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Revenue Mobilization in Sub-Saharan Africa during the Pandemic

Aqib Aslam, Samuel Delepierre, Raveesha Gupta, and Henry Rawlings[1]

In the face of repeated waves of the COVID-19 pandemic and multiple lockdowns, governments in sub-Saharan Africa were cut off from much-needed sources of revenue—due to both the freeze in economic activity as well as tax forbearance measures implemented to help businesses survive. High frequency data available up until December 2020 reveals how the pandemic caused a median 15 percent drop in monthly tax revenues in mid-2020 relative to the year before. This note explores the extent of the decline across different revenue categories, some of the drivers behind this drop, and whether revenue potential has been more permanently damaged. It also documents the types of relief measures implemented across the region. Many of the revenue mobilization challenges facing countries before the pandemic remain unresolved and, if anything, have only been exacerbated by lockdowns and the stop-start aftermath. Going forward, as the pandemic comes under control, governments face an even more urgent need to renew domestic revenue mobilization efforts, including diversifying and broadening tax bases and strengthening revenue collection infrastructures. Digital solutions also present important opportunities to open up new or underutilized sources of taxation.

INTRODUCTION

Revenue mobilization has been a longstanding priority in sub-Saharan Africa (SSA) to help finance the region's large development needs. However, tax revenues in sub-Saharan Africa remain muted compared to other regions (Figure 1), with revenues averaging 15 percent of GDP as of 2019 before the pandemic.[2] Despite some progress over recent years, improvements have been slow and uneven across countries in the face of persistent structural issues, high levels of informality, and weak reform efforts

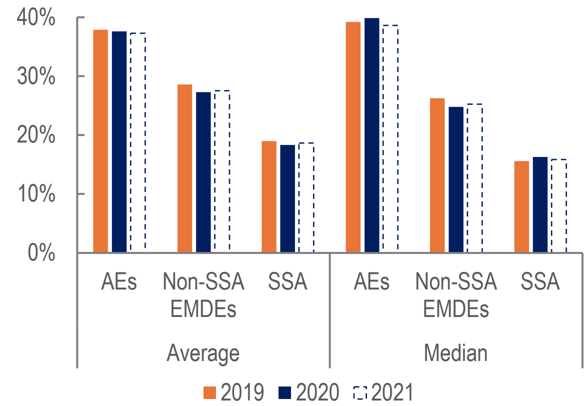
[1] The high-frequency revenue database (Box 1) was compiled with Goran Amidzic, Mokhtar Benlamine, and Seung Mo Choi.

[2] A tax revenue-to-GDP ratio of 15 percent is typically associated with accelerated growth and development (Gaspar et al., 2016). As of 2019, 29 countries in sub-Saharan Africa were below this threshold.

(IMF, 2018). In particular, tax systems across the region continue to be riddled with exemptions and incentives that undermine revenue potential, while administration and compliance remain weak.

Figure 1. Global Revenue, 2019–21

(Percent of GDP, excluding grants)



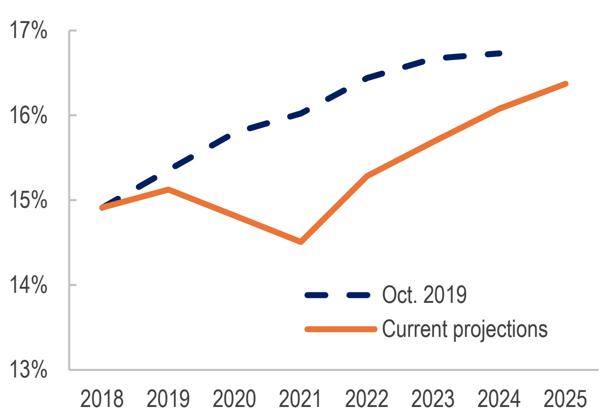
Source: IMF, World Economic Outlook database.
Notes: AEs = Advanced Economies, EMDEs = Emerging Markets and Developing Economies, SSA = Sub-Saharan Africa.

The pandemic has only added to existing financing pressures, triggering large health spending needs for prevention and treatment, and subsequently for securing vaccines. The cost of vaccinating 60 percent of the population in the sub-Saharan African region alone is estimated at about USD 10 billion (or 0.6 percent of sub-Saharan African GDP). Moreover, expenditure needs have become even more pressing as countries have implemented numerous social and economic mitigation measures to tackle the devastating impact of the pandemic. In the face of the highest public debt levels since 2001—60 percent of GDP by end-2020—revenue mobilization remains an indispensable tool for fiscal consolidation while helping create fiscal space for all categories of emergency and development spending, including to meet the sustainable development goals (SDGs).

