterprises, is matched by the plight of the government fiscal status, which has been dwindling (Table 2). Already prior to COVID-19 sub-Saharan Africa countries mobilized tax revenues at the lowest level of peer low-income countries in Latin America. The average tax revenue (scaled by GDP) was about 17 percent while it was about 23 percent average for Latin America. Of course, the OECD average is much higher (about 34 percent) (OECD, 2020). COVID-19 has amplified the revenue loss. Africa is expected to lose 20-30 percent of fiscal revenue of the baseline $500 billion in 2019 (African Union, 2020).

Dwindling fiscal space has widened the financing gap, which, in the short term, will be bridged not by domestic resources but by increasing external debt. The pre–COVID-19 debt vulnerabilities will be amplified, inducing higher levels of indebtedness and debt servicing costs. This is the time to strengthen debt management capacity and allocation so that increased borrowing is channeled to productive investments with long-run value proposition, including improved health systems and safety nets. Given the precarious situation, this is also an opportune time for multinational institutions and Paris Club creditors to provide credit under terms these countries sustain. Of course, the commercial credit space will not be as forgiving, and one immediate challenge is the need to refinance existing borrowing.

5. African debt distress and resolution

Debt distress

Sub-Saharan African countries had seen a rapid buildup of debt leading up to the pandemic. Many African countries were already on the verge of a looming debt crisis due to build-up of high levels of borrowing domestically and internationally. Already nine countries were in debt distress and 11 in high distress risk (IMF, 2020b).

In short, the pandemic arrived at a time when the region's debt levels were already susceptible to distress and default. The pandemic has engendered the risk of losing access to international credit markets while also putting pressure on domestic sources of finance due to huge falls in revenue generation, as discussed earlier. This debt trap has demanded and continues to demand a coordinated response by the international community. Below we highlight the broad measures undertaken thus far for debt suspension and relief.

Debt suspension and relief

COVID-19 has awakened us to global interconnectedness. The IMF, World Bank, AfDB, the African Union (AU), and G-20 have all responded in helping African countries in mitigating the costs and risks stemming from the Pandemic. This section focuses on the responses related to helping the struggling African borrowers in their effort to finance increasing deficits, as well as repayments on the existing debt obligations. On the whole, these global responses are short-term, but they provide a breathing space by reducing the near-term burdens through rescheduling and moratoriums on debt payments.

Table 4. Africa debt relief schemes

Institution/Organization	Representing	Package
G-20	20 leading industrialized and emerging countries. Paris Club creditor countries and China are members of the G-20.	*Debt Service Suspension Initiative* (DSSI: implemented by IMF): debt payment moratorium owed to *participating* bilateral creditors through July 2021. 38 eligible countries in Africa out of 73 poorest globally. The addendum, "the Common Framework for Debt Treatments beyond the DSSI" introduces case-by-case debt treatment.
IMF	Member countries	*The Catastrophe Containment and Relief Trust (CCRT)*: debt relief for 23 African poorest countries through April 2021 (totaling about $400 million).
World Bank	Member countries	Benefiting 33 African countries as part of its global financing for health, economic, and social programs ($160 billion globally).
African Development Bank	Anchored in Africa; members include non-regionals (e.g., US)	Has established a $10 billion *COVID-19 Response Facility*.
Paris Club	Bilateral countries in the Paris Club	Participating in DSSI.
China	Bilateral	Expected to participate in DSSI.
Private creditors	Bilateral	Invited to participate in DSSI.

Table 4 summarizes the debt relief/suspension schemes involving the G-20, World Bank, IMF, AfDB, Paris Club, China, and private creditors. The G-20 is a composite of 20 leading industrialized and emerging economies. It includes one African country, South Africa. Initiated during the pandemic, its Debt Service Suspension Initiative (DSSI) called for a moratorium on debt repayments to participating bilateral creditors through December 2020 and has now been extended through December 2021 (World Bank, 2021b). The beneficiaries are the world's 73 poorest countries, and 38 African countries are eligible. All eligible countries, including those in Africa, must request debt service suspension from their bilateral creditors to benefit from the G-20 initiative. By some estimates, the potential savings for eligible African countries from the DSSI amount to nearly $11 billion (World Bank, 2021b). That includes the potential participation of private creditors, whose participation remains uncertain.

