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# NIGERIA

## SELECTED ISSUES

December 16, 2020

Approved By  
**African Department**

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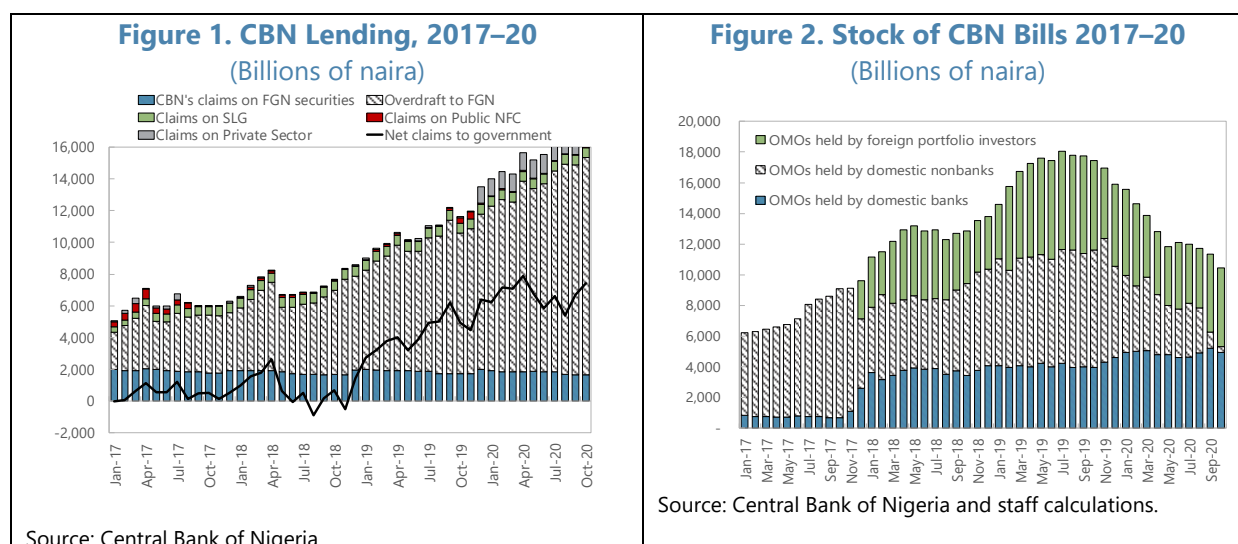
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# NIGERIA—STRATEGY FOR A MONETARY POLICY RESET<sup>1</sup>

**14. This paper takes stock of Nigeria’s monetary policy framework and proposes a strategy for a reset.** Despite reputable levels of autonomy and far-reaching powers, the Central Bank of Nigeria (CBN)’s monetary policy effectiveness has been weak as demonstrated by sustained high inflation above the target range of the CBN and weak transmission mechanism. More recently, the central bank’s financing of the fiscal deficit<sup>2</sup> (Figure 1) has resulted in large buildup of Open Market Operations (OMO) bills (Figure 2)—including issuance to foreigners—which has been costly for the CBN and has increased Nigeria’s susceptibility to capital outflow risks.

**15. The CBN’s commitment to price stability has been compromised by its multiple objectives.** Section 2 of the 2007 CBN Act postulates (1) monetary and price stability; (2) safeguarding international value of the legal tender currency; and (3) promotion of a sound financial system as the CBN’s principle objectives without prioritization. Historically, Nigeria’s stabilized exchange rate regime along with the CBN’s broad engagement in development financing<sup>3</sup> has failed to anchor inflation expectations.



**16. Nigeria’s inflation performance has lagged behind emerging market and regional peers (Figure 3).** Combined with the CBN’s long-standing preference to keep stabilized exchange rates, positive inflation differential relative to Nigeria’s trading partners have resulted in persistent

<sup>1</sup> Prepared by Jack Ree (AFR).

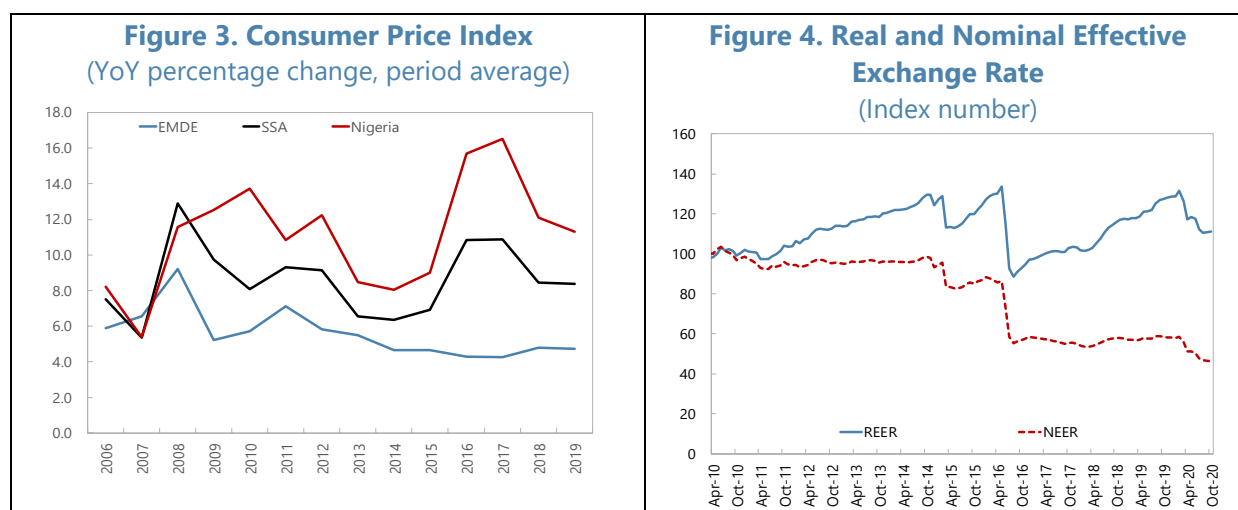
<sup>2</sup> Our analysis suggests that the fiscal financing was largely sterilized rather than monetized and resulted mainly from weak PFM practices (e.g., insufficient budgeting of market financing needs and lack of flexibility in the PFM framework for its correction within a fiscal year). However, the large increase in CBN’s credit to government led to perception of fiscal dominance—thus negatively affecting inflation expectations.

<sup>3</sup> The CBN has historically been granted generous powers to engage in financial or economic development, in which CBN typically contributes capital to interest-subsidized lending schemes operated by banks, mainly through on-lending modalities. The ensuing credit risks are either borne by participating banks or shared with the CBN.

real appreciation during normal times and large step depreciations following crises (Figure 4). The COVID-19 crisis and its severe macroeconomic fallouts question the sustainability of the current exchange rate and monetary policy set up. Defusing the balance of payment pressures call for a move to a fully unified and market-determined exchange rate. And this cannot be done in a sustainable manner without an overhaul of the monetary policy framework—including to thwart the risk of a spiral between inflation and depreciation expectations.

**17. This paper looks at the strategy for monetary policy reset in Nigeria.** Our analysis focuses on three questions: (1) What are the CBN's de facto policy objectives? (2) What are the key impediments to CBN's monetary policy operational framework?; and (3) What can be done to provide a credible anchor to inflation expectations? We find that the CBN's monetary policy has been procyclical, with interest setting mainly driven by a tendency for exchange rate stabilization. We also find that multiple objectives of the monetary policy regime and heterodoxy have eroded effectiveness and clarity of the monetary policy operational framework. As a way forward, we propose a flexible monetary targeting (FMT) regime and an overhaul of CBN's policy toolbox.

## A. What Are the CBN's De Facto Policy Objectives?



**18. How have the CBN's de jure parallel mandates shaped its de facto policy objectives?** To examine this question, we estimated a Taylor rule-type policy reaction function following the classical approach proposed by Clarida, Gali, and Gertler (1998)<sup>4</sup>.

- **Behavioral Model:** In line with Clarida, Gali, and Gertler (1998), we constructed the following forward-looking Taylor rule model, which has been augmented to include real exchange rate and oil price (given Nigeria's oil dependence) as explanatory variables. In this class of models,

<sup>4</sup> By fitting Taylor-rule type of a regression model to post-1979 G3 data, Clarida, Gali, and Gertler (1998) find that the monetary policy regime since 1979 has shifted to a soft-hearted inflation targeting—whereby a central bank raises nominal rates sufficiently enough to push up real rates in response to a rise in expected inflation. The paper then attributes the successful disinflation in the post-1970s to inflation targeting regime—which puts primary focus on inflation—given its merits as a nominal anchor for monetary policy given its simplicity and ease of rebuilding credibility for central banks.

the most critical parameter is  $\beta$ , which captures response of central bank's target interest rate to changes in expected inflation: the reduced-form equation (1) implies that if  $\beta > 1$  the central bank's target real interest rate (i.e., real policy rate) adjusts itself to stabilize inflation (i.e., real interest rises when expected inflation increases); but if  $\beta < 1$  it moves to accommodate inflation (i.e., real interest declines when expected inflation increases).<sup>5</sup> Likewise if  $\gamma < 0$ , real interest rates behave pro-cyclically (i.e., it decreases in response to an increased output gap).

$$i_t = \rho i_{t-1} + (1 - \rho)(i^* + \beta(E_t \bar{\pi}_{t+s} - \pi^*) + \gamma y_{t-1} + \delta REER_t + \mu OIL_t + \varphi Dummy_t) + \epsilon_t \quad (1)$$

(where  $i$ ,  $y$ ,  $\bar{\pi}$ ,  $REER$ ,  $OIL$  denote nominal interest rate, output gap, inflation rate, real effective exchange rate, and crude oil prices;  $i^*$  and  $\pi^*$  natural interest rate and inflation target;  $E_{t-1}$  an expectation operator conditional on information available at time  $t - 1$ , and  $\epsilon$  a statistical disturbance)

- **Empirical model:** Following Clarida, Gali, and Gertler (1998), equation (1) was rearranged by substituting expected inflation ( $E_t \bar{\pi}_{t+s}$ ) with future inflation minus forecast error  $\bar{\pi}_{t+s} - E_t \bar{\pi}_{t+s}$ . This transforms all right-hand side variables to observed macroeconomic variables. But it also renders the regression into 'an-error-in variable' model—for which an OLS estimator is known to be biased. The likely presence of autocorrelation also implies that it may not be efficient. Thus, we use GMM as the preferred estimation methodology, which has become the norm in this strand of literature. Lagged (up to 4 lags) variables of output gap, inflation, interest rate, and oil price have been used as instrument variables.
- **Data:** See Table 1 for data description

**Table 1. Nigeria: Data Summary <sup>1/</sup>**

Name	Description	Source	Mean	Max	Min	Std. Dev
$i$	CBN's policy rate; a connected series between MRR (to 2006M11) and MPR (from 2006M12); monthly data converted to quarterly	Haver	13.15899	20.5	6	3.26016
$\pi$	Nigeria Consumer Price Index (2009=100); log differenced.	IMF EDI database	0.028602	0.075987	-0.00829	0.015811
$y$	Output gap in proportion to the HP trend of real GDP; annual (to 2009) and quarterly (from 2010Q1) data connected with the former transformed using linear distribution methods and the latter seasonally adjusted by Eviews (X-13 ARIMA).	IMF EDI database	-0.0002	0.029492	-0.04154	0.01622
$REER$	Real effective exchange rate estimated by IMF	IMF EDI database	105.2263	162.5114	42.90214	20.368
$OIL$	USD/barrel; simple average between Brent, WTI, and Brent	World Bank	56.23832	125.17	11.14	33.45827
$DUMMY$	Captures the change from MRR to MPR; 0 until 2006Q3 and 1 thereafter.	Author's calculation	0.539216	1	0	0.5

1/ Quarterly (1995Q1 to 2020Q1)

<sup>5</sup> As illustrated by Clarida, Gali, and Gertler (1998), the inflation stabilizing condition (if  $\beta > 1$ ) is driven by the fact that nominal interest rate can be decomposed to real interest rate and inflation expectation, which can be proxied by  $E_t \bar{\pi}_{t+s}$ . Substituting and rearranging equation (1) makes coefficient for  $E_t \bar{\pi}_{t+s}$  positive if and only if  $\beta - 1 > 0$ , thus implying the desired inflation stabilizing condition.

**19. Appendix I summarizes the outcome of the estimated regression equations.** The regression equations were fitted using nine different behavioral policy horizons (reacting to inflation; from 4 quarter lag to 4 quarter lead) to test the robustness of the estimation outcome. In all estimations, the results show that the CBN's monetary policy reaction to macroeconomic developments was largely procyclical—and fell short of establishing a credible record of the primacy of price stability.

- **Procyclicality:** Most striking feature is that the CBN's policy rate has been reacting to economic cycles (i.e., output gap) in a procyclical manner (i.e., decreases during booms and increases during busts) as signified by the fact that the estimated value of  $\gamma$  stays negative and statistically significant for all behavioral policy horizons (i.e. from  $s=-4$  to 4). The result is consistent with Kaminsky, Reinhart, and Vegh (2004) and suggests that Nigeria's economic cycles have likely coincided with oil-led capital flow cycles—thus output expansions (contractions) tend to be accompanied by exchange rate appreciation (depreciation) pressures; and the desire to maintain nominal exchange rate stability has subordinated policy rate to exchange rate defense—decreasing (increasing) during economic booms (busts) thus amplifying output volatility<sup>6</sup>.
- **Inflation blindness.** Primacy of price stability requires the coefficient for expected (or actual if  $s < 0$ ) inflation  $\beta$  should be greater than one and statistically significant. However, Table A1 shows that apart from one quarter backward horizon ( $s=-1$ ) these conditions fail to be met with the signs of the estimated  $\beta$  flip-flopping and lacking statistical significance. This implies de facto that the CBN's monetary policy has been inflation blind.<sup>7</sup>

## B. Is the CBN's Operational Framework Effective and Coherent?

### Orientation

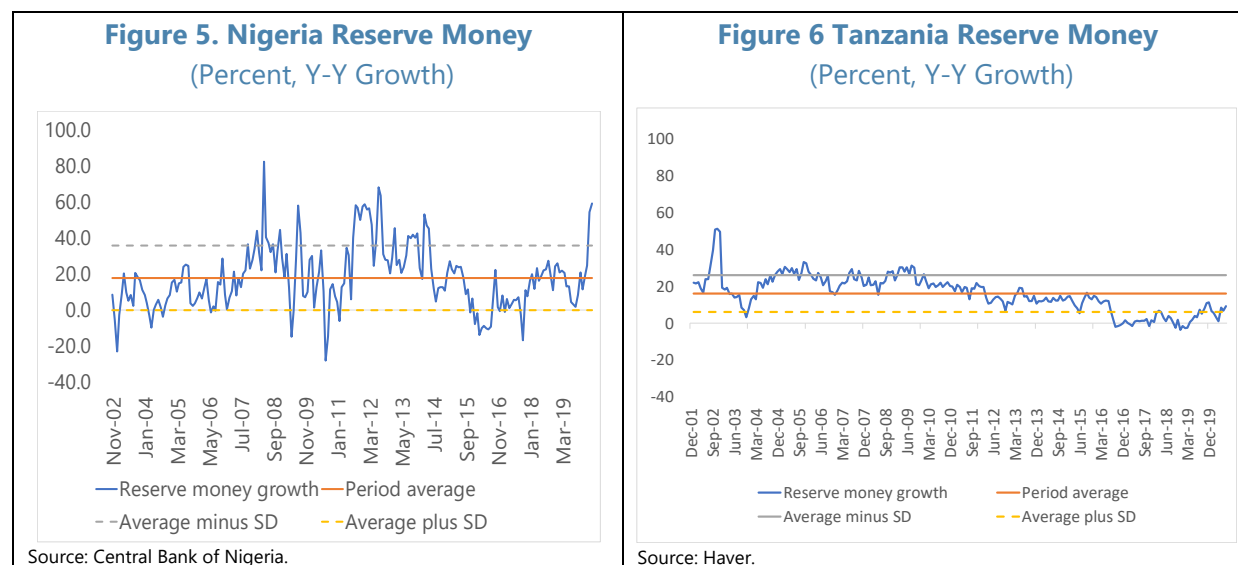
**20. Nigeria's monetary policy framework has an ambiguous orientation.** The CBN follows, de jure, a monetary targeting (MT)<sup>8</sup> but behaves differently from that typical of an MT central bank. MT central banks generally use broad money as the intermediate target—a nominal anchor to pin down inflation expectation. However, given that broad money is outside a central bank's direct control, it relies on reserve money as the operating target given the relatively stable relationship between the two. Then the operating target becomes the guide post for an MT central bank's day-to-day operation: a deviation of the actual level of reserve money from the target path (or target growth rate) triggers liquidity absorbing or injecting reactions (e.g., through open market or treasury

<sup>6</sup> The procyclicality suggests that CBN may possibly be a nominal exchange rate targeting central bank. But directly testing such a proposition is not feasible under a stabilized exchange rate regime as deviation of nominal exchange rate from the target would be countered mainly by FX market intervention. Without controlling this, the interest rate's reaction to nominal exchange rate would not be distinguishable. And administrative controls would further obscure such reaction.

<sup>7</sup> The insignificance of inflation coefficient—despite significance of policy rate reaction to output gap—suggests weak causal link between output gap and inflation, likely reflecting prevalence of supply-side factors in inflation dynamics in Nigeria.