Tax and non-tax revenues collapsed after the onset of the pandemic (Figure 2). Tax revenues had been growing steadily over the past three decades at an average of almost 13 percent per year. However, most sub-Saharan African countries are estimated to have recorded negative nominal tax revenue growth in 2020. Furthermore, revenue performance in 2020 stands out in comparison to other crisis years, such as 2009 global financial crisis and 2014–16 Ebola outbreak (Figure 3). Damage was not only limited to tax revenues—and its subcomponents, direct and indirect taxes—but non-tax revenues were also hit hard in 2020.

Figure 2. Sub-Saharan Africa: Tax Revenue, 2018–25

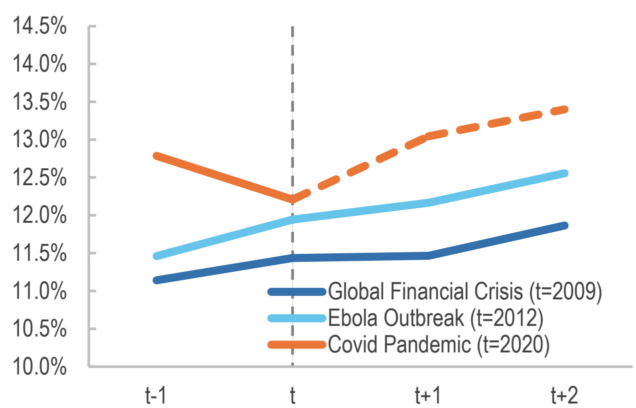
(Average, percent of GDP)



Sources: IMF, World Economic Outlook Database and IMF staff estimates.
Note: Current projections draw from October 2021 figures.

Figure 3. Sub-Saharan Africa: Tax Revenues

(Average change in nominal tax revenues)



Source: IMF, World Economic Outlook Database.
Notes: Countries for the Ebola outbreak include Guinea, Sierra Leone, Liberia, Mali and Nigeria. Dashed line represents forecasted values.

High frequency data reveals that the COVID-19 pandemic caused a median 15 percent drop in monthly tax revenues in mid-2020 relative to the year before (Box 1 and Figure 4). The fall in tax revenues began at the end of the first quarter of 2020 bottoming out in May/June 2020, with the scale of the decline varying across the region. Tourism-dependent economies have been particularly hit, with median year-on-year tax revenue growth falling by as much as 18 percent in June 2020.[3] Non-resource intensive economies also saw a large collapse of around 17 percent (Figure 5). While large, oil exporters, and other resource-intensive economies saw relatively smaller declines of up to 10 percent. However, the subsequent recovery in tax revenues in the second half of 2020 has been more differentiated. Non-oil intensive economies have seen the strongest recovery—though still relatively weak—while commodity exporters experienced a renewed drop in the second half of the year

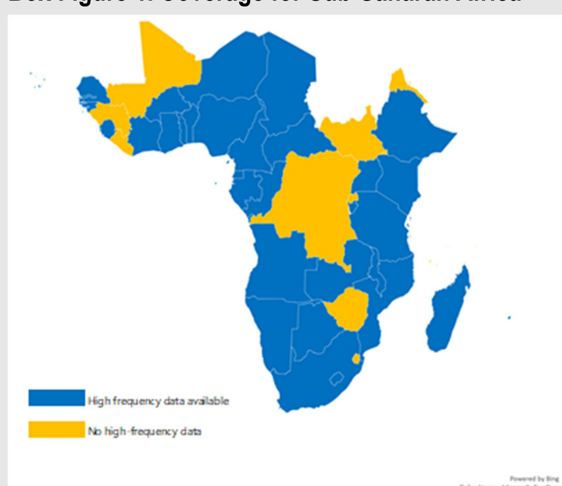
Box 1. High-Frequency Revenue Dataset for sub-Saharan African Countries

This note draws from a novel dataset, which compiles high frequency (monthly or quarterly) revenue data from sub-Saharan African countries, allowing for deeper analysis of revenue dynamics during the first lockdowns in 2020. At the time of publication, the dataset covers 34 of 45 sub-Saharan African economies, with data going back to 2010 for some countries (Box Figure 1). Sources range from information shared by the authorities with IMF country teams, to Haver and online publication of revenue data by statistical agencies in individual countries. To ensure consistency across countries, all revenue series have been mapped to the IMF's GFSM 2014 definitions.

The value-added of this dataset stems from the availability of quarterly and monthly frequencies of revenue data for many sub-Saharan African countries. Out of the 34 countries covered in the dataset, 29 provide monthly values and five require extrapolation from quarterly values.

For the purposes of this note, revenue is divided into domestic revenue and grants. Domestic revenue further comprises tax revenue, social contributions, and commodity-related revenues, which are classified as other revenue. Tax revenue covers four categories of taxes, including taxes on income, profits, and capital gains (divided into personal and corporate income tax), taxes on goods and services (divided into domestic and import value-added tax, and excise tax), taxes on international trade and transactions, and other taxes. The high-level aggregation of revenue series helps to keep the panel as balanced as possible, but it is worth noting that the dataset can serve as a point of information for more granular revenue data in the case of several countries.