On April 1, 2021, the Common Framework for Debt Treatment beyond Debt Service Suspension Initiative went into effect. It builds on DSSI by creating a framework to handle debt treatments on a case-by-case basis and to engage the private sector on terms as favorable as official creditors. The private sector had largely been calling for a response like this, rather than a rigorous framework to handle debt.

There are some key conditionalities for the implementation of DSSI on a bilateral basis. The deferred repayment obligations have to be paid in full eventually, and hence there is no loss to creditors in the long run (since interest is not suspended under the program, creditors actually gain in the long run). In addition, the borrowing countries have to commit to spending on health, economic, and social programs as part of the COVID-19 responses. There are additional conditionalities with limits on non-concessional debt during the DSSI period. The IMF and World Bank have supporting roles in the implementation and monitoring of the program.

As seen in Table 5, the IMF and World Bank also have their own programs. The IMF's *Catastrophe Containment and Relief Trust (CCRT*) has provided debt relief for 23 poorest African through April 2021 (about $400 million). The World Bank program is benefitting 33 African countries through its global initiative for health, economic, and social programs. In addition, the AfDB has a new facility: the COVID-19 Response Facility (a $10 billion initiative).

The elephant in the room: Private creditors

The international debt relief schemes (Table 5) certainly offer some relief, are in the broader global interest, and reinforce interconnectedness now threatened by COVID-19. An essential ingredient in sustaining interconnectedness and financial stability is the participation of private international creditors in helping to resolve African debt distress. International credit markets (e.g., eurobonds issuance) have contributed to the diversity of sources of African borrowing. However, unfortunately in troubled times, it is very difficult to restructure agreements among a diverse set of creditors. While official creditors are engaged in debt restructuring and relief (at least in the short term by rescheduling payments, etc.), as discussed earlier, no commensurate initiatives are taking place with respect to private creditors, who may also have their own debt issues to manage. There should be a concerted global effort to bring them to the table to resolve the debt crisis in an efficient and mutually beneficial manner. Without the private sector's participation, most African countries risk getting shut out from future private credit markets.

Restructuring initiatives

Private creditors are still not obligated to participate in the latest G-20 program and instead have suggested ad-hoc restructuring as a counterproposal to DSSI. There has been some movement on the part of private creditors to participate on a voluntary, case-by-case basis in debt suspension represented by the Institute of International Finance, a global financial industry association. While DSSI gave countries some flexibility, it did not alleviate the debt burden they faced. In fact, from a certain perspective, it aggrandized their debt burden. The program provides for suspension of official-

creditor debt payments but does not suspend interest accrual, so the countries, when they choose to restart payments, will have a larger principal than they otherwise would have had they continued to make payments. Due to the weak incentives of the program and the lack of private sector involvement, sub-Saharan Africa has only suspended a small fraction of its debt as part of either the Common Framework or DSSI. Because the program aggrandizes remaining debt, there is the possibility that countries will be shut out again from the credit markets in the future, resulting in the downgrading of credit rating on their bonds. In fact, a rating downgrade could wipe out the benefits of the debt relief as countries could face higher costs of borrowing in the future.

Thus, there is a potential danger with the case-by-case approach being advanced by private creditors in renegotiating debt with African countries. Although the bilateral approach is within the DSSI framework, a *free rider problem* may arise when some private creditors have incentives to just hold out. The hold out problem may unravel the equilibrium, putting the debtor countries in a precarious situation with distorted incentives for the resources freed up through DSSI used to repay the private creditors. Countries' responses may divert resources away from COVID-19 related spending on health, economic stimulus, etc.

Concluding note on debt relief schemes

What is encouraging is that African and global institutions have responded with speed and in a coordinated nature—an improvement on prior experiences. However, the scope and magnitude are far below the HIPC relief. The weaker response may be due to the nature of the crisis, which is rooted in the health catastrophe stemming from COVID-19. The expectation is that things will normalize and recover faster, depending on the control or demise of the virus. We already see that vaccines are being developed at an unprecedented pace. This may be the reason for the short duration of debt relief/moratorium initiatives. The second issue is that, even for the short-term intervention, the size is not commensurate with the huge economic shocks we have witnessed, which have exacerbated debt shocks. Moreover, debt relief is really a misnomer here. The proposed debt relief schemes instead postpone debt (but not interest), in effect creating breathing room in the short run. They also tend to target less-developed countries without access to low-interest financing, a luxury many developed nations have had throughout the pandemic.