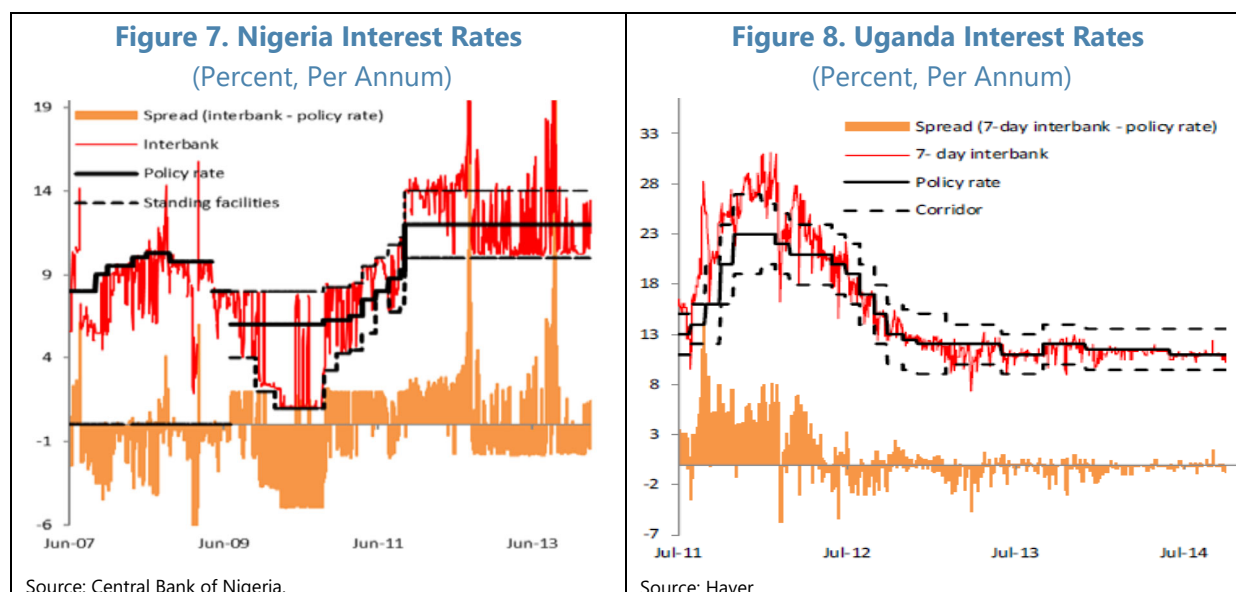
<sup>8</sup> CBN's latest available Monetary, Credit, Foreign Trade and Exchange Policy Guidelines (2018/2019) states that monetary targeting framework will remain the monetary policy strategy and will be complemented by an appropriate exchange rate regime.

operations) to bring back the actual to the target path. Thus, the single most important hallmark of an MT regime is a stable growth rate of reserve money, which is consistent with the broad money target. In contrast with, say, the U.S. during the period (1975-82) when the Federal Reserve officially adopted an MT, or Tanzania since 2001 (Figure 6), the historical behavior of Nigeria's reserve money (Figure 5) is characterized by very large volatility<sup>9</sup>--too large to be deemed a de facto MT regime.



**21. Nigeria's monetary policy regime cannot be characterized as an inflation targeting (IT) either.** An IT regime is defined by a central bank using its inflation forecast as the intermediate and short-term interest rates as the operating target. Its operation is characterized by day-to-day liquidity operation aimed at aligning interbank rates to policy rate and periodic adjustment of policy rate following a Taylor-type policy rule—in which nominal policy rate responds to changes in inflation forecast by more than 100 percent. The hallmarks for an IT regime thus are (1) stable and close relationship between short-term interest rates and the policy rate and (2) the strength of the policy rate's response to expected inflation. As discussed, the CBN's policy reaction function is characterized by inflation blindness and procyclicality. The comparison of short-term interest behavior between Nigeria and selected countries (Figures 7 and 8) furthermore illustrate that Nigeria's interbank rate behavior is far from ones expected in an IT.

<sup>9</sup> The standard deviation of Nigeria's reserve money growth (y/y) is 5 times that of Tanzania during recent years (2017-2020) and 15 times larger than the U.S. during 1975-82.



**Table 2. Nigeria: An Analysis of CBN's Key Monetary Policy Tools**

<b>MPR</b>	MPR is the CBN's interest rate reference intended to anchor market interest rates. MPR guides the interest rate corridor complemented by SLF and SDF, whose interest rates are set based on the MPR benchmark.	Persistent diversion of market interest rates from the MPR made it mainly a device to signal the CBN's policy intention rather than actual anchor for market interest rates.
<b>OMO</b>	Main liquidity management tool, which entails CBN bill or T-bill auctions and repo operations.	Liquidity management is mainly conducted through CBN bills, which overlaps with T-bills in tenor profiles and has been used also for FX reserves management (through foreign investor participation).
<b>SLF</b>	An SLF is a classical central banking instrument that enables a central bank's role as the lender of the last resort. By allowing banks to address all residual liquidity shortage at the close of business through it, the interest rate charged on SLF sets the upper limit for the interbank rates.	However, in Nigeria, access to SLF is constrained by an inadequate closing time (it closes at 3.30 pm which is even before the closing of the RTGS, which is 4.30 pm) and prohibition of same day access for banks that accessed CBN's foreign exchange windows. As the result, SLF fails to cap interbank rates.
<b>SDF</b>	An SDF is a tool that enables a central bank to function as the borrower (or deposit taker) of last resort.	However, constraints to access including daily deposit limits make interest rate paid on SDF fail to set the floor for the interbank rates.
<b>CRR</b>	Cash reserve requirement is also a classical central banking instrument. By forcing banks to place a minimum proportion of their deposit intakes in cash-in-vault or reserve deposits at the central bank, it creates stable, predictable demand for reserve money—for which central bank exercises a supply monopoly. Central bank can also use change in CRR ratio as a tool for policy adjustment.	In addition to these general functions, in Nigeria, CRR exerts particular features—which makes it heterodox. First, CRR debited when bank deposits grow is not credited back when deposits shrink. This asymmetric feature causes the effective CRR ratio to keep increasing over time—as deposit fluctuation tend to be highly seasonal—resulting in punitive de facto taxation on financial intermediation. The asymmetry also tilts playground among banks—and can lead to liquidity squeeze, e.g., during capital sudden stops, when banks deposits face lumpy fluctuations. Second, CRR has been used at CBN's discretion and outside regular compliance cycles (i.e., two-week computation and two-week holding periods). The discretionary CRR debits create a sledgehammer uncertainty to banks' liquidity management, again penalizing financial intermediation.
<b>LDR</b>	Minimum LDR regulation was introduced in June 2019 to boost credit growth to support the real economy.	Despite its widely perceived effectiveness, little evidence support it—given that LDR's credit boosting effect can only work through multiple process, which has been largely suppressed as evidenced by very moderate M3 growth rate since its introduction.

## Tools

**22. The CBN's toolbox does not suffer from a shortage of instruments but the tools are not all used in an orthodox way.** In fact, the CBN is equipped with most tools needed by modern central banks including ones to (1) generate stable demand for reserves (cash reserve requirement); (2) inject or absorb day-to-day liquidity (CBN bills, repo, T-bill auction); and (3) cap or floor interbank and money market rates (e.g., standing lending and deposit facilities). However, many of these tools are calibrated inadequately or modified in a heterodox fashion (Table 2). Nigeria's interest corridor does not bind with access restrictions hindering conventional functions of standing lending facility (SLF) and standing deposit facility (SDF). And asymmetry of cash reserve requirement represses financial intermediation including by making effective CRR to keep increasing over time (Table 2). The CBN introduced a minimum loan to deposit ratio (LDR) in June 2019 in a bid to prop up credit growth. While LDR prompts banks to shift liquid assets to loans at individual bank levels, its effectiveness has been limited as seen by recent decline in sequential credit growth.

**23. The unorthodox use of tools has negatively affected the effectiveness of monetary policy, including through interest rate segmentation and elevated balance of payments risks.**

- **Liquidity fragmentation.** Since November 2019, the CBN significantly reshuffled its monetary policy toolkit by (1) prohibiting OMO purchase by nonbank residents; including to rollover maturing OMOs; and (2) using discretionary CRR to sterilize liquidity released from the ensuing reduction in the OMO stock. The combination of these resulted in a divergence in liquidity conditions between the interbank—which remained tight due to absorption through CRR—and liquidity in the domestic bond market<sup>1</sup>. The diversion resulted in commensurate segmentation of interest rates—with interest for T-bills (91 days) declining to average 2 percent in 2020Q3 but interbank rates staying on average at 9-10 percent. Since September 2020, interbank bank and OMO rates converged significantly toward T-bills—likely reflecting less stringent use of CRR and increasing share of banks in the OMO market, which is facilitating bank-led interest rate arbitrages. However, this has further weakened MPR's relevance as the interest rate benchmark.
- **External risks.** The current level of OMO rates (½-3 percent) present risks for capital outflows given the prevalent share of foreign portfolio investment (about \$13 billion; about 40 percent of international reserves) in this market segment. For now, foreign investors remain in OMOs despite alternative destinations that offer higher interest rates (e.g., Egypt and Ghana, where domestic interest rates are in double digits) forced by a system of FX rationing<sup>2</sup>.

<sup>1</sup> During October 2019 to October 2020, CBN's OMO stock decreased by N7 trillion—with the OMOs held nonbanks decreasing by N7.2 trillion. The reduced OMO holding by nonbanks increased nonbanks' deposits at banks by the equivalent amount (i.e., N7.2 trillion) as the CBN repaid the maturing OMOs through the banking system.

<sup>2</sup> Another mitigating factor is the large yield premium given at OMO auctions (about 500-600 bps higher relatively to secondary markets).

## C. A Strategy for a Monetary Policy Reset

### *Establish a Nominal Anchor (Near Term)*

**24. The shift should start with resetting the monetary policy regime.** One practical option is a flexible monetary targeting (FMT), which is a transitory monetary regime between MT and IT; before moving to an IT. An FMT would combine a flexible reserve money operating target (average over a prespecified period, e.g., bi-monthly) with an interest rate band target (i.e., an interest rate corridor).<sup>3</sup> Under this framework, a deviation of the actual reserve money growth from the target would trigger corrective liquidity operation through fixed-quantity flexible-rate open market operations. For this, the CBN's current interest corridor will need to be refreshed by removing access restrictions on both SLF and SDF.

### *Establish Primacy of Price Stability (Medium Term)*

**25. A shift to a rules-based operational framework cannot work in a sustainable manner if a central bank's multiple objectives keep colliding with one another.** The danger of colliding objectives is more prevalent in commodity-dependent economies like Nigeria where both business and capital flow cycles are led by commodities. For example, an upswing in business activities during a commodity boom lifts credit and deposit growth, which under a rules-based (and unaccommodating) MT, makes excess reserves to fall below usual levels. But the ensuing liquidity tightness brings upward pressures on interest rates. This may attract more capital flows, thus further exacerbating pressures on the exchange rate. In situations like this, a rules-based MT will need to establish a priority ordering to assure price stability. This calls for changes in the CBN Act. Despite its significant improvement, the 2007 CBN Act leaves important gaps as it misses (1) a priority ordering among multiple objectives and (2) explicit prohibition from taking instructions from a third party. The law should be amended to fix these gaps to ensure proper autonomy and effectiveness of the CBN.

**26. The primacy of price stability also cannot be achieved without a shift to a more flexible exchange rate regime.** According to Mundell-Fleming trilemma, central banks cannot use monetary policy for stabilizing inflation while also stabilizing exchange rates under an open capital account. More specifically, it suggests that under free capital flows, central banks lose control over interest rates—which are determined by covered interest parity. Thus, an IT regime, which ordinarily hinges on central banks' control over interest rates, cannot be implemented in parallel with a stabilized exchange rate. The same principle also holds for an MT regime, wherein interest rates are more volatile (than in an IT) but their average levels are closely linked to reserve money growth (i.e., the higher the latter, the lower the former). Thus, a move to an FMT requires a shift to a more

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<sup>3</sup> IMF (2015), "Evolving Monetary Policy Frameworks in Low Income and Other Developing Countries", IMF Policy Paper. An FMT can be implemented when legal and economic preconditions for an IT is lacking and is conducive to creating these preconditions by stoking financial market development.

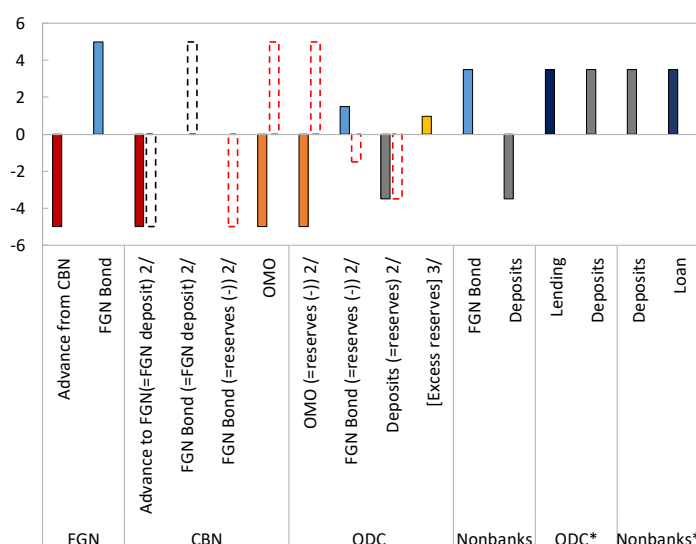
flexible exchange rate regime, which is urgently required, at any case, to diffuse the current balance of payment pressures brought by the COVID-19 global crisis.

### **Address Fiscal Dominance (Near to Medium Term)**

**27. Eliminating fiscal dominance is also a key precondition to establishing de jure and de facto primacy of price stability.** Even if the CBN's primary legal mandate were price stability, the CBN is unlikely to be held accountable, particularly by the government, if this mandate collides with fiscal financing in an environment where the government keeps asking the CBN for it.

- **Restore adherence to legal limits (near term).** In recent years, legal limits on temporary advance to Federal Government—5 percent of previous year's revenue—have been beached repeatedly; with no apparent consequences. For example, 2018 CBN Financial Statement reports 5.3 trillion naira as its overdraft and short-term advance balance—which is twice the size of the Federal Government revenue in 2017. Nonadherence to the legal limits should be stopped.
- **Fix the cause of the problem (near term).** The main reason for the nonadherence was inadequate spacing of financing resources in the budget planning process, as well as persistently large fiscal deficits. Domestic borrowing requirement should be adequately budgeted and met by marketable debt instruments. Beyond the immediate term, a complete removal of CBN's credit to government will require higher domestic revenue mobilization.
- **Wind down outstanding loan stock (medium term).** This can be done by gradually switching the CBN's legacy advance stock owed by Federal Government of Nigeria (FGN) by new FGN bonds, which is set to be absorbed (e.g., by integrating into conventional bond issuance program) mainly by domestic institutional and foreign portfolio investors. The reserve drainage

**Figure 9. CBN Loan to FGN Bond Shift: Illustration**  
(Change in stock, trillion Naira) <sup>1/</sup>



Source: Staff estimates.

<sup>1/</sup> Assuming a hypothetical example of 5 trillion reduction of CBN advances financed by FGN bonds; nonbanks are assumed to absorb 70 percent of new FGN Bonds. \* denotes additional changes caused by multiplier effects (which is caused by emergence of excess reserves).

<sup>2/</sup> Dotted red and black charts denote changes in ODC reserve deposits and FGN deposits at CBN respectively.

<sup>3/</sup> Change in reserves (zero) minus change in required reserves (=CRR ratio\*-3.5); CRR ratio (assumed)=0.275.

caused by new FGB bond<sup>4</sup> calls for liquidity injection under an FMT. This should be done through a matched winding down of OMO bill stock—if necessary through buybacks. A hypothetical example (Figure 9) where N5 trillion of CBN credit stocks are replaced by FGB bonds—70 percent of which are taken up by nonbanks—shows that banks will be able to supply N3.5 trillion of new loans using the space freed up from reduced OMOs (-N5 trillion).

**28. Finally, the reset of monetary policy operational framework cannot be completed without cleaning up the CBN’s toolbox.**

- **Normalize interest rates (near to medium term):** Since September 2020, interbank and OMO interest rates converged significantly toward T-bills rate at 1-3 percent range. At the moment, the ultra-low interest rate is maintained through de facto administrative controls (e.g., effective shut down of FX market) and liquidity segmentation. As the crisis passes, and with the lifting of these controls, interest rates will need to be normalized; mainly through their realignment toward MPR. This can be achieved by either (1) nullifying the prohibition of OMO holding by nonbank residents including domestic institutional investors and reversing the OMO to CRR shift<sup>5</sup> or (2) engineering a shift from CRR to T-bills<sup>6</sup>.
- **Normalize CRR (near term):** The CRR should be reset by eliminating asymmetry. Symmetric CRR will help leveling the playing field and reduce financial repression. Going forward, there is a need to gradually decrease CRR, with a view to reducing effective tax on financial intermediation, for example by pairing it with plans to reduce structural liquidity injected for quasi-fiscal objectives (e.g., AMCON bond<sup>7</sup>).
- **Reconsider LDR (near term):** The minimum LDR policy has initially spurred credit but is reaching its limits and carries with its financial stability risks. Therefore, consideration should be given to its discontinuation.

<sup>4</sup> Non-bank and bank buyers of FGN bonds make their payments using bank deposits (non banks) or reserve deposits (banks). This is then remitted to government’s account at the CBN by CBN debiting relevant banks’ reserve deposits.

<sup>5</sup> This can be done by bringing back OMO stocks toward October 2019 level while neutralizing reserve effects on banks by corresponding release of CRR. The release can be done without changing CRR ratio until discretionary CRR balance is depleted.