Box Figure 1. Coverage for Sub-Saharan Africa

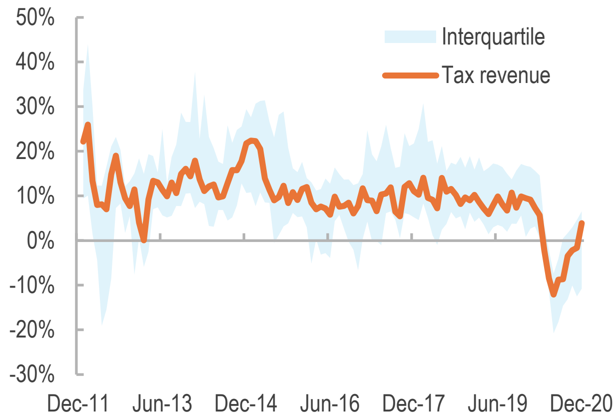


Source: IMF staff calculations.

[3] SSA tourism-dependent countries comprise those whose tourism receipts exceed 30 percent of total exports. These include Cabo Verde, Eswatini, The Gambia, Mauritius, São Tomé and Príncipe, and The Seychelles.

Figure 4. Sub-Saharan Africa: Tax Revenues, 2012–20

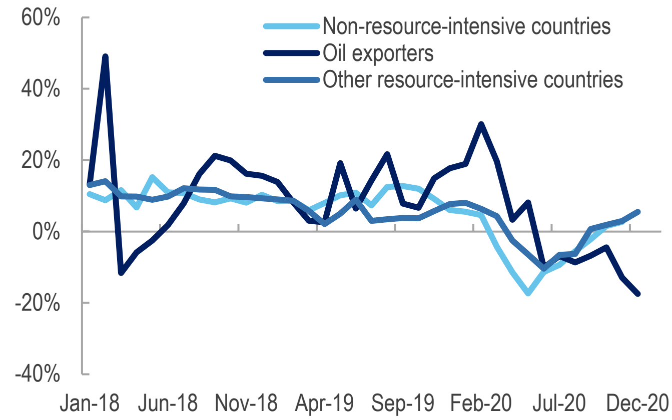
(Median of 3-month rolling average, year-on-year growth)



Source: IMF staff calculations.

Figure 5. Sub-Saharan Africa: Tax Revenues, 2018–20

(Median of 3-month rolling average, year-on-year growth)



Source: IMF staff calculations.

The pandemic negatively impacted each of the primary tax categories. Taxes on goods and services, taxes on income and profit, and taxes on international trade and transactions all declined by about 15 percent year on year in the second quarter of 2020 (Figure 6). International trade taxes declined earliest, given that border closures impacted import volumes. All 45 countries experienced a border closure and temporary halt to international flights, lasting on average 9 and 6 months respectively.[4] As lockdowns were implemented—later in sub-Saharan Africa than in other regions—and domestic activity ground to a halt, taxes on income and profits and taxes on goods and services soon followed suit (see next Section). While the collapse was quick and sharp, the rebound in the second half of 2020 appears to have been slower and more prolonged.

Non-tax revenues were more robust at the outset, but unlike tax revenues, had yet to recover as of end 2020 (Figure 6)**.** Over the last decade, non-tax revenues have outpaced the growth of tax revenues, while also displaying considerably higher volatility. During the pandemic, the decline in non-tax revenues has been deeper than tax revenues (about 20 percent year on year). Furthermore, the collapse was sharper and occurred at least one full quarter later (at the end of 2020:Q3). And while tax revenues seem to be on the mend, non-tax revenues remain suppressed (Figure 7).

[4] Airports in SSA were closed to international travel for half a year on average, contributing to a drop in international arrivals of 212 thousand flights compared with 2019. With the average airport tax paid by passengers arriving from abroad at US$12 as of 2019 (AFRAA 2020), this translates to approximately US$636 million in potential revenue loss between April and September.

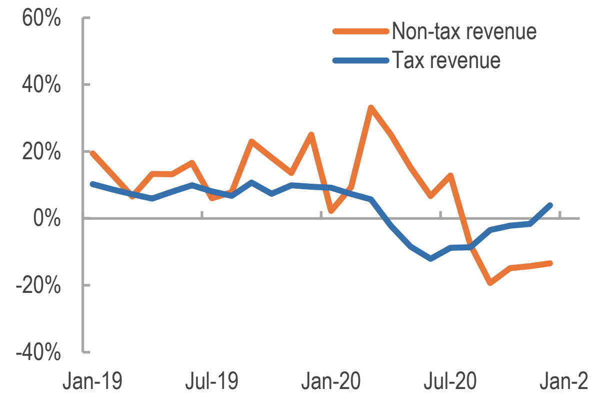
Figure 6. Sub-Saharan Africa: Domestic Revenues, 2018–20

(Median of 3-month rolling average, year-on-year growth)

Source: IMF staff calculations.