6. Recommendations: The way forward

COVID-19, through economic and health shocks, has greatly awakened us to African debt fragility and unsustainability. The recovery path for Africa is still uncertain, but there are some initial projections. According to the IMF, the global economy is expected to recover to about 6.0 percent in 2021 after contracting 3.2 percent in 2020 (IMF, 2021). Correspondingly, sub-Saharan Africa is expected to experience recovery of 3.4 percent in 2021 after a 1.8 percent contraction in 2020. The prediction is that the region will not get back to the pre-COVID-19 level of economy (GDP) until 2022 or even 2023. In light of this, African countries will continue to face high levels of external debt obligations in the near term.

Although the global and regional responses to sub-Saharan Africa's debt burden, which has been made significantly more unsustainable by COVID-19, have been timely and welcome, they are grossly insufficient. The recovery path for the region will be greatly impacted by the global economic recovery, including the eventual revival of global supply chains. However, the path is treacherous as many countries face hampered government revenue generation and an exacerbated debt service burden. One danger is governments might be forced to channel their very limited resources to addressing the COVID-related damages and postpone vital long-term investments, including infrastructure.

Given these considerations, we propose the following recommendations:

- **Obtain full participation of all creditors, including private ones, in debt restructuring:** All bilateral, including members G-20 and Paris Club members, China, and private creditors should participate. Limited participation not only fosters a free rider problem but also distorts incentives of borrower countries toward using resources freed up from DSSI to repay debt obligations owed to the non-participating creditors. Although the DSSI called on private creditors to agree to provide similar terms, the initiative has fallen short of including them. The holdout problem can be mitigated by leveraging the official sector to achieve private-sector participation. Is it possible to come up with a binding framework that ensures that official debt relief translates into private debt relief? Currently this goal is in sight. The G-20 is in a unique position to accomplish this task since its membership includes governments of the most important bilateral creditors to sub-Saharan Africa. The G-20 took a step closer to securing private-sector participation with the development of the Common Framework.

- **Accelerate financial sector development:** Continued reliance on large-scale external borrowing, including concessionary borrowing, reduces the urgency of developing and deepening domestic financial markets (Allen et al., 2014). Continued reliance on such borrowing can also create disincentives for African countries to get their house in order. In particular, it reduces the urgency of developing the financial sector and enhancing capacity for domestic resource mobilization. It is imperative that these countries accelerate the process of developing financial sectors that are deep, dynamic, and inclusive. This strategy accords with Agenda 2063 (Africa) and Agenda 2030 (U.N.). Financing Africa's bold transformative agendas can be facilitated through the regional integration of many disparate and low-scale financial systems in Africa, including stock exchanges. The new African Continental Free Trade Agreement is a promising new development in this vein.

- **Enhance public financial management and internal resource mobilization:** Effective domestic resource mobilization (DRM) goes beyond obtaining new financial resources; rather, it includes creating and sustaining greater value through effective and efficient management of public finance, as well as efficient allocation and delivery of those resources for the benefit of the citizens. Moreover, there should be transparent and accountable arrangements for financial reporting and financial management. The added benefit of accountability and transparency is increased access to external finance, as well as debt sustainability. Related, sub-Saharan African countries should accelerate investments in digitization for enhanced internal resource mobilization through digitized tax collection and administrative system, which will lead to greater public financial efficiency.

- **Mitigate financial leakages and illicit flows:** Although the focus has been on Africa's indebtedness, there is now a growing attention Africa has been a net *creditor* to the rest of the world. This net creditor position is not explicit, however. Instead, it hidden in the massive illicit resource outflows from the region over the years. Although it is hard to measure the illicit resource flows from Africa, there have been numerous attempts, whose findings vary significantly. According to the AfDB 2020 Economic Outlook, the figures are about $50 billion per annum, but this estimate is likely on the conservative side. Illicit resource outflows are enabled by domestic governance failures and corruption resulting in such activities as tax evasion and mis-invoicing. The lion's share of illicit flows is attributable to multinational corporations, which devise schemes for tax avoidance, profit shifting, and transfer pricing. Curbing illicit flows is central to the development financing challenge for the continent since they deprive countries of resources that could have been used to put relevant countries on a debt sustainability path. There should be coherent and coordinated mechanisms and policies involving sub-Saharan Africa and global partners—a discussion of such tools should be on the agenda of the G-20.