<sup>6</sup> This can be done by issuing T-bills until T-bill rates realign with the policy rate while offsetting the reserve effects on bank by corresponding release of CRR. The proceed from the T-bills can be credited to government’s deposit account at the CBN for budget pre-financing—with the FGN and CBN sharing the burden of negative interest margin. The CRR release can be done without changing CRR ratio until discretionary CRR balance is depleted.

<sup>7</sup> Winding down of AMCON bond can be done, for example, by floating AMCON Bond to the market at prevailing interest rate—if needed after granting government guarantee.

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## Appendix I. CBN's Policy Reaction

### Nigeria: GMM Estimation Outcome

	s=-4	s=-3	s=-2	s=-1	s=0	s=1	s=2	s=3	s=4
$\rho$	0.88512 ** (0.0706)	0.897156 ** (0.0634)	0.889117 ** (0.0657)	0.879337 ** (0.0614)	0.880801 ** (0.064)	0.877563 ** (0.0655)	0.865405 ** (0.0661)	0.891684 ** (0.0652)	0.864922 ** (0.0736)
C	-9.22961 (23.5213)	8.600773 (20.4287)	4.763641 (23.4746)	-10.79504 (19.6217)	5.061956 (19.4846)	-3.384335 (18.6001)	-7.279482 (18.9702)	-17.87078 (26.4597)	-15.97449 (24.7135)
$\theta$	-1.64107 (1.408)	-0.714569 (0.8573)	-0.17043 (0.7874)	1.435293 # (0.8845)	0.391457 (1.1014)	-0.219106 (0.7496)	0.418564 (0.6678)	2.038961 (1.5209)	-1.074066 (1.0841)
$\gamma$	-1.43708 # (0.9)	-1.257047 # (0.8236)	-1.218588 # (0.7599)	-1.238564 * (0.6857)	-1.160297 # (0.7193)	-1.326772 * (0.7229)	-1.379311 ** (0.6793)	-1.647607 * (0.9478)	-1.450314 * (0.7974)
$\delta$	0.30589 (0.2655)	0.084833 (0.2128)	0.112089 (0.2377)	0.228374 (0.1881)	0.094626 (0.2223)	0.201268 (0.195)	0.226706 (0.19)	0.281762 (0.2458)	0.3643 (0.2763)
$\mu$	0.30433 (0.3123)	0.00551 (0.1543)	-0.0118 (0.1694)	0.047725 (0.1347)	-0.043983 (0.1959)	0.042642 (0.1415)	0.048907 (0.1286)	0.111379 (0.1741)	0.153065 (0.1906)
$\varphi$	-7.81570 * (4.2211)	-4.189746 (4.9198)	-4.782103 (4.8709)	-6.024346 * (3.5423)	-4.811895 (4.1951)	-6.298146 * (3.778)	-6.969254 ** (3.4448)	-6.552633 (4.2061)	-8.769991 ** (4.0194)
R-squared	0.92128	0.938569	0.937729	0.940566	0.937372	0.938671	0.940151	0.940056	0.926118
Adjusted R-squared	0.91515	0.933782	0.932877	0.935935	0.932492	0.933829	0.935363	0.935196	0.920046
S.E. of regression	1.04052	0.919207	0.925465	0.90414	0.928116	0.924376	0.91913	0.925954	1.034893
Durbin-Watson stat	1.36372	0.984847	0.92824	1.063634	0.932542	0.990117	1.043139	1.322468	1.21582
Instrument rank	17.00000	17	17	17	17	17	17	17	17

1/ \*\*, \*, # means statistical significance at 5, 10, and 15 percent.

2/ s denotes lag (+) and lead (-) for inflation variable.

## DIVERSIFICATION OF THE NIGERIAN ECONOMY<sup>8</sup>

### A. Introduction

**1. The COVID-19 pandemic and the recent oil price crash have highlighted the need for Nigeria to diversify its economy more than ever.** With a highly uncertain outlook for global oil demand, Nigeria is again standing at a crossroads. As much as it is a crisis, the COVID-19 pandemic is also an opportunity to foster diversification of the economy that is long overdue. The path Nigeria chooses now will have implications for decades to come.

**2. This paper discusses the role of oil in the Nigerian economy, obstacles to diversification, the successful experiences of Asian countries, and possible policy lessons for Nigeria.** The dependence of the economy on the oil sector is captured in Section B. Section C emphasizes the political economy of reforms. In section D, we draw on the transition experience of Asian countries toward export-oriented industrialization to see how the current crisis presents reform opportunities. Section E discusses Nigeria's industrial performance and offers some suggestions for areas where diversification seems to hold promising prospects.

<sup>8</sup> Prepared by Jiaxiong Yao (AFR) and Yang Liu (ITD).

## B. The Omnipresence of Oil in the Nigerian Economy

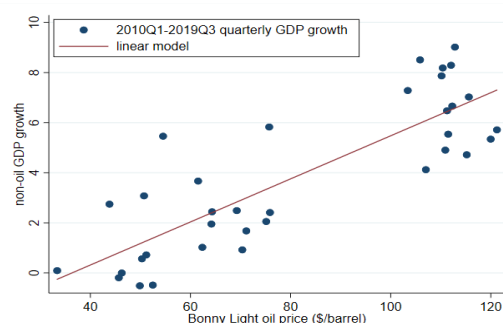
### 3. Nigeria's economic dependence on oil long predates the current COVID-19 crisis.

Nigeria discovered oil in the 1950s and became a major producer at the end of the Biafra War in the late 1960s. The economy's dependence on oil has been on an increasing path ever since.

Government revenues rose from 10% of GDP in the 1960s to 30% in 1980s on the back of higher oil production and prices and oil exports from 5% to 24%.<sup>9</sup> In the last decade, these shares have averaged at 10% and 16%, respectively. This is not indicative of higher diversification as the share of oil in total fiscal and export revenues remained at 47% and 84% in 2019, respectively.

**4. The reliance of the Nigerian economy on oil goes deeper.** While the oil sector accounted for only 11% of GDP in the past decade, its impact on the broad economy is far-reaching. Figure 1 shows that the non-oil sector growth in the recent past has a strong positive correlation with oil price movements. When oil prices are high, the oil sector can provide enough foreign exchange to meet the demand of the non-oil sector for necessary imports of factors of production, and it can raise fiscal revenues and contribute to the economy through government spending. When oil prices are low, economic activity is generally subdued as a result for foreign exchange crunch and low government spending.

**Figure 1. Oil Price and Non-Oil GDP Growth**



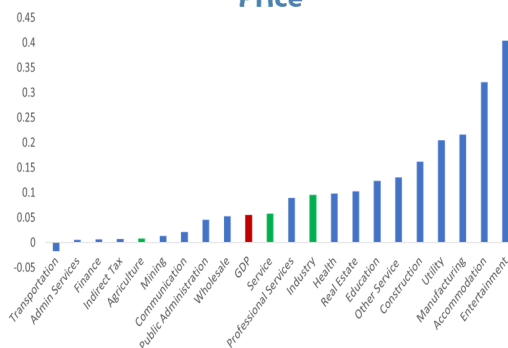
Source: Haver analytics; and IMF staff calculations

**5. At least 30% of the economy indirectly depends on the oil sector through oil price developments.** To estimate the size of the economy that is reliant on oil, we conduct a simple empirical exercise to see which sectors of the economy

**6.** are more sensitive to oil price movement than the overall economy. Using quarterly GDP growth data at the sectoral level between 2010 and 2019, we estimate the following regression,

$$g_t^s = \beta^s \log P_t + \sum_{q=1}^4 \gamma_q^s D_q,$$

**Figure 2. Sectoral Dependence on Oil Price**



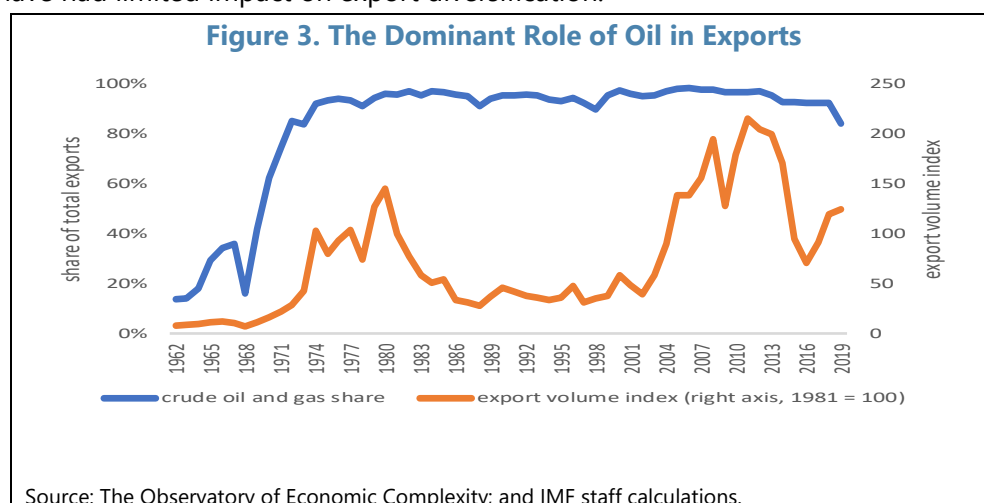
Source: Haver analytics; and IMF staff calculations.

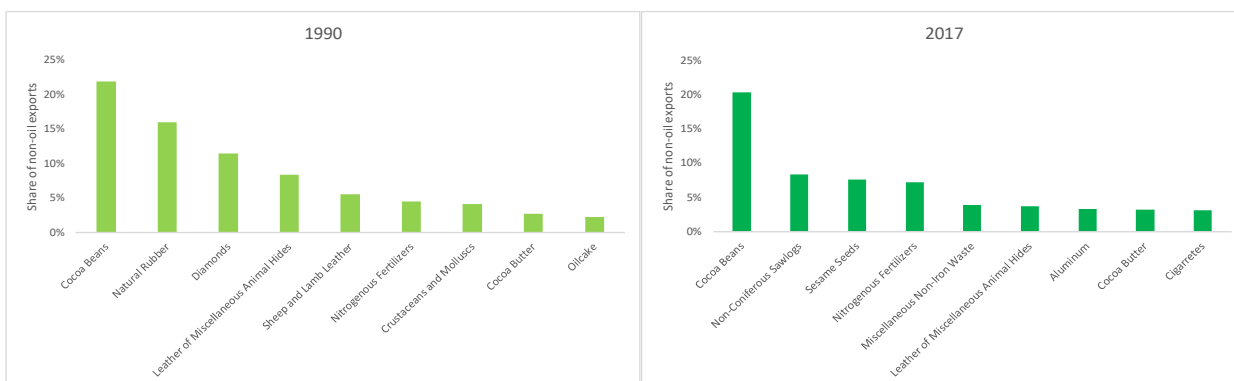
<sup>9</sup> Calculations are based on tables in Bevan, Collier, and Gunning (1999) and Ross (2012), product trade data from the Observatory of Economic Complexity (SITC4 REV.2 1962-2017) as well as the World Development Indicators.

where  $g_t^s$  is year-on-year quarterly GDP growth in sector  $s$ ,  $P_t$  is the Bonny Light oil price, and  $D_q$ 's are quarterly dummies intended to capture seasonality in GDP growth. The coefficient  $\beta^s$  measures sector  $s$ 's growth elasticity to the oil price. Figure 2 presents  $\beta^s$  for each sector of the Nigerian economy, with overall GDP highlighted in red and the three main sectors (agriculture, industry, and service) highlighted in green. Overall, manufacturing and service sectors benefit more from higher oil prices while agriculture and finance sectors benefit less. If we consider sectors that respond more to oil prices than the overall GDP as oil-dependent, those sectors, shown in Table 1, account for 30% of GDP between 2010 and 2019. When the oil price level in the regression is replaced with oil price changes, Table 1 shows the estimated size of the oil-dependent sectors is similarly large.

**7. Among publicly-traded companies, the share of revenues of oil-related industries could be as high as 60%.** Using Compustat, a global database of financial and market information on public companies, we calculate the revenues of Nigerian companies at the industry level. Table 1 shows that the oil and gas industry accounts for 23-41% of total revenues of all listed companies. Adding industries that are indirectly related to oil, such as construction, power generation, etc., the share of revenues could be as high as 60%. The dominant role of oil-related industries in Nigeria's stock market implies that oil deeply affects the winners and losers of the economy, the allocation of financial capital, and household financial wealth, with distributional consequences for investment, finance, and the labor market.

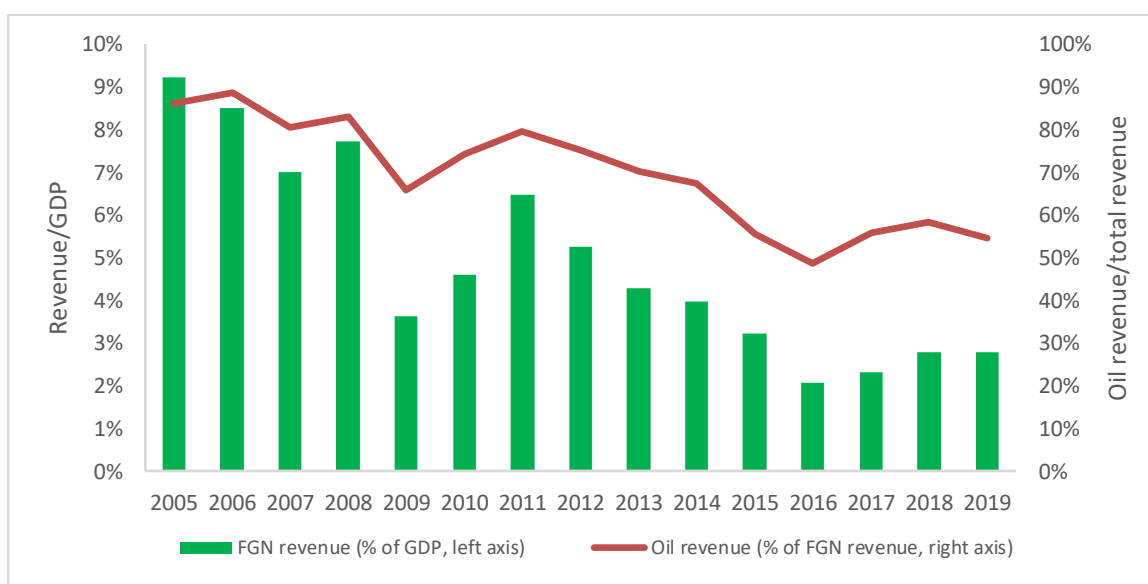
**Exports are dominated by oil and the sector's complexity has not fundamentally changed in the past decades.** Since Nigeria became a major oil producer in the 1970s, hydrocarbon products have persistently accounted for 90% of Nigeria's exports (Figure 3). Of non-hydrocarbon exports, the composition has changed little over the past three decades and a large share remains agricultural and mineral commodities, such as cocoa beans, wood, rubber and fertilizer (Figure 4). A battery of development policies to promote non-oil exports, including the Structural Adjustment Program (SAP) between 1986 and 2000, the National Economic Empowerment and Development Strategy (NEEDS) between 2004 and 2017, and the Economic Recovery and Growth Plan (ERGP) more recently, have had limited impact on export diversification.



**Figure 4. Similar Composition of Non-Oil Exports over Three Decades**

Source: The Observatory of Economic Complexity; and IMF staff calculations.

**8. Dictated by oil proceeds, fiscal revenue as percent of GDP gradually fell amid the secular decline in oil prices.** The global oil prices have trended downwards since 2008, so has Nigeria's fiscal revenues, more than half of which derives from oil proceeds. Fiscal dependence on oil has not been reduced actively. While oil revenue as percent of the Federal government revenue has declined from over 80% in 2005 to 50% in 2019 (Figure 5), such decline paints a beguiling picture—the seemingly more diversified revenue is more a reflection of falling oil prices and less of a robust increase in non-oil revenues. With meager revenue to begin with, fiscal policies have been unable to produce enough savings to support the development of non-oil sectors. To the contrary, years of growing fiscal deficit have become a point of vulnerability for the economy. Mismanagement of oil proceeds adds to the fiscal predicament, further subjecting Nigeria's economic performance to the whim of oil price swings.

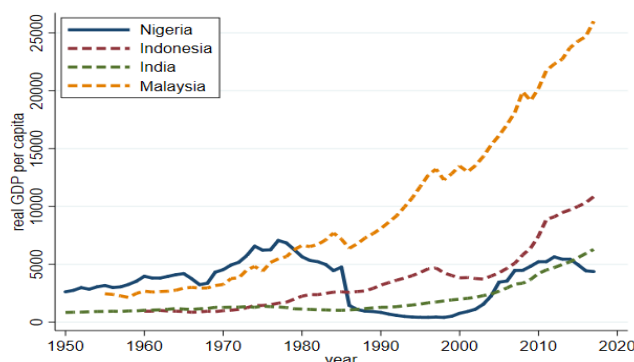
**Figure 5. Heavy Dependence of Fiscal Revenue on Oil**

Source: Haver analytics; and IMF staff calculations.

## C. Why Diversification Has proven Difficult?

**9. Nigeria has long struggled to rise to the challenge of diversification.** The quest for industrialization dates back to its first National Development Plan for the period 1962-68. Succeeding national development plans from the 1960s to the 1980s focused on promoting local production and indigenous businesses through import substitution. Since the turn of the century, agriculture self-sufficiency, power, energy, and transport sector development, as well as private sector growth have been at the forefront of the minds of successive governments, as embodied in their development strategies from NEEDS and Vision 20: 2020 in the early 2000s to ERGP<sup>10</sup> more recently in 2017. However, diversification has remained largely elusive and growth performance uneven over time, causing Nigeria's income per capita to fall behind countries that once used to trail Nigeria (Figure 6).

