



Special Series on COVID-19

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March 3, 2021

Sub-Saharan African Oil Exporters: The Future of Oil and the Imperative of Diversification

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Sub-Saharan African (SSA) oil exporters face multiple challenges over the near- and medium-term making diversification away from oil more pressing than ever. This note reviews these challenges, which include the effects of the ongoing COVID-19 crisis and a secular decline in production. A successful diversification strategy would require tackling fiscal imbalances while developing export activities around existing industries and diversification toward new industries to sustain long-term growth with an emphasis on ensuring competition and accountability.

I. INTERNATIONAL OIL MARKET CONTEXT: THE SHALE REVOLUTION, THE PANDEMIC, AND THE WAR FOR MARKET SHARES

Oil-exporting countries have been facing difficulties since 2014, mainly as a result of the shale oil revolution. Thanks to advances in shale oil technology (e.g., hydrofracking and directional drilling), the United States went from being a major oil importer to a self-sufficient oil producer (and subsequently to a net exporter), eventually becoming the largest oil producer in the world. Meanwhile, other conventional producers such as Russia also increased their production substantially over the same period. The loss of OPEC's dominant role in the market led it to the conclusion that it could no longer adjust its production to stabilize prices without continuing to lose market shares (Figure 1.1). Oil prices declined from above \$100 in June 2014 to below \$30 in January 2016,¹ then rebounded and stabilized in the \$50–60 range until end-2019. The stabilization came in part on the back of a de facto expansion of the “cartel” to OPEC+, including Russia, and concerted production adjustments since end-2016.

¹ For more details, see <https://blogs.imf.org/2016/10/27/a-new-normal-for-the-oil-market/>

The oil market difficulties have been compounded by a collapse in demand following the COVID-19 pandemic and an oil price war. Amid a quickly deteriorating market with weak demand, members of OPEC+ proposed additional cuts in March 2020, which in turn were rejected by Russia. Subsequently, Saudi Arabia took unprecedented actions by flooding the market with oil during the worst slump in demand for decades. As storage capacity reached critical levels in conjunction with a plunge in demand by close to a third, prices collapsed and the North American reference West Texas Intermediate one-month future contracts were trading in negative territory in April. This happened even though an agreement among OPEC+ members was reached in early April, including a commitment by Russia to sizable cuts, leading to a combined monthly cut of 9.7 millions of barrels a day (mbd) over May–July, or about a quarter of total production, then by 8 mbd through end-2020. The rout ended when the Chinese economy showed signs of recovery and the stabilization of COVID-19 cases in Europe was confirmed, as well as OPEC+ actually started to cut production as agreed.

Oil prices have rebounded since early May 2020, hovering at about \$40 until November, then rising again to reach about \$60 in February 2021, as production outside of OPEC+, such as in the United States and Canada, has declined faster than anticipated. Since end-2020, as more and more countries have started to deploy the vaccine, the stronger-than-expected economic recovery has helped push oil prices above \$60 in February 2021 despite the increasing number of COVID-19 cases around the world. However, oil prices are expected to remain below \$50 until 2023 according to the October 2020 *World Economic Outlook* forecast. Meanwhile, a reappearance of clusters as a result of a more contagious variant of the COVID-19 virus or delays in the deployment of the vaccine could lead to a sharp drop in prices.

There is still a lot of uncertainty about how long the crisis will last. As more and more countries are experiencing a second or third wave and being forced to re-impose lockdowns, the demand for oil could be affected. Moreover, although there is indication that a safe and effective vaccine will be ready within months as opposed to years, its full deployment especially in developing countries may take some time.

OPEC+ increased production gradually starting in July, but its pace was slower, and its extent was smaller than its initial plan. Unless massive cuts outside of OPEC+ oil producers are observed, a large supply surplus might persist forcing OPEC+ to extend its cuts to support prices. This is in part due to the fact that some North American shale producers could be highly competitive, with a breakeven price reportedly at about \$25 a barrel, significantly below current prices. In addition, the demand has been weaker than anticipated as international travel restrictions have been extended.