Figure 7. Sub-Saharan Africa: Tax and Non-tax Revenues, 2019–20

(Median of 3-month rolling average, year-on-year growth)

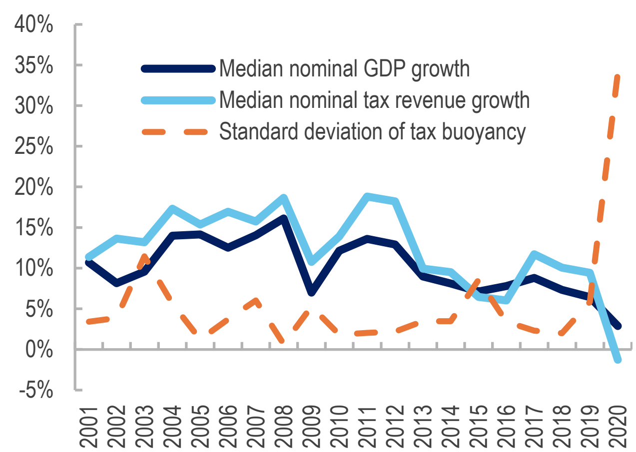


Source: IMF staff calculations.

BETTER UNDERSTANDING THE FALL IN TAX REVENUES

In 2020, the fall in tax revenues was much larger than the decline in nominal GDP growth in contrast with the historical relationship between economic activity and tax revenues. Since 2000, the median annual nominal GDP growth of sub-Saharan African countries has been just under 11 percent. In parallel, tax revenues have grown by almost 13 percent per year (Figure 8). This implies a tax buoyancy—calculated as tax revenue growth divided by nominal GDP growth–hovering around 1.2 over that period—that is, for every 1 percentage point increase in domestic income, tax revenues increased by more than 1 percentage point. However, this relatively static relationship changed markedly during the pandemic. In about one third of sub-Saharan African countries, tax buoyancy turned negative in 2020, as tax revenues declined while nominal GDP growth remained positive—in other words tax revenues fell even while nominal incomes increased, if at a much slower rate (Figure 9).

Figure 8. Sub-Saharan Africa: Nominal GDP Growth and Tax Revenue Growth, 2001–20

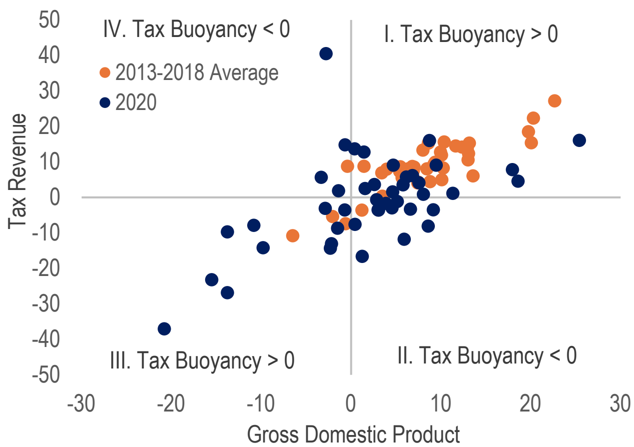


Sources: IMF, World Economic Outlook database and IMF staff calculations.

In those countries where nominal GDP declined, tax revenues declined much more sharply, tax buoyancy remained positive but increased significantly. Consequently, variation in tax buoyancies—measured using the standard deviation of tax buoyancy—increased significantly in 2020 (Figure 8). Furthermore, the divergence between nominal GDP growth and tax revenue growth in 2020 was more acute in sub-Saharan African countries, compared to non-SSA emerging market and developing economies (EMDEs) or advanced economies (Figure 10).

Figure 9. Sub-Saharan Africa: Tax Buoyancy, 2013–18 versus 2020

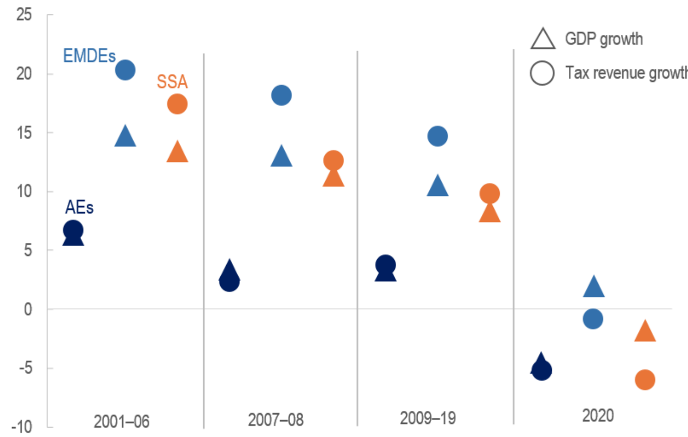
(Percent change)



Sources: IMF, World Economic Outlook database and IMF staff calculations.