**Figure 6. Real GDP per Capita: A Long View**



Source: Penn World Tables 9.1; and IMF staff calculations.

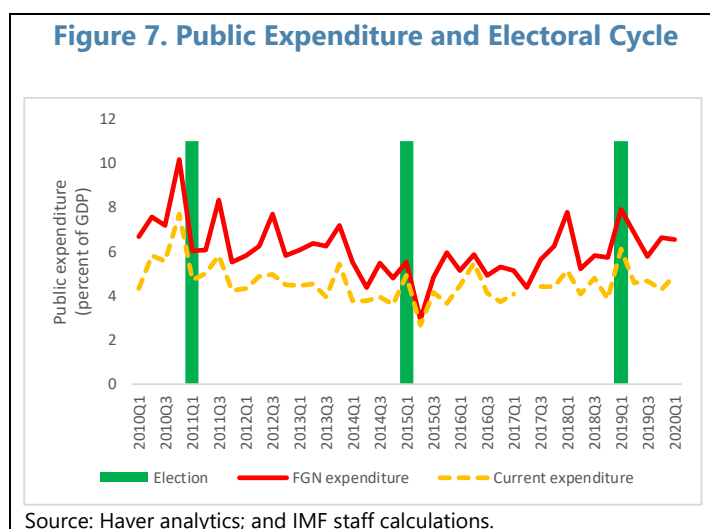
**10. Why is diversification difficult to achieve?** The literature has identified several channels through which natural resources impede diversification of resource-dependent countries, including the failure to develop non-resource sectors as a result of the “Dutch disease”, the tension between short-term gains and long-term development strategies, the technical difficulties of managing resource wealth, and entrenchment of vested interests.

**11. Commodity booms often fail to lift non-resource sector growth due to the “Dutch disease”.** During commodity booms, the resource sector absorbs factors of production from other sectors, creating the so-called “Dutch disease” that produces a decline in agricultural and manufacturing activities. The collapse of the Nigerian agriculture in the 1970s is an example (Ross, 2012). In the 1960s, Nigeria was an agricultural exporter. Export crops, including cocoa, palm oil and rubber, were the primary source of export revenues. However, the surge of the oil sector in the 1970s led to a massive exodus of labor from the agriculture sector despite rising rural wages. The cultivation of land was abandoned, leaving large tracts of land untapped. Meanwhile, booming oil exports led to an overvalued exchange rate and made imports attractive. As a result, between 1970 and 1981, export crops declined markedly by 78% in real terms and consumer imports almost quadrupled (Bevan, Collier, and Gunning, 1999). To make things worse, an overvalued exchange rate reallocated production factors to non-tradable sectors through stronger consumer demand, further widening the technological gap of the tradable sector with Nigeria's trading partners (Cherif, 2013).

<sup>10</sup> Economic Recovery and Growth Plan (ERGP).

## 12. Long-term development strategies often give way to short-term spending pressures.

Governments are often unable to resist short-term spending pressures that could deliver immediate gains both economically and politically. During the oil boom in the 1970s, Nigeria's revenue quadrupled in real terms, but government spending also rose from 10 percent of GDP to more than 25 percent, expanding at a rate far higher than the economy (Ross, 2012). Capital expenditure rose from 24% of total expenditure in 1973 to 52% in 1978. Conspicuous as it was, it failed to address the proverbial problems in transport, power, and housing at the time. GDP growth even fell from 11% in 1974 to -6% in 1978. In recent years, federal government expenditure typically increased by one-third before elections, driven by current expenditure that contributed little to long-term growth potential (Figure 7). Even when oil prices collapsed in 2014, spending was sustained before the elections only to fall sharply after.



**13. Managing resource revenues face technical difficulties.** Venables (2016) identified three key questions about the use of resource rents: the allocation between current consumption or investment, the types of financial, physical and human capital assets to be acquired for investment, and the entities that handle the rent (the government or the private sector). Historically, Nigeria has not been able to handle these questions well (Sala-i-Martin and Subramanian, 2013). Even creating resource revenues itself was fraught with problem. Low government take from commodity output led to the creation of the Nigerian National Petroleum Corporation, but the company's inefficiency sometimes led to declines in output. Managing a sovereign wealth fund (SWF) became another challenge. Nigeria has one of the worst SWF to annual budget ratio. The Nigeria Extractive Industries Transparency Initiative (NEITI, 2017) estimates that the ratio was 6.2% in 2012,<sup>11</sup> far below that of Nigeria's comparator countries. For example, the ratio was 10.4% for Angola in 2012, 32.1% for Russia in 2008, and 39.8% for Chile in 2007. More recently in 2018, the SWF to annual budget ratio fell to 5.6%.<sup>12</sup>

<sup>11</sup> The ratio is based on the size of the SWF in 2012 in percent of 2017 consolidated government revenue.

<sup>12</sup> This is calculated as the size of the SWF as of end-2018 in percent of 2018 consolidated government revenue.

**14. Vested interests, once formed, are difficult to break up.** Resource wealth promotes rent-seeking where legal and political institutions are weak, leading countries to respond in a perverse fashion to favorable shocks that generates a more-than-proportionate increase in fiscal redistribution and reduces growth (Tornell and Lane, 1999). Resource-rich countries on average have worse control of corruption. Without strong institutional safeguards, economic rents associated with natural resources create incentives for bribes and state capture (IMF, 2019). Where natural resources generate vested interests, economic policies influenced by those vested interests reinforce the status quo. For example, historically, the restrictive import regime in Nigeria generated substantial transfers to domestic producers, whose strong anti-export bias hindered the development of the export base (Peter and Olivier, 2006). Sometimes radical changes are more needed than incremental ones. As detailed in Section D below, successful transition to a more diversified economy often involves crises that forced through necessary changes.

## D. Successful Country Experience of Diversification

**15. Learning from the diversification experience of its peer countries will be vital to Nigeria's future success.** The country is pursuing import substitution that many countries have been through in the past. In fact, the idea of import substitution has been treated with caution since its inception (Irwin, 2020). Over time it fell out of favor as many country experiences have shown that it is inefficient and unsustainable. We look at three Asian countries, Malaysia, Indonesia, and India, that can provide valuable insights for Nigeria. We pick these countries as each started with a development strategy of import substitution similar to that of Nigeria but changed course along the road. We show that the confluence of three factors—economic crisis, social consensus, and external environment—triggered their decisive move away from import substitution and set them on a sustainable path of high economic growth.

**16. Malaysia, Indonesia and India used to bear a remarkable resemblance to today's Nigeria.** In terms of the structure of the economy and economic policies, Malaysia in the 1960s, Indonesia and India in the 1980s were similar to today's Nigeria. Based on GDP per capita, all three countries trailed behind Nigeria before the 1980s but overtook it one after another after reforms delivered a more diversified economy.

### • *Export and Fiscal Dependence on Natural Resources*

Much like today's Nigeria, Malaysia in the 1960s and Indonesia in the 1980s heavily depended on natural resources, which were the primary source of their government revenues and foreign exchange earnings. Malaysia's natural resources were in the form of agricultural commodities, with rubber and tin being most important. Indonesia in the 1980s produced about 1.5 million barrels of crude oil per day and its oil sector accounted for about 10% of GDP. Both oil production level and its contribution to GDP were almost the same as in Nigeria today. Oil revenue accounted for about 70% of government revenue in the early 1980s, also on par with Nigeria's current oil revenue to total revenue ratio in the early 2010s (Figure 5).

- **Low Share of Industrial Employment**

The share of employment in the industrial sector was about 15% for Indonesia and India in the 1980s, a low level similar to Nigeria's current share of little more than 12%. As a comparison, Indonesia and India currently have about 23% and 26% of employment in the industrial sector, respectively.

- **Import Substitution**

Malaysia in the 1960s imposed import tariffs to protect domestic nascent industries, such as the processing of agricultural and mining products, production of steel and cement, etc. Currently, Nigeria bans imports of similar products, including processed meat and vegetables, steel drums and pipes, and cement.

Indonesia ratcheted up import restrictions rapidly before the mid-1980s. The import ban list kept growing and non-tariff barriers became more complex. Nigeria currently has an import ban list of more than 40 broad groups of items, an expansion from 24 in 2012. However, Nigeria's tradition of import prohibition goes back to the 1970s. The import ban list had 76 broad groups of items in 1978. At the height of import prohibition in 1986, it covered roughly 40% of agricultural and industrial products (Oyejide, Ogunkola, and Bankole, 2005).

India before the 1990s had decades of the import licensing system, known as the license-permit raj. Importing anything that could be produced domestically was discouraged regardless of the cost.

- **Heavy Intervention of the State**

During the import substitution period, Malaysia, Indonesia and India all featured assertive state intervention in the form of trade and industrial policies. The Pioneer Industries Ordinance of Malaysia in 1958 provided incentives and tariff protection for manufacturing. Indonesia's industrial policies in the early 1980s were pursued through restrictive and discretionary investment procedures. Sectors were rarely chosen based on economic feasibility but on those deemed of strategic importance, such as petrochemicals and auto parts (Tijaja and Faisal, 2014). India's industrial licensing before the 1990s set quantitative constraints on industries. The government could dictate the location and scale of the plant (Feliipe, Kumar and Abdon, 2013). Today, Nigeria's state intervention takes the form of protectionist trade policies and credit support. Tax incentives for pioneer industries, import ban, foreign currency restrictions, and minimum loan-to-deposit ratio are main policies to prop up domestic industries.

## **17. Economic crises, a force toward liberalization within the government, and exemplary economies at the time served as key contributing factors to decisive reforms.**

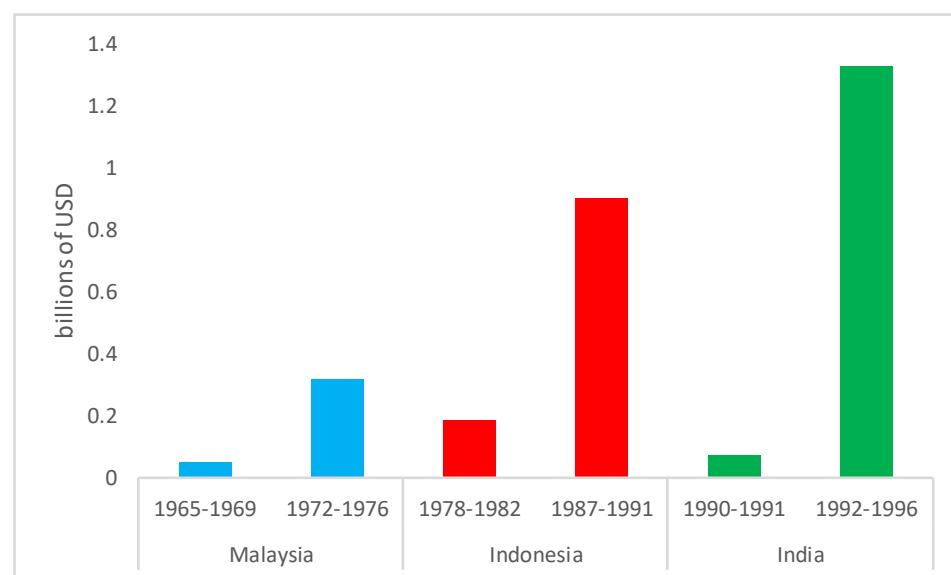
- *Economic crisis.* The racial riots in Malaysia in 1969, the 1982-1986 recession in Indonesia triggered by falling oil prices, and the 1991 recession in India were instrumental to the fundamental change of economic development strategies. Annexes 1, 2, and 3 provide detailed

description of the delicate political economy in Indonesia, Malaysia, and India that led to this transition.

- *Reformists within the government.* The group of economists within the Indonesian government had been pushing for reforms before the 1982-1986 crisis tipped the balance of power in their favor. Similarly, various committees in the Indian government in favor of liberalization were appointed in the 1980s before the 1991 crisis turned the tides. The force toward liberalization within each government sowed the seeds of difficult reforms.
- *External developments.* The success of East Asian miracles, the collapse of the Soviet Union, and the rise of China shaped the views of the politicians in the runup to their respective liberalization. Singapore had an earlier race riot in 1964 similar to the one in Malaysia in 1969 and its economic success did not go unnoticed by the Malaysian government. At the time of the Indonesia's crisis in the 1980s, the success of the four Asian tigers lent strong support to the strategy favoring trade liberalization. The Soviet Union, whose biggest trading partner was India, was collapsing during India's 1991 economic crisis. The command and control model, in contrast to China's revolutionary market reforms, lost its appeal to Indian politicians.

**18. Competition on the international markets and the focus on knowledge accumulation were the defining aspects of the reforms.**

- In the 1970s, promotion of foreign direct investment in manufacturing, through free-trade zones, tax incentives, and education of its workforce, as well as emphasis on technological upgrading were most important factors in Malaysia's diversification of the economy.
- The decisive reforms introduced in Indonesia in the 1990s included customs reforms that significantly reduced clearing time and import costs, import liberalization and trade deregulation that dismantled quantitative restrictions and reduced non-tariff barriers for importers substantially. Such reforms laid the foundation for Indonesian exporters to gain competitive inputs from international markets. Indonesia has become an export-oriented and internationally competitive economy since.
- India's New Industrial Policy and the export-import policy in the early 1990s eliminated industrial licensing, relaxed foreign investment rules, and introduced sweeping trade liberalizations. While liberalization in the manufacturing sector was limited, the liberalization in the service sector alone led to the dawning of a period of rapid diversification and improvement in living standards.
- Foreign direct investment (FDI) soared almost immediately after the reforms (Figure 8). Exports and growth also recovered from crises and steadily increased thereafter.

**Figure 8. Foreign Direct Investment Before and After Reforms**

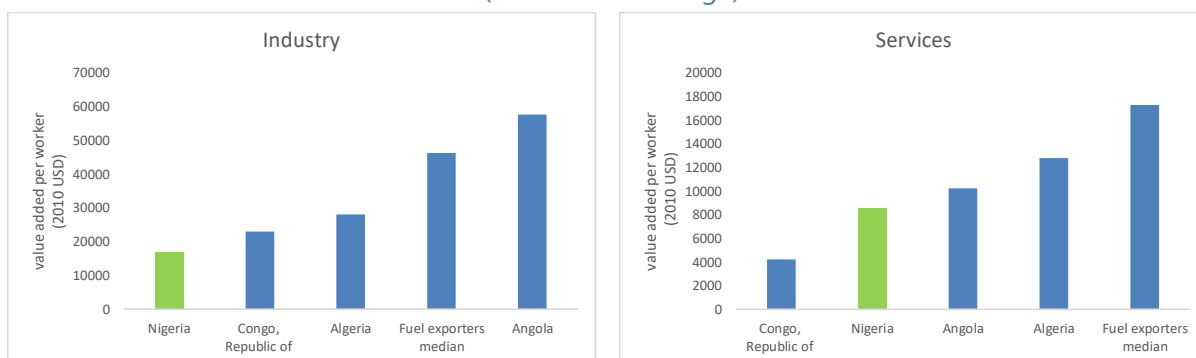
Source: World Economic Outlook; and IMF staff calculations.

## E. Nigeria's Path Forward

**19. The COVID-19 crisis is an opportunity for Nigeria to take a fresh look at its economic landscape and reconsider industrial policies.** For all the challenges it faces, Nigeria has a huge potential. It is Africa's largest economy. It accounts for more than 20% of Africa's household consumption and 15% of manufacturing output. Its large market size is attractive to foreign and domestic investment. Technological change is accelerating. E-commerce revenue in Nigeria has doubled each year since 2010. Business-to-business market is rapidly growing (Bughin, Chironga, and Desvaux, 2016). As many countries have turned crises into opportunities in the past, Nigeria faces a strategic moment to diversify its economy in the wake of the COVID-19 crisis.

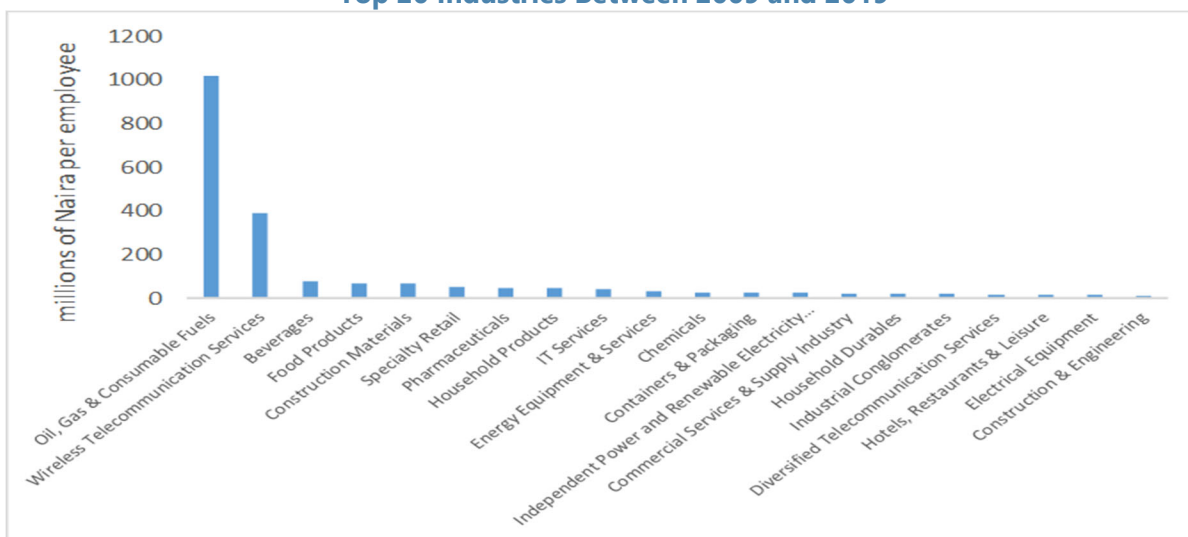
**20. Nigeria should embrace three key principles which have proven useful in countries that have pursued industrial policies successfully: state intervention should be limited to fixing market failures only, industrialization should have a clear export orientation, and policies to promote domestic industries should ensure competition and strict accountability** (Cherif and Hasanov, 2019). Productivity gains are at the heart of true industrial policies. To achieve sustained growth, new goods and new technologies should be introduced continuously, and the buildup of human capital should be emphasized throughout. Policies should steer factors of production in technologically sophisticated industries and encourage competition in both domestic and international markets. Nigeria's productivity has remained low in the past decade, particularly in the non-oil sector (Figures 9 and 10).