- **Harness and accelerate opportunities afforded by AfCFTA:** African markets suffer from their small scale and fragmentation characterized by torpid intra-Africa trade. There are close to 30 stock exchanges in Africa, and, except for South Africa, these markets are thin with low liquidity provision and trading. They are inadequate in delivering functions of stock markets—information production, price discovery, liquidity provision, etc. African markets have now embarked on a bold vision of integrating these disparate and fragmented markets. As part of that effort, Africa has recently become home to the largest free trade area in the world, both by area and by the number of countries. The Africa Continental Free Trade Area (AfCFTA) comprises 55 countries with a population of 1.3 billion and combined GDP of about $3.4 trillion. COVID-19 has accelerated the need for the AfCFTA to begin yielding economic growth and increased regional integration to safeguard Africa from future health and economic shocks. What is promising is that AfCFTA is broader in scope than other trade agreements like it, allowing not only the free movement of people and goods across borders, but also integration of services, intellectual properties, and competition policies. In particular, it affords an opportunity to integrate the region's disparate financial systems and contribute to the deepening and development of the financial sector. Financial integration, in turn, fosters capacity for domestic resource mobilization and contribute to debt sustainability.

- **Design incentive compatible and state-contingent contracts**: There is a prevalence of commodity-linked lending mainly originating from bilateral Chinese lending and other private international lenders. The characterizing feature is that debt repayments are tagged to revenues generated by commodities (often oil). However, improperly designed debt contracts, particularly those that link debt payments to revenues (e.g., tagging debt payments to oil revenues like in Chad), can wipe out the revenues in the event of distress or default and can be harmful to society. Such contracts should be designed and priced in an incentive-compatible way and based on ability to pay. For instance, the feasibility of contracting based on commodity price levels (rather than revenues) or other economic indicators (e.g., GDP and inflation linkers) should be reviewed for fairer risk sharing and pricing.

- **Revisit existing institutional mechanisms for debt resolution:** The current global debt architecture is complex but grossly inadequate for troubled debt restructurings. The issue is fueled by the emergence of new creditors, including China and private creditors, which has led to an increasingly diffuse credit base characterized by limited transparency. On the bright side, the region's increasingly diverse creditor pool reflects more diversified funding partners and attests to greater international confidence in sub-Saharan Africa's economic prospects. However, the downside is also clear. The plurality and diversity of creditors makes coordination more complex and protracted in the event of debt resolution. To mitigate high debt resolution costs, there should be a new framework that is fit-for-purpose and accommodates the plurality and diversity of the creditors. This new framework should also be at the top of the G-20 agenda.