Figure 10. Nominal GDP Growth and Tax Revenue, 2001–20

(Average, percent change)



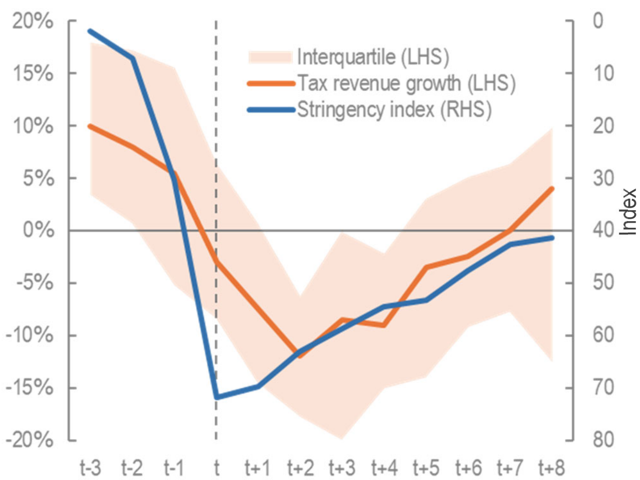
Sources: IMF, World Economic Outlook database and IMF staff calculations.
Notes: Tax buoyancy is tax revenue growth divided by GDP growth, each point is calculated by averaging within country groups first and then across time periods.
AEs = Advanced Economies, EMDEs = Emerging Markets and Developing Economies, SSA = Sub-Saharan Africa.

The collapse in tax revenues can only be partially explained by possible changes in structural determinants of tax buoyancy. To understand the drivers of tax buoyancy in 2020, Figure 10 sorts countries by growth in tax revenue and GDP in the pre-crisis period as well as 2020. The top left quadrant shows countries with shrinking GDP, growing revenue—this is not a stable or common position for countries to find themselves in. The bottom right quadrant is symptomatic of growth with poor policies, weak revenue administration, and low compliance/high evasion. Instead, most countries tend to have positive buoyancies where GDP and tax revenue growth share the same sign (and are located in the top right and bottom left quadrants). The structural determinants of tax buoyancy, such as the level of development, demography, or quality of institutions are unlikely to have been affected to the extent that they can fully explain the collapse in tax revenues. Rather, disruption in tax administration and measures implemented by country authorities (see below) to support the private sector may have reduced revenues while the level of output was more resilient. Indeed, applying the median tax buoyancy in sub-Saharan Africa for the period 2009–19 to 2020 nominal GDP growth, tax revenue would have increased by about 3.75 percent in 2020, versus an observed decline of about 7 percent. Furthermore, these shifts in buoyancy in sub-Saharan African countries—and increasing variation across countries—are consistent with the fact that tax compliance falls quickly and quite strongly, although for a short time, as output falls below potential (Dudine and Jalles 2018).

The stringency of domestic restrictions and global spillovers hampered tax revenue performance in sub-Saharan African countries. The timing of the decline in tax revenues in sub-Saharan African countries shows that revenues started to fall well before the pandemic took hold in sub-Saharan African countries, suggesting that this decline was not only the result of the pandemic itself in sub-Saharan African countries, but initially reflected the impact of lockdowns all around the world and other external factors (Figure 11). These include but are not limited to: (i) the slowdown in China, especially for commodity exporters, (ii) travel restrictions and the decline in tourism, (iii) and the slowdown in trade and reversals of financial flows. Nevertheless, data suggests a correlation between tax revenue performance and stringency of nonpharmaceutical interventions[5] (Figures 11 and 12), implying that the degree of restrictions on activity in the economy also affected tax revenue performance.