Oil prices are likely to remain relatively low over the medium term, and the more protracted the crisis, the deeper and long lasting the changes it will induce. On the one hand, a protracted low oil price environment could lead to a sharp decline in investment and exploration, as in 2015–19, wiping out a share of global production especially in high-cost fields (for example, Alberta’s tar sand and deep-sea fields). This could lead to an “overshoot” in oil prices if a vaccine is rolled out rapidly in advanced and emerging market economies. On the other hand, potentially long-lasting economic scarring, changes in urban mobility patterns, a heavier reliance on telework, and the possibility of large cuts in business travels could reduce substantially and permanently the demand for oil. Moreover, if policy actions to mitigate climate change accelerate, oil demand could peak within the next two decades.

II. SUB-SAHARAN AFRICAN OIL EXPORTERS FACE A PERFECT STORM: LOW PRICES, LOW GOVERNMENT TAKE, AND SECULAR PRODUCTION DECLINE

Although export volumes from SSA were less affected than expected during March–April 2020, the OPEC+ agreement and COVID-related disruptions have implied sizable production cuts in 2020. Despite the turmoil, most of the production in March and April was sold. However, oil production overall declined significantly over the remainder of the year, in line with the OPEC+ agreement or as a result of COVID-related disruptions (for example, Angola). On average, production fell by 8 percent in 2020, with Nigeria and Angola reaching their lowest levels of production in 4 years and 15 years, respectively.²

The short-term cuts in oil production extend the steady decline since 2014 amid sharp cuts in capital expenditure. Excluding South Sudan, production in SSA oil exporters fell on average by 7 percent over 2015–19 (for example, –17 percent in Nigeria), and is expected according to private sector analysts projections to further contract by 25 percent and 50 percent over 2020–24 and 2025–30, respectively, compared to 2010–14 (Figure 1.2).³

At the same time, capital expenditure (excluding exploration) in the oil sector fell by about 50 percent over 2015–19 compared to 2010–14, and it is expected to remain depressed until 2030 (Figure 1.3).⁴ It is plausible that competition from other low-cost producers during a period of growing oil demand has contributed to the reduction in market share. This has translated into a loss of market share in global markets as the rest of OPEC's total production has remained relatively stable over 2015–20 while the United States continued to boost its production reaching a record 18 mbd by end-2019, compared to about 35 mbd for OPEC the same year (including 10 mbd in Saudi Arabia).⁵

There could be little scope for production to increase going forward if prices remain low. This is in part because many oil operators need prices above \$40 to be profitable. For example, there is indication that the breakeven price for large oil producers in Nigeria reportedly hovers about \$22, and about \$35–\$40 for independent producers. These producers represent a quarter of total Nigerian production. Given that the breakeven price for some North American shale producers is about \$25 and about \$14 for onshore Middle Eastern producers, the current level of oil prices may accelerate the fall in investment and production that started before the COVID-19 crisis.

SSA governments capture a smaller share of total oil revenue when oil prices are low than when they are high. Over the period 2010–19, as oil prices fell, the median share of the government in total oil revenue declined from a high of 60 percent when oil price was about \$110 to a low of about 30 percent when oil prices were low at about \$50 (Figure 1.4). Overall, the current low oil prices and production cuts could be amplified by a lower government share. This is due to a large extent to the prevalence of asymmetrical contracts structures, especially relating to corporate income taxes and profit sharing in the presence of fixed costs.

Overall, it is paramount that countries make progress on diversification. The combination of low production, low investment, and low oil revenue means that oil exporters will have a hard time achieving their development goals if other sources of growth and further efficiency gains are not developed.

² Source: US Energy Information Administration.

³ Projections are based on interviews with oil operators and reflect patterns in investment, technology, and the depletion of oil fields.