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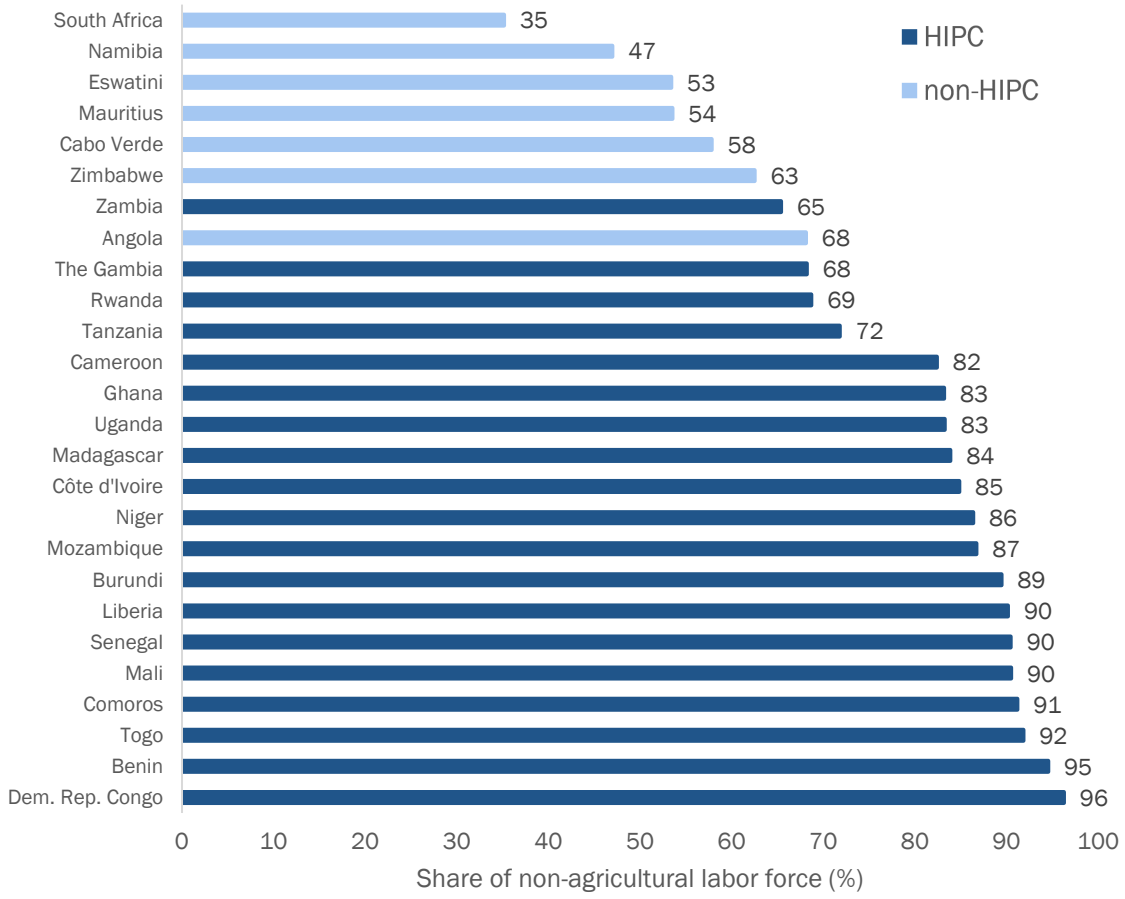
8. Appendix

Table 4. General debt by country grouping

Group	Debt (% of GDP)		Debt (% of GDP) during pandemic		Percent change from Oct 2019 WEO to Apr 2021 WEO		
	2014	*2019*	*2020*	*2021*	*2020 debt*	*2021 debt*	*2020 GDP*
Central Africa	25.5	38.8	41.5	39.1	9.7	19.9	-7.3
Low income	46.9	63.1	71.9	66.9	9.2	2.8	-1.2
IDA	43.7	59.5	67.0	64.5	8.5	6.4	-0.3
HIPC	42.6	59.2	66.5	63.9	8.5	6.9	-0.7
East Africa	53.8	74.1	83.5	79.8	7.3	-0.6	-4.7
Blend	21.5	39.1	44.5	40.6	6.2	0.9	-10.5
Lower middle income	27.5	49.3	54.3	50.4	5.3	3.3	-9.3
Resource-rich	27.6	50.6	59.0	50.6	4.9	-1.5	-12.8
Sub-Saharan Africa	**35.1**	**55.4**	**63.1**	**60.3**	**4.5**	**3.4**	**-9.9**
Not resource-rich	42.9	58.5	65.7	67.1	4.2	6.3	-7.8
West Africa	23.1	37.3	43.7	41.8	3.6	4.0	-6.6
Southern Africa	43.9	71.2	83.5	82.2	2.7	3.4	-17.9
Not HIPC	31.2	52.3	60.0	57.1	1.7	1.0	-15.3
IBRD	42.4	68.1	81.2	81.3	-1.1	1.9	-20.5
Upper middle income	42.9	59.4	73.3	76.3	-1.2	4.0	-18.4

Source: International Monetary Fund, 2021.

Figure 14. Informal employment (% of total non-agricultural employment), sub-Saharan Africa



Source: International Labour Organization, ILOSTAT database.