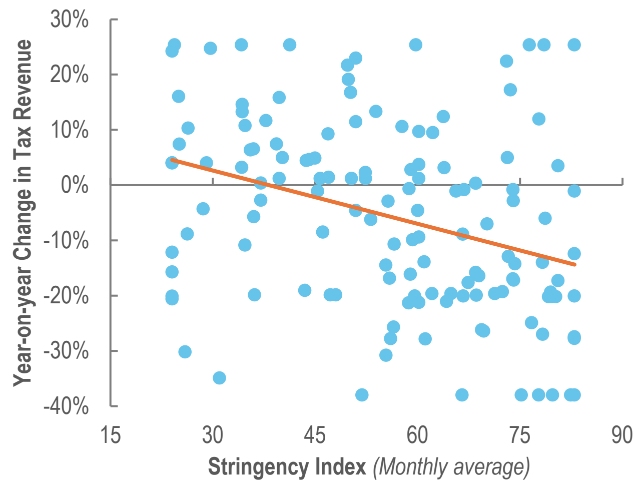
Figure 11. Sub-Saharan Africa: Tax Revenue and Stringency Index, 2020

(Median of 3-month rolling average, year-on-year growth)



Sources: Google Mobility Indicators, Oxford COVID-19 Government Response Tracker, Johns Hopkins University, and IMF staff calculations.
Notes: t = month where countries reported their first COVID-19 case. Stringency is calculated as the monthly average of countries which have corresponding tax data.

Figure 12. Consumption Tax Growth vs. Stringency, 2020



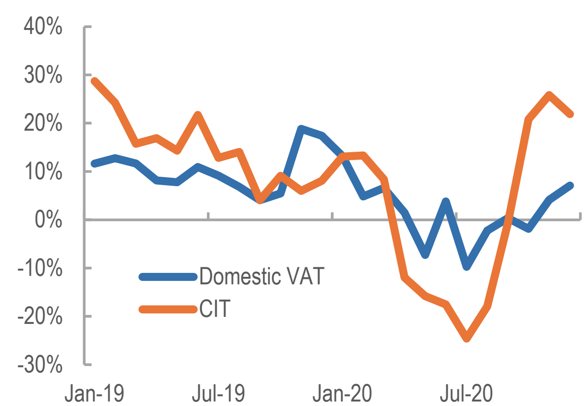
Sources: Oxford COVID-19 Government Response Tracker and IMF staff calculations
Note: A unit increase in the stringency index is associated with a decline in the growth rate of revenues from taxes on goods and services by 0.3 percentage points.

The damage to different tax bases—consumption, income, trade flows, and profits—had different implications for each category of taxation in 2020.

- Indirect taxes were more robust than direct taxes during the pandemic (Figure 13). For instance, corporate income tax (CIT) collapsed by almost 30 percent year on year in the second quarter of 2020. Although this could largely reflect the collapse in revenues from the mining sector, as well as damage to the non-mining corporate sector tax base, it also reflects some tax relief awarded to cash-constrained firms. On the other hand, despite the drop in consumption, VAT fared much better and even remained relatively robust in some countries. Several factors can explain this relative performance, such as (i) the fall in consumption proportionally impacts the (transactions-based) VAT, while the impact on the (profit-based) CIT can be disproportionately larger as the burden of fixed costs per unit of transaction value increases with the fall in sales; (ii) suspension of informal activity, pushing consumption into the formal

Figure 13. Sub-Saharan Africa: VAT and CIT Revenues, 2019–20

(Median of 3-month rolling average, year-on-year growth)



Source: IMF staff calculations.

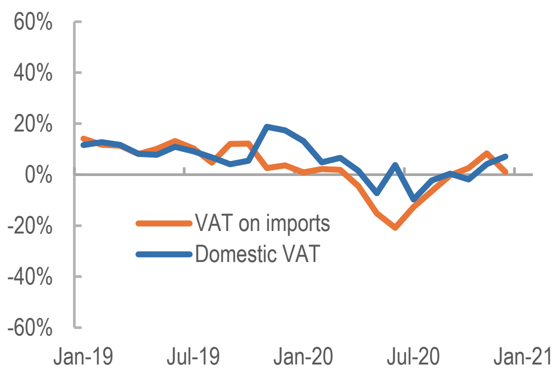
[5] Index computed by the Oxford Covid-19 Government Response Tracker.

sector—indeed movement restrictions constrained informal activity, shifting consumption for essential goods and services to those parts of the formal sector still allowed to operate; and (iii) border closures which limited cross-border revenue leakage.

- Data suggests that within indirect taxes, the domestic component of revenues fared much better than the external components. This is the case for VAT and for excises (Figures 14 and 15). For excise revenues, the drop from the external component was dramatic (as large as –50 percent year-on-year by Q2:2020), and unlike other tax categories, continued to decline in the second half of 2020. This could reflect, for instance, a decline in imports of luxury goods and petroleum products.

Figure 14. Sub-Saharan Africa: VAT, 2019–20

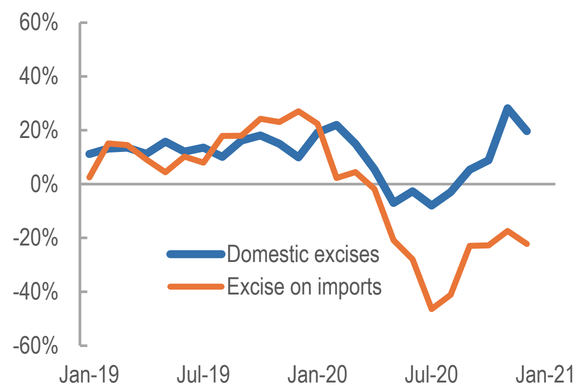
(Median of 3-month rolling average, year-on-year growth)



Source: IMF staff calculations.