**Figure 9. Labor Productivity: Nigeria and Comparator Countries**  
(2010-2019 Average)



Source: World Development Indicators and IMF staff calculations

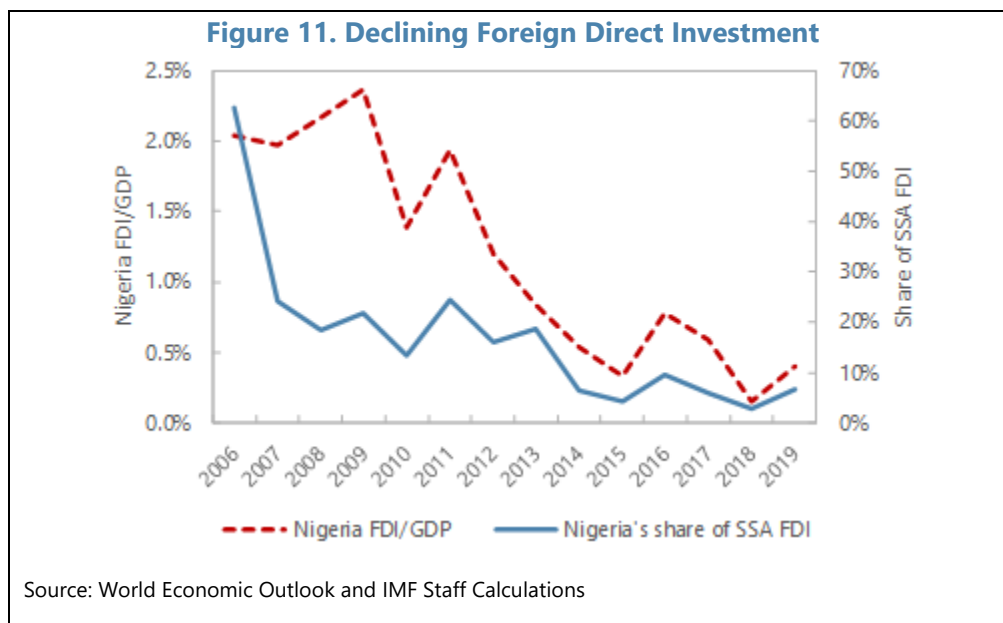
**Figure 10. Industry Average Labor Productivity**  
Top 20 Industries Between 2009 and 2019



Source: Compustat; and IMF staff calculations.

**21. To follow the key principles of industrial policies, Nigeria needs to identify structural reform priorities, including in trade and competition policies.** Currently, large infrastructure gap, high levels of corruption, and limited financial inclusion are key obstacles to the economy. Nigeria's competition law regime has been inadequate to address anti-competitive trade practices such as price regulation and dominance of big firms in some industries. Red tape and corruption related to micro, small, and medium-sized enterprises, such as multiple taxation, retail corruption, and overregulation, are undermining the private sector (Page and Okeke, 2019). An overvalued exchange rate, multiple foreign exchange windows, and unpredictable policies regarding foreign exchange access are holding back the export sector. The inward-looking import substitution policies are stifling competition and making Nigeria an increasingly less attractive destination for foreign investment (Figure 11). Export sophistication, which is shown to be a robust determinant of growth

(Cherif, Hasanov, and Wang, 2018), is still lacking. Decisive reforms need to be taken for the Nigerian economy to take off. Building a strategy to remove those bottlenecks of the economy in an orderly fashion will be important. Strong institutions will also need to be fostered overtime to ensure the successful implementation of reforms.



**22. Agriculture, energy and transport, as well as the digital economy could be the new pillars of Nigeria's development strategy.** Consistent with the focus of the recent Nigeria Economic Sustainability Plan, conceived in the midst of the COVID-19 crisis, development of these sectors would increase the productive capacity of the economy and create much needed jobs.

- **Agriculture**

Nigeria's agriculture sector has suffered from decades of neglect and features low productivity. While recent initiatives such as the Anchor Borrowers Program, the import ban on food items, and the border closure aim to revive the sector, durable gains can only come from addressing fundamental challenges, including the outdated land tenure system, mechanization, irrigation, seeds, procurement, distribution, storage, access to market, and limited adoption of research and technologies. Cross-country experiences show that productivity gains in the agriculture sector have always accompanied industrialization. Channeling public and private resources to tackle those fundamental challenges would provide a solid basis for Nigeria's industrialization.

- **Energy and Transport**

Despite being a major oil producer, Nigeria has to import refined oil products. Its domestic refinery has operated well below capacity for years under mismanagement and corruption (Sayne, Gillies, and Katsouris, 2015; Ogbuigwe, 2018). Increasing the sophistication of the oil industry and

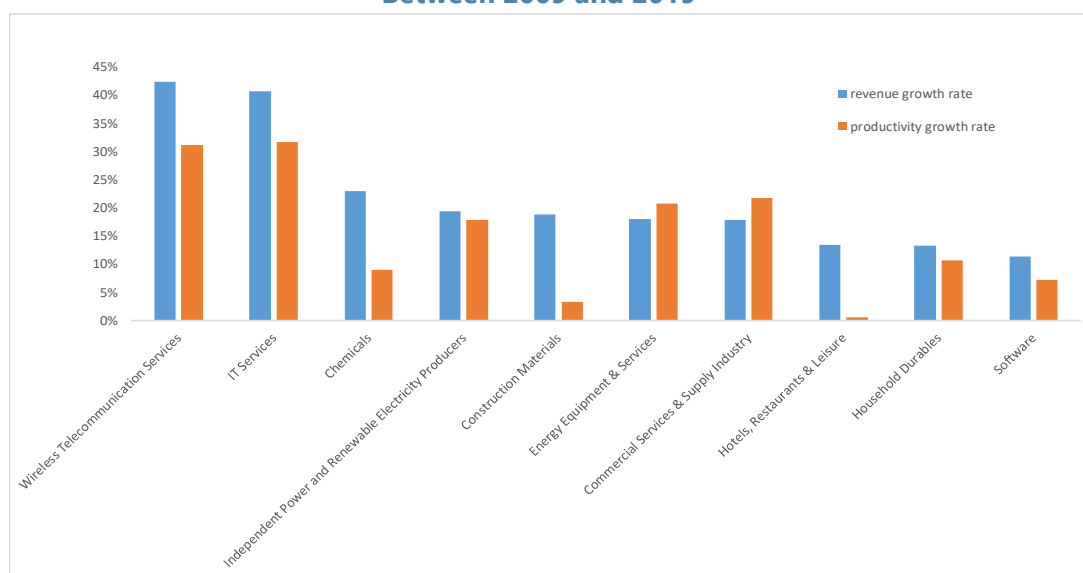
producing value-added oil products would reap the full potential of Nigeria's comparative advantage. The upcoming Dangote refinery is a welcoming development.

Unreliable power and poor transportation are among the major constraints of doing business in Nigeria. Successive governments have placed high emphasis on the power and transportation sectors, yet the outcomes remain inadequate. Strong commitment to solving the bottleneck problems such as power shortages, poor grid, port congestion, and lack of paved road, would provide the basic infrastructure for the private sector to grow. The recent electricity cost-reflexive tariff increase is a key welcoming step, but strong implementation remains crucial. Firms in emerging industries are growing at a much faster pace than firms in traditional industries in terms of both revenues and productivities (Figure 12). Helping domestic champion firms as well as small and medium enterprises succeed entails creating a conducive environment of physical infrastructure.

- **The Digital Economy**

The digital economy could be the new engine of growth for three reasons. First, the wireless telecommunication industry and the IT services industry have over 30% annual growth rate for the past decade in terms of labor productivity and revenue. Further development of the sector will build on the current momentum. Second, Nigeria has a young and dynamic population that meets the need of the digital economy, which in turn has the potential to increase employment of the young and build human capital. Third, investing in the digital economy would help Nigeria leapfrog the current physical infrastructure deficit and increase its international competitiveness. Box 1 analyzes Nigeria's two important sectors of the digital economy.

**Figure 12. Average Annual Growth Rate of Revenues and Productivities Top 10 Industries Between 2009 and 2019**



Source: Compustat; and IMF staff calculations.

### Box 1. Digitalization: The Next Engine of Growth?

- **Wireless Telecommunication Services.** The wireless telecommunication services industry is important for digitalization and its development is promising. As estimated from the Compustat data, the wireless telecommunication services industry develops fast in the past decade with an average annual growth rate over 40% for revenue and over 30% for productivity.
  - Wireless telecommunication is part of national backbone broadband infrastructure which is a key enabler to harness the digital economy. Wireless broadband has become the dominant means for people in Nigeria to access the internet, as a result of the limited development of fiber infrastructure--household penetration rate was 0.04% at the end of 2018, below the African regional average (0.6%) and well below the world average (13.6%) (World Bank 2019, Nigeria Digital Economy Diagnostic Report). According to ITU, 3G coverage reaches 54% of the population and LTE/WiMAX, 50.8%. Wireless telecommunication enables firms and individuals to build business in e-commerce and fintech areas and allows the government to provide more efficient and inclusive services.
  - According to Compustat data, Nigerian companies in the wireless telecommunication services on average also has the highest annual investment from the past decade, which significantly facilitates its future development. However, its further development and fixed-line infrastructure penetration still need proper industry policies to improve internet coverage in rural areas, including to
    - Improve education and provide target training funded by the government or private sectors;
    - Provide funding and qualified/trained staff to operate and support the public investment in digital infrastructure in underserved areas;
    - Open access to critical infrastructure investment to private sectors;
    - Provide universal, consistent and certain rules/regulations across country for investment, construction and operation of wireless telecommunication services and fixed-line infrastructure;
    - Provide government policies to drive demand for broadband services.
  - **IT Services.** The IT services industry is expanding rapidly with an average annual growth rate of over 40% for revenue and 32% for productivity. It covers a wide range of business from managed services, provision of software and hardware installation and maintenance services to software development, online financial services and e-commerce platforms.
  - Nigeria has the largest young population of sub-Saharan African countries who are willing to receive new knowledge. The IT services industry provides the potential to involve them and becomes a new driver of the economy. The IT services industry offers jobs for people at different education levels and can break the constraint of geographical boundaries. The work starts from data extraction, data entry and data labeling for people with limited education, to IT helpdesk services, software online maintenance and web design for people with secondary education or associate degrees, all the way to software development and other online services that require in-depth knowledge. Given its current low average level of education achievement, Nigeria right now is in the lower value-added segments of IT services. However, with more efforts on digital training and education, Nigeria can climb up the value chain. With the increase in demand of the IT outsourcing market, letting its companies compete in the global market would not only help the industry development but also increase service export and strengthen Nigeria current account balance.
  - More policy support is needed to further the IT services industry development, including to
    - Improve education and include digital training in the current education system;
    - Reform the policy environment to encourage SMEs and strengthen the policy to support IT services industry;
    - Ease access to finance and open access to private equities and venture capitals;
    - Encourage digitalization in strategic industries and government services and provide transparent channels for domestic IT services companies or individual contractors to engage;
    - Increase people's awareness of such online work opportunities.
- Both the wireless telecommunication services industry and the IT services industry hold large potential for further economic gains. Continued reforms to facilitate the development of these industries are needed. The World Bank (2019) provides a diagnostic analysis of Nigeria's digital economy, including its strengths and weaknesses, and provides actionable policy reforms to support the digital economy. As the world moves toward digitalization, Nigeria should seize the moment to transform its economy.

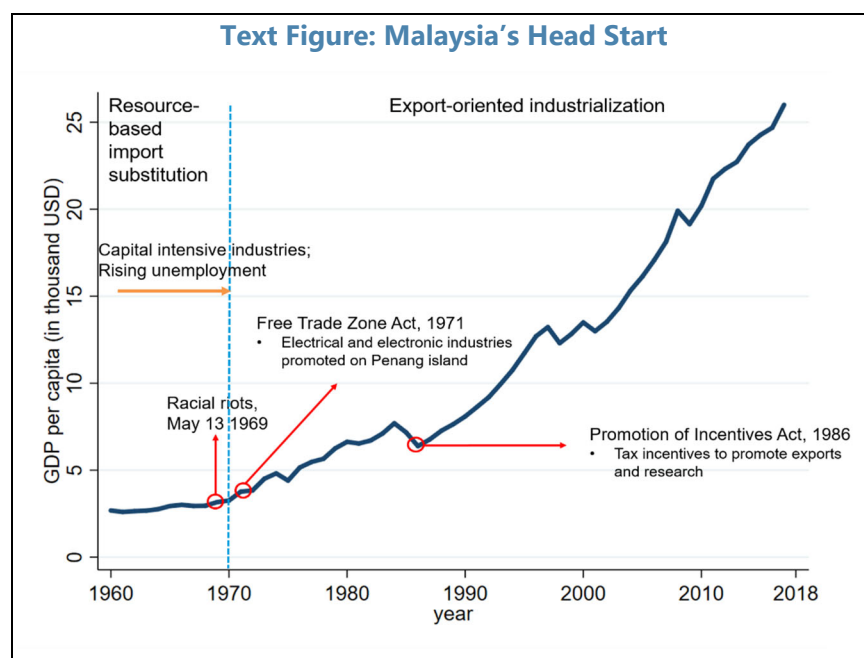
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## Annex I. Malaysia's Early Economic Success in the 1970s

**1. Background.** Malaysia inherited vibrant commodity export industries after independence in 1957 and began pursuing an import substitution industrialization strategy (Ritchie, 2004). Heavy dependence on agricultural commodities and large income inequality characterized the economy. Rubber and tin were the main source of government revenue. Resource-based manufacturing and heavy industries, such as the processing of agricultural and mining products, production of steel and cement, etc., were promoted. While the indigenous population engaged in subsistence agriculture, foreign interests dominated exports. The capital-intensive industries were not able to generate sufficient employment, leading to high unemployment rate.



**2. Racial riots.** On May 13, 1969, racial riots broke out against the backdrop of high poverty rate and high unemployment rate. In the wake of the riots, the government launched the New Economic Policy (NEP) in 1971, attempting to restructure the society through economic policies and focus on the exports of labor-intensive manufacturing industries to reduce poverty and unemployment.

**3. Main contributors to growth.** Since the launch of the NEP, Malaysia embarked on a path of export-oriented industrialization and enjoyed high economic growth in the 1970s. Foreign investment and emphasis on technological upgrading were most important factors in Malaysia's diversification of the economy. Promotion of foreign direct investment in manufacturing, through free-trade zones, tax incentives, and education of its workforce, were key to the growth of its manufacturing sector. Building domestic capabilities and investments in research and development helped vertical diversification, where Malaysia expanded beyond existing industries, such as rubber and palm oil, and entered upstream and downstream industries such as biotechnology engineering

in palm production and medical materials based on rubber (Jomo, 2001; Cherif, Hasanov, and Zhu, 2016). Active policymaking, including fiscal policies to develop infrastructure and attract foreign capital provided a conducive environment for rapid diversification and sustainable growth.

**4. Lessons.** The racial riots in 1969 represented a structural break in Malaysia's economic policies. In a way, ethnic tensions in their extremist form forced the government to realize that import substitution policies were not sustainable. While subsequent policies were not free of problems, step-by-step reforms toward export-oriented industrialization sustained high growth rates of the Malaysian economy for decades to come

## Annex II. The Political Economy of Indonesia's Reforms in the 1980s

**1. Background.** Indonesia's economy began to stabilize in 1966 when President Suharto took power and marked the beginning of the New Order regime. Dubbed by Higgins (1968) as the number one failure among the major underdeveloped countries, one of the key commitments of the New Order was economic development. However, there were different voices and ideas within the government on how economic development should take place. It's important to note that President Suharto remained in power until 1998. Reforms during this period, as much as they were economic choices, were also political considerations of the President to retain support for the regime.



**2. Players.** Three groups of people were in the inner circle of the president: economists, nationalists, and the establishment (Resosudarmo and Kuncoro, 2006). The economists had Western economic training background and embraced the neoclassical view. They controlled the Ministry of Finance and the National Planning Agency. The nationalists, in contrast, had mostly engineering background and believed in protectionist policies. They controlled the Ministry of Trade, the Ministry of Industry and the National Investment Coordinating Board. The establishment consisted of military personnel and the ruling party members. Situated in the State Secretariat and the administrative area of the presidential office, they were responsible for distributing rewards among the political elite.