Table 6. List of sub-Saharan Africa countries used in analysis

ISO code	Country	HIPC status	Resource-rich status
BEN	Benin	HIPC	Not resource-rich
BFA	Burkina Faso	HIPC	Not resource-rich
BDI	Burundi	HIPC	Not resource-rich
CMR	Cameroon	HIPC	Not resource-rich
CAF	Central African Republic	HIPC	Not resource-rich
TCD	Chad	HIPC	Resource-rich
COM	Comoros	HIPC	Not resource-rich
COG	Republic of Congo	HIPC	Resource-rich
CIV	Côte d'Ivoire	HIPC	Not resource-rich
COD	DRC	HIPC	Resource-rich
ERI	Eritrea	HIPC	Not resource-rich
ETH	Ethiopia	HIPC	Not resource-rich
GMB	Gambia	HIPC	Not resource-rich
GHA	Ghana	HIPC	Not resource-rich
GIN	Guinea	HIPC	Resource-rich
GNB	Guinea-Bissau	HIPC	Not resource-rich
LBR	Liberia	HIPC	Resource-rich
MDG	Madagascar	HIPC	Not resource-rich
MWI	Malawi	HIPC	Not resource-rich
MLI	Mali	HIPC	Not resource-rich
MRT	Mauritania	HIPC	Resource-rich
MOZ	Mozambique	HIPC	Not resource-rich
NER	Niger	HIPC	Not resource-rich
RWA	Rwanda	HIPC	Not resource-rich
STP	São Tomé and Príncipe	HIPC	Not resource-rich
SEN	Senegal	HIPC	Not resource-rich
SLE	Sierra Leone	HIPC	Not resource-rich
SOM	Somalia	HIPC	Not resource-rich
SDN	Sudan	HIPC	Resource-rich
TZA	Tanzania	HIPC	Not resource-rich
TGO	Togo	HIPC	Resource-rich
UGA	Uganda	HIPC	Not resource-rich
ZMB	Zambia	HIPC	Resource-rich
AGO	Angola	Not HIPC	Resource-rich
BWA	Botswana	Not HIPC	Not resource-rich
CPV	Cabo Verde	Not HIPC	Not resource-rich
GNQ	Equatorial Guinea	Not HIPC	Resource-rich
SWZ	Eswatini	Not HIPC	Not resource-rich
GAB	Gabon	Not HIPC	Resource-rich
KEN	Kenya	Not HIPC	Not resource-rich
LSO	Lesotho	Not HIPC	Not resource-rich
MUS	Mauritius	Not HIPC	Not resource-rich
NAM	Namibia	Not HIPC	Not resource-rich
NGA	Nigeria	Not HIPC	Resource-rich
SYC	Seychelles	Not HIPC	Not resource-rich
ZAF	South Africa	Not HIPC	Not resource-rich
SSD	South Sudan	Not HIPC	Resource-rich
ZWE	Zimbabwe	Not HIPC	Not resource-rich

Table 5. The evolution of non-food commodity prices throughout the pandemic, 2019M10 = 100

Commodity	2019			2020												2021					
	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6
Iron ore	100	94	103	107	99	100	95	103	117	122	136	139	135	139	173	188	183	188	201	229	244
Natural gas index	100	115	105	92	74	72	58	52	52	55	80	91	112	122	156	219	176	132	151	182	211
Tin	100	98	103	103	99	92	90	93	101	105	106	108	109	112	119	132	158	163	171	194	196
Base metals index	100	96	99	101	95	91	87	92	100	105	113	115	115	120	136	144	147	151	158	174	180
Coal	100	115	123	129	122	97	79	80	81	79	82	85	87	103	134	134	129	141	137	156	171
Copper	100	102	106	105	99	90	88	91	100	111	113	116	117	123	135	138	147	156	162	177	167
Industrial inputs index	100	98	100	102	97	93	89	93	99	103	110	112	113	119	131	137	140	144	148	163	167
Silver	100	97	97	102	102	85	85	92	101	116	153	147	138	136	141	147	155	145	145	156	153
Rubber	100	107	115	115	110	105	93	94	99	104	123	137	156	169	165	160	162	166	153	162	149
Non-fuel commodity index	100	101	103	106	103	100	98	100	104	106	111	112	114	116	121	126	129	130	135	145	144
Aluminum	100	103	103	103	98	93	85	85	91	95	101	101	105	112	117	116	120	127	134	141	142
WTI crude oil	100	106	111	107	94	55	31	53	71	75	78	73	73	77	87	96	109	116	114	121	132
Uranium	100	100	103	99	99	99	120	134	133	130	126	120	119	118	119	120	115	114	119	121	129
Cotton	100	101	103	107	104	92	86	89	92	93	95	96	101	105	110	118	126	124	123	123	128
Precious metals index	100	99	99	106	109	106	111	113	114	122	132	129	127	125	125	127	124	119	122	128	126
Cobalt	100	101	95	91	95	88	84	84	82	81	93	95	94	91	90	107	135	149	139	125	125
Agricultural raw materials index	100	103	103	107	103	100	95	94	96	96	100	102	108	114	113	112	116	119	117	124	123
Brent crude oil	100	106	111	107	93	56	39	52	67	72	75	69	68	73	84	92	104	110	109	115	123
Gold	100	98	99	104	107	106	113	115	116	123	132	129	127	125	124	125	121	115	118	124	123
Zinc	100	99	93	96	86	78	78	81	83	89	98	100	100	109	113	110	112	114	115	121	120
Nickel	100	89	81	79	75	69	69	71	75	79	86	87	89	93	99	105	109	96	97	103	105
Lead	100	93	87	88	86	79	76	74	80	83	89	86	81	88	93	92	95	89	92	100	100
Wood	100	99	99	99	98	101	100	101	100	101	102	102	103	104	104	104	103	99	99	99	98
Wool	100	102	102	105	101	89	79	71	72	73	63	54	68	73	74	76	81	84	81	82	85