⁴ The projection for South Sudan is a notable exception as it is based on the expected reopening of oil fields previously closed because of the civil war. Oil production in South Sudan declined sharply from more than 350,000 bpd at the time of independence in 2011 to 130,000 bpd in 2014 due to the civil war. Following the peace agreement signed in September 2018, oil production recovered to 185k bpd as of February 2020, just before the pandemic hit.

⁵ Production number includes liquefied natural gas.

III. ADDRESSING FISCAL CHALLENGES WHILE PROMOTING DIVERSIFICATION

Going forward, SSA oil exporters must find a delicate balance between the need to navigate the fiscal challenges while investing to diversify their economies. The combination of persistently low oil prices and a secular decline in production is expected to put pressure on the fiscal balances of SSA oil exporters over the medium term. This can be seen through the gaps between the expected oil price and the fiscal breakeven oil price, that is, the price at which government expenditure is equal to revenue (Table 1). Breakeven oil prices were close or below the oil price in 2019 in all SSA oil exporter except for Cameroon and Nigeria, which can be explained to some extent by their specific fiscal and economic structures. In 2020, the crisis triggered by the pandemic has led to a sizable widening in the gaps, especially in Nigeria. Over 2021–25, most countries are expected to lower their breakeven oil prices, reflecting efforts to consolidate. However, at about \$50, oil prices are still expected to be below or close to the breakeven prices of most countries, leading to an expected stagnation in government expenditure overall and leaving little margins in case of lower than expected prices.

Table 1. Sub-Saharan Africa: Fiscal Breakeven Oil Price (US dollars per barrel)

	2019	2020	2021–25
Angola	57.4	53.2	42.5
Cameroon*	140.6	158.2	114.6
Chad*	63.5	45.3	41.2
Congo, Republic of	41.5	49.4	32.2
Equatorial Guinea	53.8	55.6	52.2
Gabon*	44.1	92.0	61.7
Nigeria	140.5	161.1	162.6
South Sudan	60.8	44.4	43.6

Sources: IMF World Economic Outlook database; and IMF staff calculations. Note: The fiscal breakeven price approximates the oil price at which the non-oil deficit is equal to oil revenue. For economies such as Cameroon, Chad, and Gabon where oil revenue represents less than 40 percent of total revenue, these breakeven prices are less interpretable.

With much more limited resources and buffers, oil exporters must diversify their economies by linking directly their investment policies to the development of productive export industries. The periods of high oil prices and larger fiscal expenditure such as in 2009–14, have shown that the standard growth model of oil exporters did not yield any material result in terms of diversification of the economy. Indeed, oil as a share of exports has not changed much in comparison despite the much larger spending and a fast growth in terms of GDP (Table 2). This is also evidence that most of the investment only fueled the production of nontradable goods, and hence the growth of non-oil GDP, while providing a disincentive for firms to enter export activities as a result of the Dutch disease.⁶ Going forward, and given the limited resources, investment and other spending must be redirected toward the development of productive non-oil export industries, which can be achieved without necessarily increasing deficits. Otherwise, relying on the same growth model, channeling government expenditure to spur nontradable-led growth would eventually lead to an unsustainable external debt and endanger macroeconomic stability.

⁶ Which refers to a crowding out of the tradable sector as a result of oil revenues. See Cherif and Hasanov. 2016. “Soaring of the Gulf Falcons.” In *Breaking the Oil Spell*. Washington, DC: International Monetary Fund.