Figure 15. Sub-Saharan Africa: Excises, 2019–20

(Median of 3-month rolling average, year-on-year growth)



Source: IMF staff calculations.

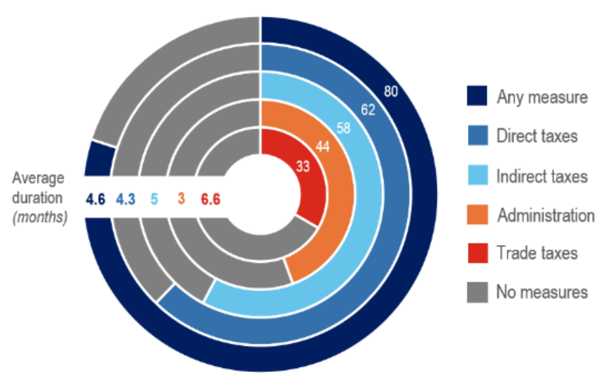
MEASURES TO ALLEVIATE THE TAX BURDEN DURING LOCKDOWNS

COVID measures intended to alleviate pressure on the private sector were widely implemented across the region, also weakening revenue performance.[6] Across sub-Saharan Africa, at least 36 countries enacted more than 148 tax-related initiatives at the national level to alleviate the impact of the pandemic. (Figure 16). Relief measures for direct taxes were the most common, follow by indirect taxes and trade taxes, respectively.

Almost 40 percent of sub-Saharan African countries acted swiftly to provide extensions and exemptions to taxpayers on their direct taxes. Deadlines were extended for filing or paying direct taxes in 28 sub-Saharan African countries. Longer filing deadlines or payment deferrals generally included all businesses; however, a handful of countries—for example, Comoros

Figure 16. Sub-Saharan Africa: COVID-19 Tax Measures, 2020

(Percent of countries)



Sources: KPMG, Orbitax, IMF COVID Policy Tracker, and IMF staff calculations.
Notes: Data comprises 45 countries in Sub-Saharan Africa. Direct taxes include CIT, PIT, training levy, withholding tax, deductible donations, turnover tax, property tax, and vehicle tax. Indirect taxes include excise, presumptive tax, VAT and VAT refunds. Trade taxes include customs and duties. Administration includes penalties, fees, audits, and refunds.

[6] Data on COVID-era tax measures came from the IMF's COVID Policy tracker, IMF staff notes, private companies such as KPMG, Orbitax, and Deloitte, and government websites.

and Rwanda—offered shorter deferrals for larger firms and longer for small- and medium-sized enterprises (SMEs). Only Angola and Côte d'Ivoire reportedly targeted specific sectors, such as tourism and hospitality. Fresh exemptions, on the other hand, typically identified vulnerable sectors or subgroups of the population. The tourism sector received the most exemptions, while Kenya provided relief for individuals earning below US$225 a month, Rwanda for private school teachers, and Comoros for taxis and motorbike operators. Six countries allowed donations made to the state to assist with the pandemic to be fully deductible in 2020.

Very few countries adjusted rates of direct taxation, while the length of direct tax relief measures also varied substantially across economies. Burkina Faso, Chad, and Côte d'Ivoire lowered business license duties by an average 33 percent. Kenya stood out following its lowering of both PIT and CIT rates by five percentage points and two percentage points, respectively. These policies were later reversed as of January 1, 2021. Relief measure lasted on average around 4.3 months with the longest lasting expiring end-2020. These included a mix of exemptions, reductions of rates, and deferrals. The measures of shortest duration were typically deadline extensions for filing. Nigeria, for example, extended the due date for filing withholding tax returns from the 21st day of the month to the last business day of the month.

Indirect taxes provided less variation in policies, as most sub-Saharan African countries targeted the VAT through the acceleration of refunds, exemptions, or the extension of filing deadlines. 25 countries enacted indirect tax relief measures to accelerate VAT refunds or add new exemptions. Almost a quarter of the region reduced the time for processing VAT refunds for taxpayers. Botswana explicitly reduced the refund period from 60 days to 21 days. Temporary VAT exemptions on pandemic-related, medical, and other basic goods were also introduced, varying between 3–9 months. Extensions for filing were also reported, while reductions in rates were less common and temporary (up to six months). Only Burkina Faso, Togo, and Zambia reduced rates specifically in the hospital and tourism sectors, or for medical supplies. Kenya reduced its standard VAT from 16 to 14 percent.