**3. Balance of power.** The oil boom between 1974 and 1982 tipped the balance of power toward nationalists and the establishment. The oil windfall provided money to finance economic development and allowed the President's patronage system to expand. The nationalistic idea to rely

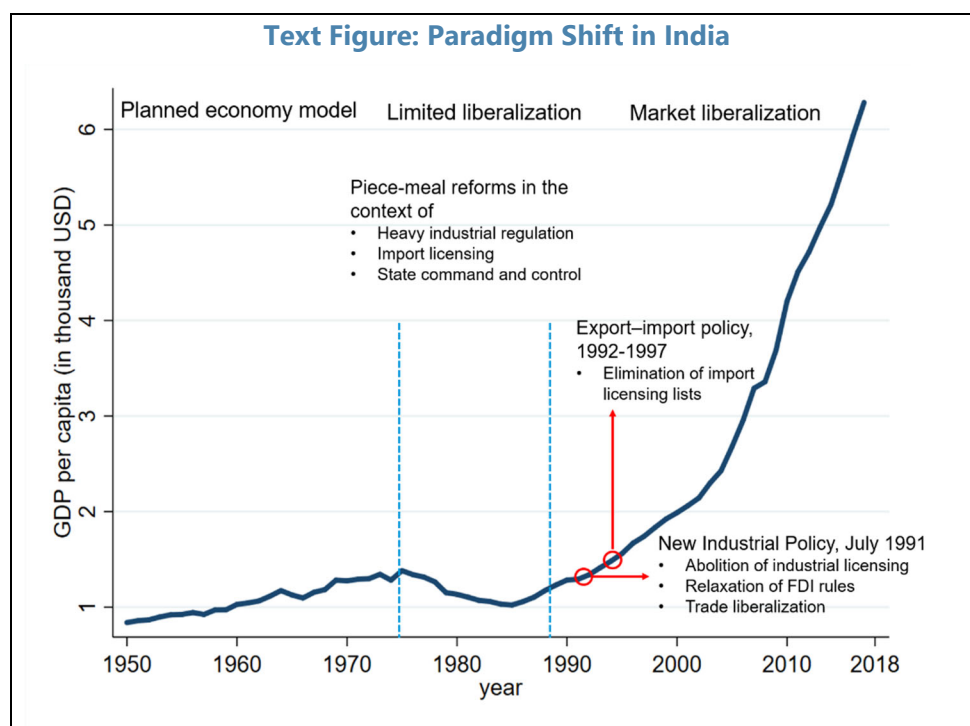
less on foreign investment and protect infant industries gained momentum. Indonesia pursued import substitution policies and large projects that benefitted the two groups and broadened the President's political support.

However, the secular decline in oil prices between 1982 and 1986, coupled with the worldwide recession, drastically reduced Indonesia's oil revenue and exports. The falling revenue made it increasingly difficult, if not impossible, for the patronage system to continue. The situation called for a different development strategy and changed the balance of power in favor of the economists. Beginning in 1983, the economists started to implement reforms in exchange rate, monetary and financial sector, fiscal and trade policies. While reforms in the financial sector were notable, they were less successful in the real sector where vested interests close to the President held monopoly power.

**4. Trigger of major reforms.** Although reforms started in 1983, the most decisive ones did not happen until the second wave of the double-dip recession came in 1985. Before the recession, the customs had long been one source of funds for the ruling party. The recession that started in 1982 made corruption in the customs agency, which constrained the manufacturing sector and reduced government revenue, a prominent problem. In 1985, after a few unsuccessful attempts in previous years to reform the customs, the government took an unprecedented approach, replacing the traditional customs inspection system with private sector-based pre-shipment inspection (Meyers and Oliver, 2015). This approach greatly reduced corruption and shortened customs clearing time

## Annex III. India's Break with the License-Permit Raj in 1991

**1. Background.** India's path toward diversification is characterized by three periods: planned economy model, limited liberalization and market liberalization. Since India's political independence in 1947, the quest for economic independence began. Largely inspired by the Soviet-style development, a planned economy model was adopted with the public sector playing a leading role. To reduce dependence on foreign exchange and achieve self-sufficiency, an industrial and import licensing system was introduced, known as the license-permit raj (Felipe, Kumar and Abdon, 2013). The license-permit raj was largely in place until the 1980s when limited liberalization was allowed for selected industries and trade. Then, the wave of major reforms came when P.V. Narasimha Rao became prime minister in 1991. The New Industrial Policy, launched in July 1991, introduced sweeping liberalization measures including the near abolition of industrial licensing and elimination of import licensing, relaxation of FDI rules and reduction of trade barriers. The substantial liberalization in the service sector, more so than that in the manufacturing sector, led it to become the main driver of India's impressive growth after 1991.



**2. Buildup to the reforms.** The sweeping reforms in 1991 did not happen overnight. To the contrary, it had decades of buildup. Since the 1960s and in response to the criticism of the license-permit raj, a large number of studies had been done to record and analyze the problems. Ironically, those studies recommended further tightening of the regime despite highlighting the problems of the regime. But they laid the intellectual foundation for liberalization reforms in the future. In the 1980s, the tides began to turn when various committees in favor of liberalization were appointed, many of which built on past reports yet recommended deregulation. When V.P. Singh was appointed the Finance Minister in 1984, he oversaw the gradual relaxation of the license-permit raj.

Later in 1989 when he became the prime minister, his government began to work on a blueprint for industrial reforms. Though it met with resistance and was buried in Parliament, the industry portfolio was nevertheless adopted by successive governments. External conditions were also favorable for reforms in the 1980s. The success of East Asian economies made the India government increasingly receptive to liberalization ideas.

**3. The year of 1991.** The economic crisis, domestic politics and the external environment were three important factors in the 1991 reforms that ushered in a new era for India.

*Economic crisis.* Years of large and growing twin deficits in the 1980s led to a balance-of-payments crisis at the end of 1990, when international oil prices hiked in the runup to the Gulf War. India's foreign exchange reserves were depleting rapidly to the point that it could only cover two weeks of imports by June 1991. Meanwhile, the government could not pass the budget after Moody downgraded India's ratings and came very close to defaulting on its debt. The urgency of the situation left the government with no option but to go to the IMF, against which India had a strong opinion (Sinha, 2016).

*Domestic politics.* P.V. Narasimha Rao became prime minister in July 1991. His government retained the buried blueprint of industrial reforms of the outgoing regime. A cabinet note on the industrial portfolio was prepared and set to be presented along with the budget on July 24. Predictably, however, it did not pass the cabinet because it represented an ideology that repudiated India's history. Even after a group of ministers toned down the cabinet note, every proposal came under attack. Finally, a long preamble to the cabinet note was added to make the "political packaging" right, stressing continuity of reforms, assuring interests of all sides and sufficiently deferential to India's founding leaders. The industrial reforms were approved by the cabinet on July 23 and the New Industrial Policy was tabled the next day (Mital, 2016).

*External environment.* It cannot be overlooked that in 1991 the Soviet Union, whose biggest trading partner was India, was collapsing. The Soviet Union's downfall made Indian politicians realize that the "command and control" system could not be India's solution to its crisis. Meanwhile, market reforms had revolutionized China. Such stark contrast helped politicians turn in the direction of the market (Aiyar, 2016).

**4. Lessons.** While substantial reforms were underway in the 1980s, they were half-hearted (Arvind, 2004). It was the crisis in 1991 that led to more systematic and deeper reforms in the 1990s that represented a fundamental change of economic policies. Political opposition never disappeared throughout the reforms. Political wisdom, and perhaps a bit of luck with visible short-term returns, pushed the reforms forward. It was only when India's GDP returned to record growth in 1994 that objections of the reforms as a sellout to the IMF by the opposition parties subsided (Aiyar)

# CREATING FISCAL SPACE DURING THE COVID-19 PANDEMIC IN NIGERIA<sup>1</sup>

## A. Background

### 1. The COVID-19 pandemic has intensified health and social spending pressures, especially given pre-existing weaknesses of the public health system and social safety nets.

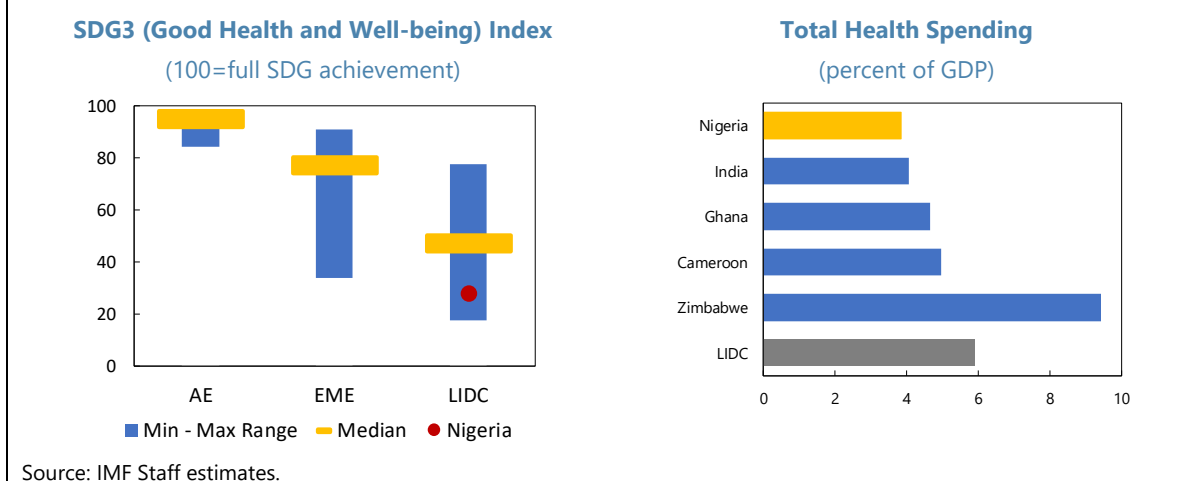
Nigeria's score in the index used to measure health SDG performance falls below the median for low-income economies. Total health spending is relatively low, with government spending in health being one of the lowest in the world, amounting to \$US10 per capita or just 0.5 percent of GDP in 2017 (latest available statistics). The Global Health Security Index 2019 in its comprehensive assessment of global health security capabilities, ranked Nigeria 96 out of 195 countries with particularly low capacities to prevent and respond to pandemics. While several social and employment programs exist in Nigeria, their implementation at the federal and state level is impeded by limited coverage, undefined eligibility criteria, and lack of monitoring (World Bank, 2016). These challenges imply that to adequately address both the public health and socio-economic challenges of the COVID-19 pandemic, significant additional spending would be needed to fight the pandemic and lend support to those most severely affected by it.

#### Box 1. Social Safety Nets in Nigeria

A number of social and employment programs exist in Nigeria but their implementation at the federal and state level is impeded by limited coverage, undefined eligibility criteria, and lack of monitoring (World Bank 2016).

- A few other conditional and unconditional cash transfers have been or are being implemented primarily at the state level but have low overall reach. For example, the effectiveness of the 'In Care of the People' (COPE) is constrained by low coverage (22,000 beneficiary households), low benefit levels, and weak incentives for state involvement.
- The Youth Employment and Social Support Operation (YESSO) program aims, supported by the World Bank, to reach more than 500,000 youth to receive re-orientation and life skills training and 1.5 million youth through public workfare.
- A number of programs are implemented by the National Directorate for Employment, including training on skills acquisition (e.g. Basic National Open Apprenticeship Scheme. B-NOAS) and entrepreneurship (e.g. women employment program).

<sup>1</sup> Prepared by Hua Chai (FAD).

**Figure 1. Performance in the Health SDG, in Income-Group and Regional Comparison**

**2. Nigeria's fiscal space is at risk.** With the uncertain recovery of the world economy and a second wave of the pandemic already happening in some parts of the world, fiscal pressures are likely to persist well into 2021 and possibly beyond. Oil and non-oil revenues are expected to be lower than pre-COVID-19 projections resulting in higher fiscal deficits. Public debt is expected to jump from 29 percent of GDP in 2019 to 34 percent of GDP by the end of this year. Interest payment is expected to absorb more than 90 percent of revenue of the Federal Government (34 percent of GG revenue) in 2020.

**Figure 2. Fiscal Financing Needs and Sources**  
(Billions of Naira)

	2020		2021	
		(%GDP)		(%GDP)
Total revenue and Grants	9,232	5.9	12,738	7.2
Total expenditure	18,598	12.0	21,435	12.1
Overall balance	-9,366	-6.0	-8,696	-4.9
Principal repayment	-3,933	-2.5	-4,080.0	-2.3
Gross financing needs	-13,299	-8.6	-12,776	-7.2
Financing	10,237	6.6	8,569	4.8
Rollover of domestic debt (assume 100%)	3,761	2.4	3,664	2.1
Identified IFI financing	2,704	1.7	936	0.5
o.w. IMF	1,228	0.8	0	0.0
o.w. WB	1,296	0.8	756	0.4
o.w. AfDB	180	0.1	180	0.1
Domestic financing	3,772	2.4	3,969	2.2
Bank financing	210	0.1	1,537	0.9
Commercial banks	210	0.1	1,537	0.9
Nonbank financing	2,964	1.9	1,828	1.0
Other financing (e.g. promissory notes)	472	0.3	500	0.3
Asset disposal	126	0.1	103	0.1
Remaining financing gap	3,062	2.0	4,208	2.4

Sources: IMF staff estimates.

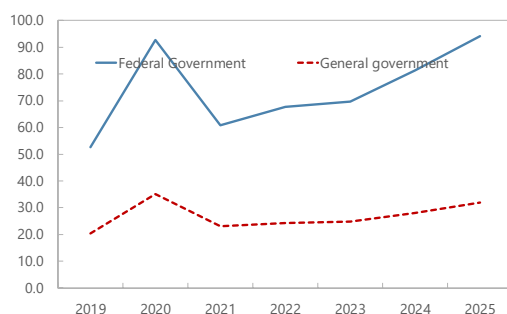
**3. In light of sovereign downgrades<sup>2</sup> earlier this year and heightened investor nervousness, access to international capital market may stay limited in the short run.** The

<sup>2</sup> On March 26, 2020, S&P Global Ratings lowered its long-term foreign and local currency sovereign credit ratings on Nigeria to 'B-' from 'B'. The ratings were affirmed with a Stable outlook on August 28, 2020.

gross financing needs are expected to remain elevated in 2021. The large financing needs in 2021, even if partly filled by more borrowing from IFIs and external capital markets, will need to rely heavily on domestic sources, including CBN overdraft, potentially crowding out private sector credit growth and further complicating the conduct of monetary policy.

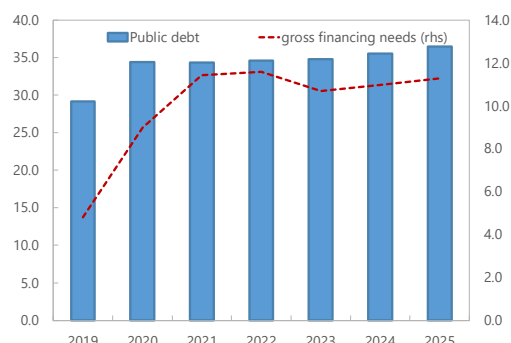
**Figure 3. Fiscal Financing Needs and Costs**

**Interest Payment to Revenue Ratio**



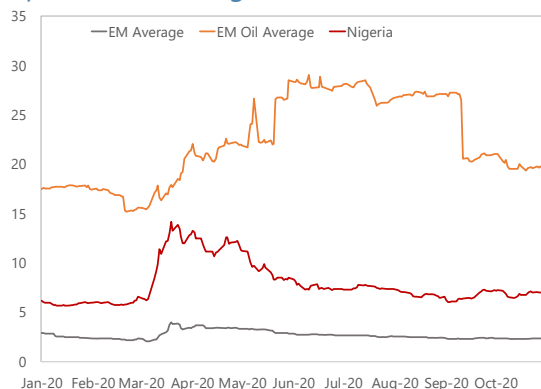
Sources: IMF staff estimate.

**Public Debt and Gross Financing Needs  
(percent of GDP)**



Sources: IMF staff estimate.

**International Bond Yields  
(percent, maturing between 2027-2029)**

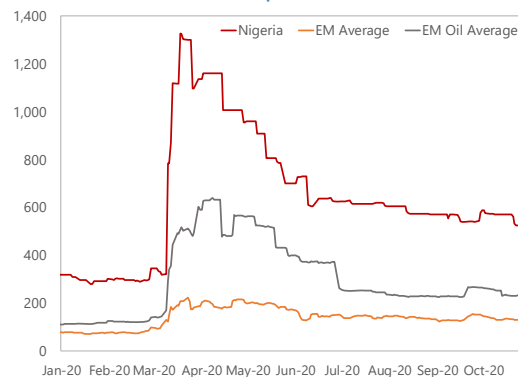


EM Average is a simple average yield to maturity for international bonds issued by China, Philippines, Mexico, Indonesia, Turkey, Brazil, Korea.

EM Oil is a simple average yield to maturity for international bonds issued by Qatar, Russia, Saudi Arabia, United Arab Emirates and Venezuela.

Sources: IMF staff estimates and Bloomberg.