Table 2. Sub-Saharan Africa: Selected Indicators

	Fuel Exports (Percent of total exports of goods)				Government Expenditure (Billions of US dollars)			
	Avg. 2000–04	Avg. 2005–09	Avg. 2010–14	Avg. 2015–19	Avg. 2000–04	Avg. 2005–09	Avg. 2010–14	Avg. 2015–19
	Angola	91.1	96.5	97.7	94.4	5.2	25.8	45.2
Cameroon	43.8	48.5	47.7	34.5	1.9	3.4	5.7	7.0
Chad	58.9	87.9	85.2	77.2	0.4	1.5	2.9	1.6
Congo, Republic of	87.9	92.4	96.0	81.3	1.0	2.3	5.8	3.5
Equatorial Guinea	96.5	91.4	94.4	96.6	0.4	3.1	6.4	3.1
Gabon	81.8	82.5	84.3	69.9	1.4	2.4	4.4	3.0
Nigeria	96.3	97.5	95.6	90.7	21.1	39.7	68.7	49.5
South Sudan	97.8	96.8	4.1	2.3
Oil price (US dollars per barrel) ¹	28.8	69.5	97.7	55.2				

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

¹ Simple average of three spot prices: Dated Brent, West Texas Intermediate, and the Dubai Fateh.

A successful diversification policy would require a mix of “quick wins” around existing industries and diversification toward new industries to sustain long-term growth.⁷ Given the pervasive market failures, “smart” support may be needed to help new non-oil export activities emerge, especially in industries that are closer to the core of the “product space” to accelerate the upgrading of their export basket.⁸ This should be done for example by resolving coordination failures and information asymmetries such as related to the access of firms to finance, business coaching, and information and contacts in export markets.⁹ However, policies should avoid mistakes of the past, such as costly and ineffective protectionist import-substitution policies, which only entrenches the dependence on critical inputs while providing unjustified rents for heavily subsidized monopolies. Policies could help improve productivity and develop activities related to existing sectors, such as mining or agriculture, by developing backward and forward linkages, in order to quickly generate revenues and employment.¹⁰

Diversification policy should focus on purpose-specific investment in workers and firms while ensuring competition and accountability.¹¹ Given the difficult fiscal situation and limiting factors (for example, inadequate financing and the lack of skilled labor), purpose-specific investment, which is designed to help specific export sectors, should be given priority. This would entail providing an appropriate infrastructure and legal framework, as well as the human capital needed in the context of sectoral policies. This would also entail ensuring funding to firms, especially SMEs, taking the risk to enter these new activities while ensuring the highest level of competition and accountability. These lessons could be useful for other SSA countries especially for countries such as

⁷ For more details, see the edited book Cherif, Hasanov, and Zhu. 2016. *Breaking the Oil Spell*. Washington, DC: International Monetary Fund.

⁸ See Hidalgo, C., B. Klinger, A-L. Barabási, and R. Hausmann. 2007. “The Product Space Conditions the Development of Nations.” *Science* 317: 482–87. See also April 2018 *World Economic Outlook*, Chapter 3, which discusses the possibility of relying on services to catch up with advanced economies.

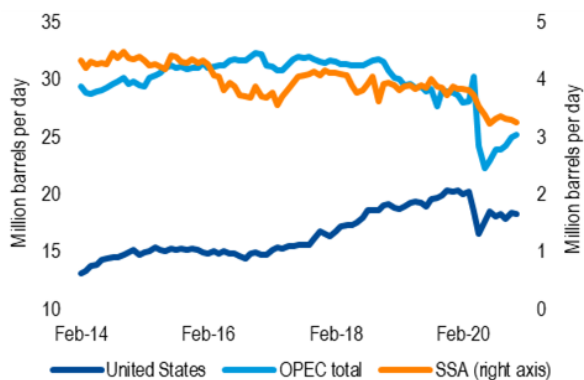
⁹ See Callen and others. 2014. “Economic Diversification in the GCC.” IMF Staff Discussion Note, and “Economic Diversification in Sub-Saharan Africa.” October 2017 IMF AFR *Regional Economic Outlook*. Standard macroeconomic and institutional conditions to achieve diversification and growth are discussed in Gruss, B., M. Nabar, and M. Poplawski-Ribeiro. 2020. “Growth Accelerations and Reversals in Developing Economies: External Conditions and Domestic Amplifiers.” *Open Economies Review* 31: 753–86.