Source: International Monetary Fund, 2021.

Table 6. The evolution of food commodity prices throughout the pandemic, 2019M10 = 100

Commodity	2019			2020												2021					
	M10	M11	M12	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M1	M2	M3	M4	M5	M6
Swine	100	95	95	97	91	97	81	104	77	76	87	109	125	113	103	106	121	147	169	181	192
Tea	100	103	109	113	103	96	99	102	109	110	117	134	135	152	162	175	187	223	217	219	179
Maize	100	99	100	103	101	97	88	86	88	91	89	100	112	114	119	139	147	147	161	182	175
Barley	100	100	99	102	98	90	87	87	90	90	91	90	91	96	100	111	122	123	137	173	166
Fertilizer index	100	94	93	93	98	104	105	89	85	88	96	93	92	96	99	117	132	143	142	142	156
Oats	100	103	108	116	112	112	117	114	111	111	114	133	133	138	142	155	157	150	157	182	156
Arabica coffee	100	112	123	113	109	121	123	117	110	114	125	127	116	116	122	124	128	127	129	142	146
Rapeseed oil	100	101	104	106	100	89	85	89	95	100	104	106	107	107	110	110	131	137	140	143	142
Sugar	100	102	107	114	121	95	81	85	95	96	103	100	115	120	118	128	136	127	130	138	138
Food price index	100	104	108	109	105	101	96	100	104	101	102	104	109	112	114	121	124	127	134	142	137
Poultry	100	100	108	115	102	102	70	93	94	89	84	81	85	99	105	104	105	108	128	134	135
Agriculture index	100	104	107	109	105	101	97	99	102	101	102	104	109	112	113	119	122	125	131	138	134
Salmon	100	112	137	152	132	113	99	109	122	105	102	98	94	95	100	104	109	132	136	145	128
Robusta coffee	100	107	107	102	100	99	96	97	97	101	106	105	99	105	104	105	110	111	112	120	128
Fishmeal	100	102	102	104	111	106	106	106	108	110	107	104	104	108	110	112	115	116	116	125	126
Lamb	100	108	110	110	105	96	91	90	90	90	92	93	94	92	92	101	105	108	113	122	124
Beverage index	100	106	109	106	105	104	103	101	98	99	107	109	102	103	105	106	110	111	110	117	120
Beef	100	121	118	100	97	90	92	101	101	94	94	93	89	90	89	93	96	96	106	113	116
Rice	100	99	99	107	108	118	136	125	126	116	121	123	115	115	125	130	134	126	118	120	114
Bananas	100	99	101	104	105	105	112	114	114	113	110	108	100	100	101	109	108	108	108	108	108
Groundnuts	100	95	98	101	103	102	102	104	104	105	103	103	104	106	105	105	104	109	108	108	108
Cocoa beans	100	103	100	107	112	96	93	95	92	86	96	101	94	92	93	93	98	101	97	99	97
Wheat	100	97	96	98	93	91	90	86	80	82	87	93	89	89	87	87	93	89	84	85	80

Source: International Monetary Fund, 2021.