**5Y CDS Spread  
(basis points)**



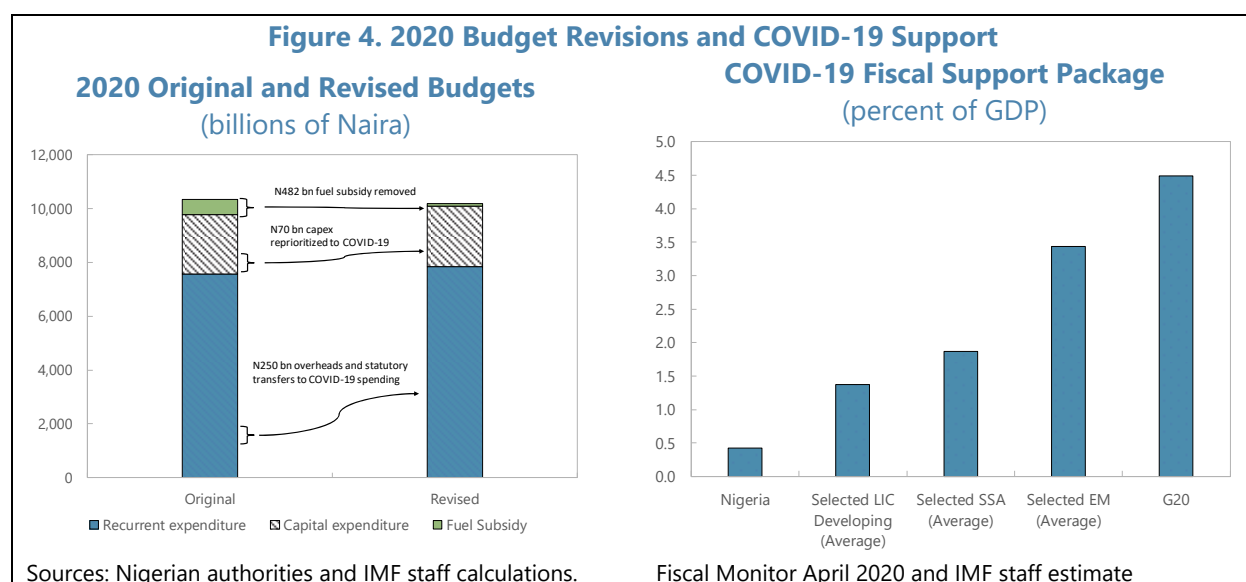
EM Average is a simple average CDS spread for China, Philippines, Mexico, Indonesia, Turkey, Brazil, Korea, India and Thailand.

EM Oil Average is a simple average CDS spread for Algeria, Angola, Qatar, Russia, Saudi Arabia, United Arab Emirates.

## B. Nigeria's COVID-19 Response

**4. Nigerian authorities have taken a number of fiscal measures to mitigate the public health and economic impact of the pandemic.** The revised budget of the federal government (FGN) set up a N500bn COVID-19 crisis intervention fund in order to help cover the costs of much needed health equipment, medicine, and facility upgrades, as well as shore up support for the economy through public works programs and social transfers. A temporary fiscal support package, though not fully costed, is expected to provide relief for taxpayers and incentivize employers to retain and recruit staff during the downturn, through measures such as income tax relief equal to a 50 percent rebate on payroll tax for their employees. Tax policy measures—such as import duty waivers for medicine and medical goods—were also implemented. Conditional cash transfer was provided to households on the social register, which is expanded from 2.6 million to 3.6 million households. In line with lower international oil prices, regulated fuel prices have been reduced, and fuel subsidies have been eliminated. Electricity tariff increases – originally planned for April 2020 – were postponed to September.

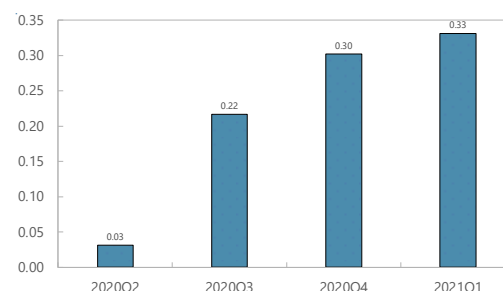
**5. The size of Nigeria's fiscal package is relatively small.** Its fiscal support package in response to the COVID-19 pandemic, estimated at 0.3 percent of GDP, is noticeably lower than that of comparators. Sub-Saharan African countries, emerging markets, and Low-Income Developing countries<sup>3</sup> have committed additional spending and foregone revenue averaging 1.4 – 3.5 percent of GDP. While some spending and foregone revenue has not been fully costed in Nigeria, thus preventing a precise comparison with peers, it is unlikely to match the magnitudes in these comparator countries.



<sup>3</sup> Due to data limitations, only selected countries in each group are covered in the Fiscal Monitor (April 2020).

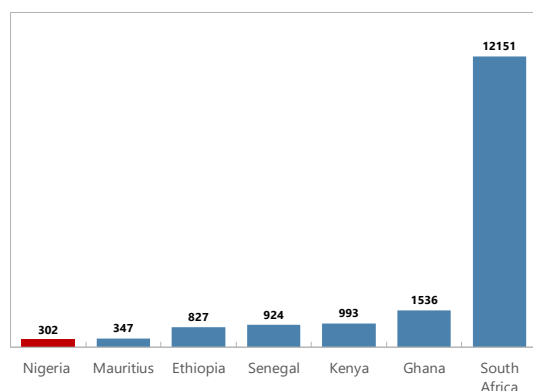
**4. Nigeria's COVID-19 public health spending need is likely to be moderate.** An estimate using IMF's Coronavirus Health Cost Model, based on a Susceptible-Infectious-Recovered (SIR) epidemiological model and health cost assumptions informed by the SDGs costing reports, suggests that Nigeria's COVID-19 health cost for enhancing healthcare capacity and treating patients by 2021Q1 is likely to amount to 0.3 percent of GDP, which is relatively low in comparison to other countries. This is mainly because Nigeria's official total number of confirmed COVID-19 infections (62,853 as of October 31, 2020) has been very low relative to the size of its population (302 per 1 million people) and is much lower than the SSA average. The number of active cases peaked in end-July at around 22,000 and has steadily declined thereafter to about 3,000 by end-October. About 2/3 of the COVID-19 health spending needs would have to be met by the State and Local Governments (SLGs).

**Figure 5. Estimated COVID-19 Health Spending Needs (no second wave)**  
(percent of GDP, cumulative)



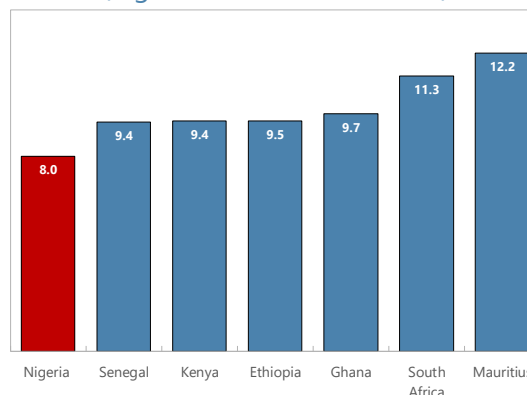
Sources: IMF staff estimates

**Figure 6. Total COVID-19 Cases per Million Population**  
(as of 10/30/2020)



Sources: worldometers.info

**Figure 7. COVID-19 Tests per Million Population**  
(log scale, as of 10/30/2020)



Sources: worldometers.info

**5. Additional COVID-related health spending needs in Q4 of 2020 and 2021 would be limited but subject to risks.** Assuming a continuation of the current trend of declining active cases, the number of patients requiring hospitalization would be limited. However, this outlook is subject to several risks. First, a possible second wave of COVID-19 infections could add to additional health spending pressures of about 0.2 percent of GDP, assuming that it occurs in 2021Q1 with the peak that is about the half of that is in the first wave. Secondly, Nigeria lags in COVID-19 testing, with the number of tests conducted per million population staying at a fraction of the average of regional peers. Limited testing could have masked a significant number of unreported infections, which, in turn, could lead to larger outbreaks that would eventually call for additional public spending.

**6. Fiscal impact beyond the need to increase health spending could be significant from a resurgence of COVID-19.** The IMF's DIGNAR-19 model, which is a combination of a dynamic macroeconomic model and a SIR epidemiological model, is used to simulate the impact of a second wave of infections starting in 2021Q1 on Nigeria, based on the assumptions that the Nigerian government (1) adopts a mild lockdown reducing contacts by one third of the reduction experienced during the more severe lockdown of April 2020; and (2) increases health-related expenditures by 0.2 percent of GDP in 2021. In addition, under this scenario, oil prices are assumed to tumble in 2021, averaging at \$30 per barrel; and the sovereign bond spread on external commercial debt would rise to 3 percentage points, similar to the increase in 2020Q1. With these assumptions, GDP is projected to contract by 1.7 percent in 2021, and the fiscal deficit is expected to worsen by 1 - 1.5 percent of GDP per year for the medium term, reflecting mainly the loss of oil and non-oil revenue, and to a smaller extent, the increase in public health spending and borrowing costs. Public debt would rise to 41.4 percent of GDP by 2024, i.e. 5.9 percent of GDP higher than in the baseline scenario.

### C. Creating Fiscal Space in the Near Term

**7. Work on adjustments in VAT and CIT laws to align these tax instruments with good global practices should continue.** Tax law amendments that address policy and compliance gaps by removing ambiguities in law and removing redundant tax expenditures could reverse the significant non-oil revenue leakage. This streamlining of the tax codes would also reduce compliance burdens. As economic recovery gradually sets in, excises could be broadened to cover fuel and telecom airtime. Efforts to review and rationalize the multiple pioneer status incentives should be prioritized, and the review and removal of customs duty waivers should be resumed, excluding those on medical supplies (IMF, 2017).

**8. Reinvigorating revenue administration is crucial for safeguarding fiscal resources as COVID-19 loses momentum and lockdown measures are loosened.** The FIRS suspended field audits, investigations, and monitoring at the onset of the pandemic to curb contagion through human contacts. Although some mitigating measures have been put into place, including improving the e-filing process, to facilitate the payment of taxes, filing, declaration and payment compliance have inevitably deteriorated due to extended deadlines, limited availability of staff and taxpayers' weakened financial positions. As active cases and new cases of COVID-19 infections continue to decline, it is essential to restore the normal functioning of revenue administration and restore compliance to pre-crisis levels. Field audits can be resumed as restrictive measures are gradually phased out. Ongoing reforms should continue. Plans to utilize automatic exchange of information (AEOI) on the offshore deposits of residents for the first time in 2020 should roll out as planned to reduce cross-border tax evasion (Grote et al, 2020). In addition, efforts to upgrade the IT infrastructure of tax administration (e.g. ITAS) should also proceed as planned. There is also a need to elevate the use of third-party information and data analytics to minimize the impact of suspending field audits.

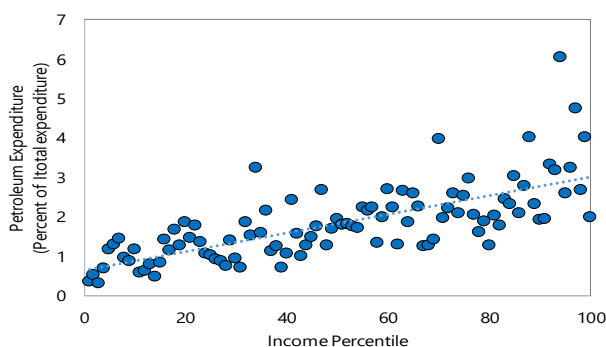
**9. A multi-pronged approach should be taken to safeguard oil revenue as oil prices have yet to fully recover to pre-crisis levels.**

- **Processing oil revenue at a unified and market-determined exchange rate rather than the official rate would boost oil revenue available to the government.** Staff's estimates show that the use of official rate as opposed to the more depreciated market rate (the I&E rate) for official transactions have resulted in foregone oil and gas revenue of the general government amounting to N500 billion in 2019. Allowing greater movement in the I&E window exchange rate to reflect market developments would help diffuse BOP pressures and deliver immediate gains to both FGN and SLGs.
- **Spending adequate resources on protecting Nigeria's oil and gas assets that extract and transport crude oil, gas and refined products is an effective revenue measure with immediate payoff.** The Nigeria Extractive Industries Transparency Initiative (NEITI) reported that the value of volumes of crude oil and refined products stolen from Nigeria in the last decade amounts to \$41.9 billion—and this loss is growing (NEITI, 2019). Introducing advanced fingerprinting technology for crude, improving the metering infrastructure, and comprehensive policing and guarding of the oil and gas infrastructure could dramatically improve the country's fiscal oil and gas resources.
- **Reforming the institutional and regulatory framework for the petroleum industry – including the fiscal regime – is essential to fully realizing the potential of the sector.** Expeditious establishment of the new petroleum fiscal framework will be critical to ensure new license bids and decisions on oil and gas exploration/development accelerate. The comprehensive overhaul of the policy and regulatory framework in the Petroleum Industry Bill provides long overdue steps to separate the commercial and regulatory functions in government, and adjustment in fiscal terms broadly position Nigeria in the right zone internationally. A quick adoption of the PIB could help boost oil revenues and lay a solid foundation for a recovery in the oil sector. Enhancing the governance of the oil sector and transparency of oil-revenue administration by publishing NNPC's financial statements and reports submitted to FAAC could also increase oil revenue collection.

**10. Preserving fiscal savings from fuel subsidy removal and proceeding with power sector reform in 2021 are critical for creating fiscal space.** Fuel subsidy, which accounted for 0.4 percent of GDP in 2019 and was more than the entire FG budgetary allocation for education, was removed. It is important to ensure the smooth functioning of the automatic fuel pricing formula and prevent the re-emergence of implicit fuel subsidies as international oil prices recover. Fuel subsidy removal reduces income inequality as richer households tend to spend a larger share of income on petrol. The cost of measures to mitigate the impact on the poor would be relatively small. Electricity tariff increases, originally planned for April 2020, to eliminate tariff shortfalls were understandably put on hold due to the pandemic. Introducing these tariff increases in 2021 would free up significant fiscal space (0.4 percent of GDP in 2019). Distributional impact from tariff increases would be limited, as 60 percent of the subsidy was used to cover electricity consumption for the richest 10 percent of the

population and 90 million of the poorest Nigerians have no access to power.<sup>4</sup> Some scaling-up of social transfers would be needed to protect those poor households to be affected by higher electricity tariffs. Its cost would represent a fraction of the fiscal savings.

**Figure 8. Petrol Expenditure by Income Percentile**



Source: National Bureau of Statistics, IMF Staff estimates

**11. It is important to ensure transparent use of IFIs resources as per commitments made in the RFI Letter of Intent.** These include creating specific budget lines for the tracking and reporting of emergency response expenditures and reporting on the transparency portal; publishing procurement plans and procurement notices for all emergency response activities; and timely publishing of an independent audit into the emergency response expenditures and related procurement process. The Nigerian authorities have created specific budget lines to facilitate the tracking and reporting of emergency response expenditures and have reported funds released and expenditures incurred monthly on the MOF's Transparency Portal. Moreover, the Bureau of Public Procurement has issued guidelines on Covid-19 emergency, and the Nigeria Open Contracting Portal has been publishing Covid-19 related procurement contracts, although some contract details on beneficial ownership seem to be lacking. Ensuring public accessibility would be important. Box 2 provides some international best practices of controlling, tracking, and reporting of COVID-19 policy measures.

<sup>4</sup> General Household Survey, Panel 2015-2016, Wave 3, Nigeria, National Bureau of Statistics.

## Box 2. International Best Practices of Fiscal Transparency of COVID-19 Policy Measures

**Tracking additional COVID-19 related spending through dedicated programs or sections of the budget.** In **Colombia**, an Emergency Mitigation Fund (FOME), placed under the responsibility of the Ministry of Finance, has been created to manage resources used to mitigate the impact of the current crisis with a dedicated portfolio that is separated from other funds and resources within the general budget.

**Channeling donor funding through the budget with full transparency on its utilization.** **South Africa** requires that all donor funding received be paid into a specific Reconstruction and Development Fund and used strictly in accordance with the purpose set by the regulations and the intent of the donors.

**Applying international standards of transparency to the implementation of off-budget measures.** **France** has set up in the current crisis a bank loan guarantee scheme. Access criteria and processes are well publicized; all guarantees for large corporations will be authorized by a (published) ministerial decision. A 12-member committee (with representatives from Parliament, business associations, local governments, and the Supreme Audit Institution), created at the request of the Parliament, will report on implementation of the guarantee scheme one year after its launch.

**Informing citizens about policy measures that are available and how to access them.**

Disseminating information on support measures through a dedicated portal, including precise criteria on the eligibility for benefits, is a useful option. **Peru** has created a webpage where citizens can find information on their eligibility to access the vulnerable household aid. Similar webpages have been created by other countries including **Iceland**, **Indonesia** and the **UK**. In **Malaysia**, the Ministry of Finance published an Economic Stimulus Package Booklet on its website, carrying relevant details of the package.

## D. Conclusion

**12. Nigeria is facing continued fiscal pressure in the near term and needs to act on multiple fronts to create fiscal space.** "Quick win" tax policy measures delivering small immediate fiscal gains should be followed up with stronger revenue measures when the economy starts to recover. Revenue administration authorities need to focus on reinvigorating operations. Oil revenues could be effectively boosted by unifying exchange rates, safeguarding oil and gas assets, and speeding up policy, institutional and regulatory framework of the oil sector. On the spending side, preserving savings from fuel subsidy removal and proceeding with electricity tariff increase when appropriate are key for creating fiscal space.

### Box 3. Estimating Nigeria's COVID-19 Health Spending Needs

A simple Susceptible-Infectious-Recovered (SIR) epidemiological model (see Heathcote 2000 for a discussion) developed at the IMF is used to project country-specific numbers of persons requiring hospitalization. Combining these with assumptions about spare capacity, and simple estimates of the costs both of providing care and of increasing capacity in the health sector, the model is able to derive the overall additional health spending needed country-by-country. By using a well-established epidemiological model of infectious disease diffusion and assumptions about capacity constraints, the model strikes a balance between simplicity and completeness.

Assumptions for the epidemiological model are mostly universal. An exception is the assumption that mitigation measures started to have an effect four weeks after the first case was reported in Nigeria. Assumptions for hospital capacity and healthcare costs are largely informed by the SDGs costing report by Soto, Moszoro, and Pico (2019), except for the cost of a new bed and other fixed costs for every 100 new additional beds, which include the cost of importing medical equipment and upgrading medical facilities. In the absence of Nigeria-specific data on these two costs, we take standard values recommended by the model. We also assume that the public share of COVID-19 health spending is 75 percent, with the private sector contributing the remaining 25 percent.