¹⁰ See the successful example of Mali in the cotton industry thanks to government support for the privatization of the cotton company and targeted production incentives to farmers. See also Gruss, B., M. Nabar, and M. Poplawski-Ribeiro. 2020. “Growth Accelerations and Reversals in Developing Economies: External Conditions and Domestic Amplifiers.” *Open Economies Review* 31: 753–86.

¹¹ See Cherif and Hasanov. 2019. “The Return of the Policy that Shall Not be Named.” IMF Working Paper, International Monetary Fund, Washington, DC.

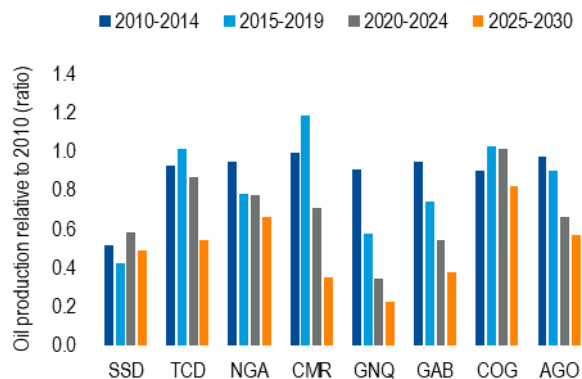
Mozambique, where investments in large liquefied natural gas projects have already started and Ghana, where oil production capacity is expected to increase significantly over the medium term.

Figure 1.1. Selected Economies: Monthly Oil Production, 2014–20



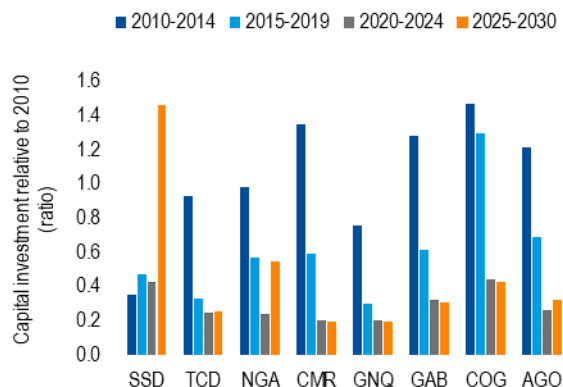
Source: US Energy Information Administration.
Note: Data through September 2020.

Figure 1.2. Sub-Saharan Africa: Crude Oil Production Relative to 2010



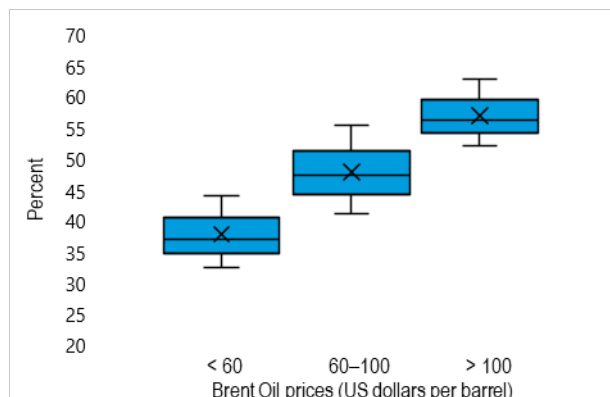
Source: Rystad Energy database.

Figure 1.3. Sub-Saharan Africa: Capital Investment Relative to 2010



Source: Rystad Energy database.

Figure 1.4. Sub-Saharan Africa: Government Take per Barrel



Source: Rystad Energy database.
Note: Government take is defined as government oil revenue per barrel divided by the oil price. The figure shows the median. Bars represent the 25th and 75th percentiles.

Country Abbreviations:

- SSD South Sudan
- TCD Chad
- NGA Nigeria
- CMR Cameroon
- GNQ Equatorial Guinea
- GAB Gabon
- COG Congo, Republic of
- AGO Angola