Trade tax relief measures were adopted to reduce or provide exemptions for custom duties on pandemic-related products or other basic goods. Policymakers in 12 countries lifted customs duties, 65 percent of which were on essential goods, health equipment, and other imports used to combat the virus. The remaining exemptions were for country-specific goods, such as fishing equipment in Guinea, and copper, precious metals, and crocodile skin in Zambia. Similar to VAT measures, these exemptions have lasted the longest—often for the duration of 2020 or left in place during subsequent COVID waves.

Finally, revenue authorities in 20 different sub-Saharan African economies attempted to alleviate the pressures of the pandemic by adjusting administrative policies and improving digital services.[7] Many countries waived penalties and interest on overdue payments, or temporarily tweaked their audit policies—typically for a three-month period. Five countries suspended audits entirely for an average of three months. The pandemic also provided an opportunity to enhance taxpayer services, such as the use of electronic platforms for paying taxes in Nigeria.

[7] Only two countries introduced taxes or levies during the pandemic to raise and recoup revenues. Mauritius enacted a "COVID-19 levy" imposed on those who received government wage assistance payable over a two-year period. São Tomé and Príncipe, meanwhile, introduced a solidarity tax on workers who remained relatively unaffected by the shock.

REVENUE MOBILIZATION GOING FORWARD

Revenues will remain at risk as long as economies are subject to repeated pandemic shocks and lockdowns in economic activity. First, revenue performance is linked to the recovery, which itself hinges on both the path of the pandemic and the rollout of vaccines. With fresh waves of COVID and limited vaccination, the likelihood of new restrictions being implemented increases, along with significant uncertainty affecting investment and consumption decisions, and so the projected improvement in economic activity—and, therefore, domestic revenues—remains at risk of being delayed.

The crisis is highly asymmetric across sectors, and some sectors or businesses are more seriously and durably affected. Structural changes may affect countries' tax capacity, tightening the tax frontier. As a result, it remains unclear whether the drop in revenues in 2020 was temporary or reflects a permanent loss. Furthermore, it will be challenging to reliably project revenues in an environment of uncertainty as the region attempts to recover.

As economic conditions in sub-Saharan Africa gradually start to improve in 2022, revenues are expected to recover. Assuming strong tax buoyancy - given the still negative output gap in the majority of sub-Saharan African countries - revenue collection could rebound and make up part of the revenue shortfall from 2020 and 2021. Furthermore, emergency measures in 2020 are likely to have backloaded some tax revenues. And although some countries decided to extend such measures into 2021, some will be lifted and reinvigorate revenue collection. However, output and revenues may also bear scars from the pandemic, leading to some permanent losses. The most recent projections (as of October 2021) suggest that the tax-to-GDP ratio in sub-Saharan Africa would recover to its 2019 level by 2022, but the region will not catch up to its pre-COVID-19 trend over the medium term. Furthermore, raising taxes will be politically challenging going forward, as the crisis has left many businesses and households with fewer resources.

However, even if a revenue rebound to pre-pandemic levels materializes, this will be insufficient to secure the recovery as spending needs have risen substantially, thereby requiring bold reforms. COVID-19 has exacerbated weaknesses in the revenue collection infrastructure, by adding to a long list of exemptions and tax breaks, and further weakening revenue administration capacity. The increase in spending needs and debt obligations means that the easing of the pandemic should be accompanied by renewed efforts for reforms in both tax policy and revenue administration by authorities.

As the pandemic comes under control, governments will have to reboot tax reforms and renew the push to enlarge and diversify the tax base to weather future shocks better. Many problems that existed before remain and have only been exacerbated by the pandemic. Renewed tax policy reform effort is still required to modernize tax systems and broaden tax bases. For example, going forward, the recovery of CIT revenues will likely lag VAT revenues due to provisions for carryforward of losses, emphasizing the importance of VAT reforms to keep revenues robust over the near term. Another avenue for reform could include improving the existing tax structure and introducing new tax categories, which are less volatile and more equitable, for example, reinforcing property taxes, whose revenues are less variable, through administrative reforms and greater decentralization. Revenue administrations will also need to develop post-crisis revenue collection plans that set out the necessary actions to increase efficiency, restore compliance, and secure additional revenue.

Moving to greater digitalization of tax collection and payment infrastructures offers an opportunity to strengthen domestic revenue mobilization. The region will need to rely on innovative approaches to old problems, by leveraging the potential from digitalization to broaden tax bases, enhance tax fairness and taxpayer compliance, and increase the efficiency of tax administrations. Digital solutions also present opportunities to open up new or underutilized sources of taxation, such as property taxes. These reforms should incorporate any changes that have arisen in the structure of the tax base and, more broadly, the economy, including the emergence of new industries or expansion of existing ones, such as delivery services and online sales of products.

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