The model projects that the health cost is likely to amount to 0.3 percent of GDP by end-2020, close to the amount included in the revised budget. In the absence of a second wave, health spending needs in 2021 would be small as the number of active cases continue to decline. In the event that the second wave hits and assuming the pattern of infection rates mimics that observed in the earlier months of 2020, an additional health spending of 0.2 percent of GDP is likely to materialize, and fiscal resources have to be provided for accordingly.

#### Assumptions for epidemiological model

Basic reproduction number	
Before mitigation measures	2.10
After mitigation measures	0.95
Average duration of the infection, in weeks	2.50
Probability of developing severe symptoms	0.20

#### Assumptions for costs, US dollars

Cost of a nurse per week	195
Cost of physician per week	355
Other operating costs, per week per patient	11,654
Cost of new bed	25,000
Other fixed costs for every 100 new additional beds	1,000,000
Share of cost borne by the public sector	75%

#### Assumptions for hospital capacity

Total beds in period 0	561,185
Nurses in period 0	291,657
Physicians in period 0	73,649
Available beds for Covid-19 patients in period 0	5,612

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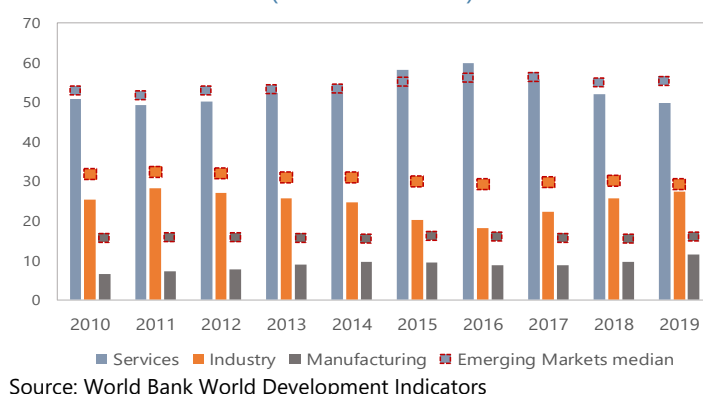
# NIGERIA—CORPORATE PERFORMANCE, INVESTMENT AND FINANCING<sup>1</sup>

*This chapter assesses the performance of large Nigerian firms using firm-level data that permit a closer view of challenges facing the average large firm instead of merely looking at the headline performance visible in macroeconomic aggregates. This differentiated view illustrates that the growth rate of the median large firm (e.g. in assets and the capital stock) is much lower than in aggregate, implying that macro-aggregate growth is driven by the very largest companies. The study finds that corporate performance measured by asset productivity and operational efficiency has declined over time, although the largest firms have fared somewhat better. The debt load and liquidity of many firms is found not to be sustainable, particularly under the current oil price and COVID-19 induced shock, as a corporate stress test shows. Corporate investment is insufficient to replenish the capital stock on average—save the largest firms—possibly due to both insufficient cash flow from operations and low external financing. The muted credit growth may be owed to the credit risk from financially distressed borrowers, as firms with an unsustainable debt burden have received less credit on average.*

## A. Background

**1. The operating performance of large Nigerian corporates has worsened over the past decade.** Relatively low capital investment in combination with unfavorable cost structures has led to a decline in productivity and operational efficiency. Firm productivity in terms of value added has generally stagnated or fallen (for example, in the services sector) and is lower than the median for other selected emerging market economies<sup>2</sup> across sectors. This deterioration in corporate performance can be linked to several factors, both domestic and external.

**Figure 1. Nigeria and Selected Emerging Markets: Value Added by Sector (Percent of GDP)**



**2. Domestic factors are reported to include access to credit and the business environment.** Access to finance has been listed as the top constraint to doing business in Nigeria (World Bank Enterprise Survey, 2015). Hosny (2020) finds that firms who perceive access to credit as a constraint to their business have, on average, around 80 percent lower employment growth and around 30 percent lower capacity utilization growth compared to the group of firms not reporting

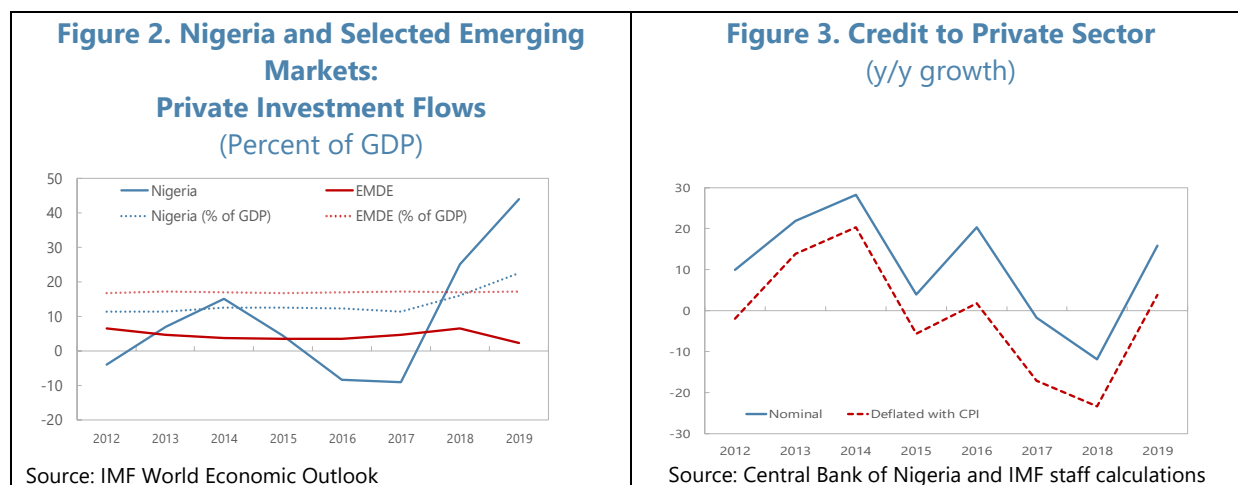
<sup>1</sup> Prepared by Torsten Wezel (MCM) and Weronika Synak (AFR).

<sup>2</sup> Selected emerging market economies include Argentina, Brazil, Chile, China, Colombia, Egypt, Hungary, India, Indonesia, Malaysia, Mexico, Pakistan, Peru, Philippines, Poland, Russia, South Africa, Thailand, Turkey, and the United Arab Emirates.

this constraint. Particularly, larger and export-oriented firms are less likely to report access to finance as a business obstacle. This is despite some mitigating factors. For manufacturing, Kolawole and Omobitan (2014) show a significant and positive impact of private sector credit, property rights and investment freedom on value added in manufacturing.

**3. External factors have played a role as well.** Earlier IMF research by Ibrahim et al. (2017) found that foreign exchange inflows are highly correlated with corporate performance, mostly through macroeconomic developments. For example, a one percent decline in autonomous foreign exchange inflows (mainly remittances and non-oil proceeds) reduced companies' operating profits by the same degree. This effect was stronger for firms in the services sector.

**4. A look at Nigeria's private sector investment and credit does not provide a clear picture.** During the past decade, private investment flows in terms of GDP were mostly lower than in the peer emerging market countries but have picked up recently. Credit to private sector had been on a declining trend since 2014 but recovered in 2019, in part due to the initial effect of CBN's requirement of a minimum loan-to-funding (LDR) ratio introduced in mid-2019. In real terms, the growth rate of private sector credit has barely turned positive. Analyzing firm-level data sheds additional light on what is behind these macro trends, also analyzing differences in operating performance by firm size.



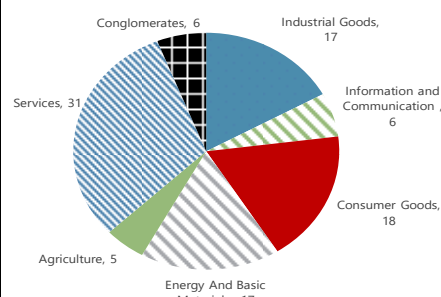
**5. This study looks beyond the developments in the macroeconomic aggregates and assesses the performance of the average large firm by scrutinizing a variety of firm-level data.** The firm-level approach can help discover developments that are otherwise masked by the performance of a few companies driving the aggregate performance. For example, while the macro performance in investment may appear broadly appropriate, our firm-level analysis shows that this growth is driven by a few large firms, while the average large company invests much less. Going a step further and creating a subgroup with the largest firms allows us to bring out such differences in performance and draw conclusions about competition and market power of the largest Nigerian firms and associated implications for inflation and employment.

## B. Data Collection and Sample Properties

### 6. The firm-level data used in this study were collected from Bloomberg for the period of 2012-2019.

The advantage of using this data source is its wide scope, up-to-date coverage and high granularity of information. We obtained annual data on balance sheets as well as income and cash flow statements for 114 non-financial private companies<sup>3</sup> listed on the Nigerian Stock Exchange (NSE). However, because the number of observations in the dataset varies across years and variables,<sup>4</sup> we only include 100 *large* firms in the final sample. Based on the NSE's industry classification, one third of all firms operate in the services sector (including healthcare), with the remaining sample quite evenly split between the primary and secondary sector. Market concentration has increased over the last years, as measured by the Herfindahl-Hirschman Index. We also create a subset for the *largest* blue-chip companies ("Top 30", as per asset size) to check whether these firms display a different performance from the remaining large firms. The Top 30 account for about 10 percent of the corporate sector, as measured by their share in total bank credit to the non-financial private sector. As the Bloomberg data do not disaggregate borrowing sufficiently, the information on bank and other loans used in Section D was sourced directly from the annual reports of the Top 30 companies.

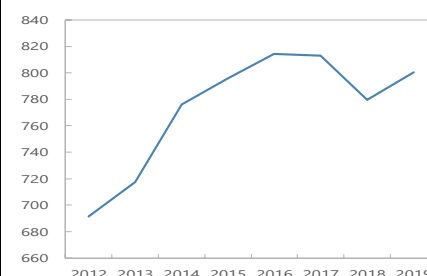
**Figure 4. Sectoral Profile**



Source: Nigerian Stock Exchange and IMF staff calculations

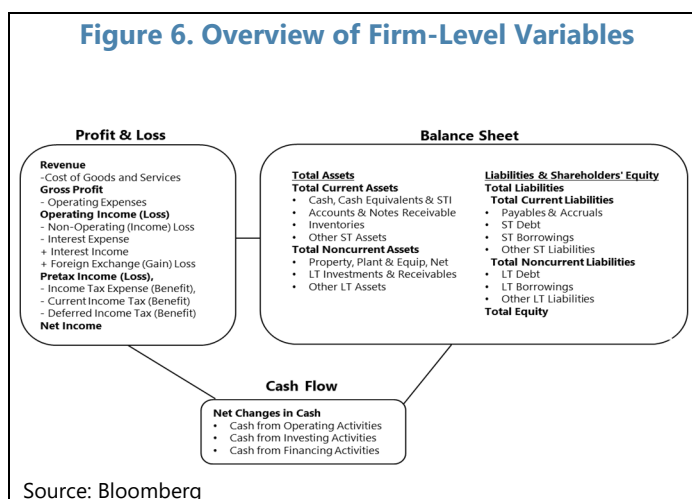
**Figure 5. Herfindahl-Hirschman Index**

Source: Bloomberg and IMF staff calculations



**7. The firm-level dataset features a high granularity of accounting data.** In each of the three main data categories (balance sheet, profit and loss, and cash flow) we use several variables for our analysis. The diagram to the right summarizes the variables in each area.

**Figure 6. Overview of Firm-Level Variables**



Source: Bloomberg

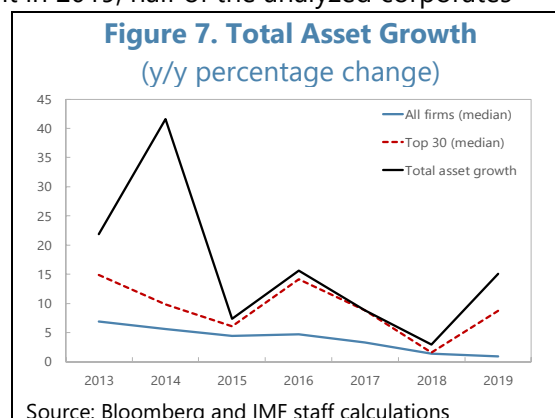
<sup>3</sup> Financial companies (e.g. insurance) are excluded from the study because their different balance sheet structure, notably much higher leverage, inhibits comparison with the non-financial firms assessed here.

<sup>4</sup> It is difficult to ascertain whether a missing observation is due to non-reporting by a firm or rather in some cases inadvertent omission by the information provider in the data collection process.

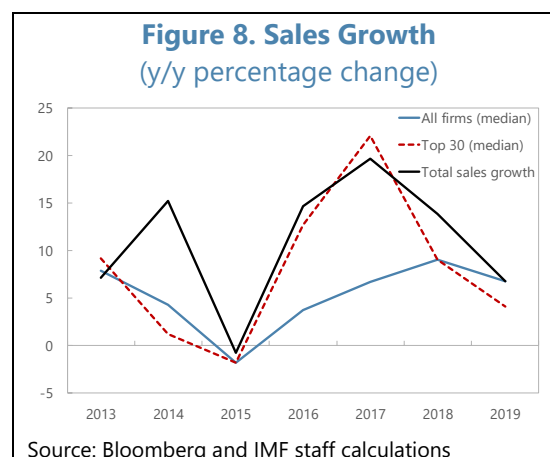
## C. Corporate Performance and Debt Sustainability

### *Growth, Cost Structure, and Operational Efficiency*

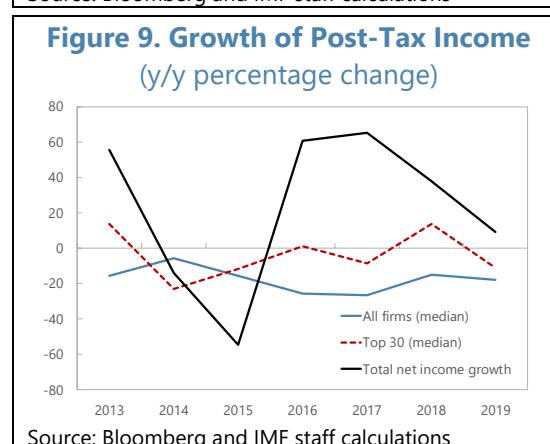
**8. Large firms' asset growth has been falling gradually but varying across firm size.** While total asset value of large companies grew by 15 percent in 2019, half of the analyzed corporates registered a rate lower than 1 percent as implied by the median used as an average performance measure. In fact, about one-third of all companies reported zero long-term investment in 2019. For the subset of the Top 30 companies, median growth picked up to around 9 percent in 2019. The differential between this number and the headline growth rate of 15 percent implies that expansion by the very largest firms among the Top 30—often owned or backed by wealthy individuals—drove the overall growth. Regardless of company size, the asset growth was driven almost entirely by an increase in non-current assets, while current assets grew only by 1 percent in 2019.



**9. Large companies registered a decline in sales in the last two years.** Even before the current combined oil price and COVID-19 shock, the median growth rate of sales (gross revenue) had been moderating across both the Top 30 and other large firms, rendering the rebound after the 2015-16 oil price shock short-lived. In fact, 13 out of the Top 30 firms and half of the remaining firms reported negative growth in sales in 2019.

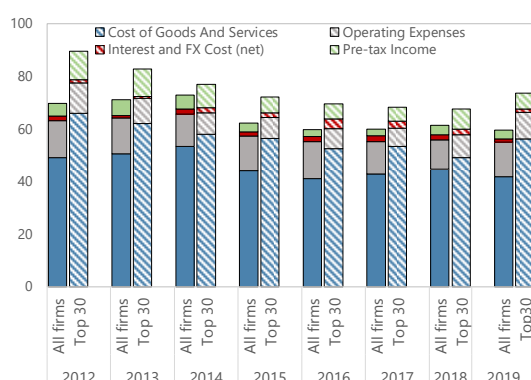


**10. Profitability has also been deteriorating.** While the return on average assets for the large firms as a whole (size-weighted) was still positive in 2019, the post-tax income of the median large company had been falling throughout the entire time period (negative growth rate in Figure 9). The situation looks slightly better for the Top 30 firms, although in 2019 also half of these companies reported lower profits than the year before. The median profit margin (net income divided by revenue) declined to below 3 percent, with one-third of companies reporting negative numbers in 2019.



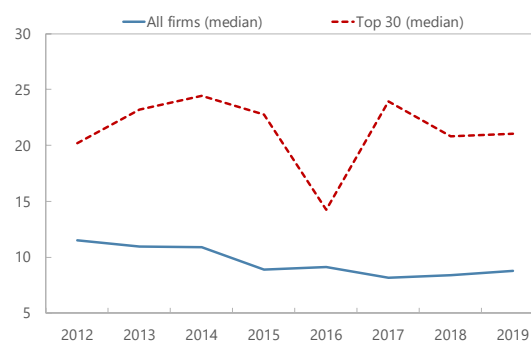
**11. Gross income has fallen despite firms' reducing their operating costs.** Income declined on the back of lower revenue (Figure 10) that could not be fully compensated by cuts in the cost of goods sold (COGS) and, to a lesser degree, in other operating expenses. The drop is more noticeable among the Top 30 companies despite significant cuts in COGS. As a result, firms' operating efficiency as measured by the so-called EBITDA margin<sup>1</sup> measuring what share of revenue a firm manages to keep as operating income has deteriorated over the years. EBITDA stands for earnings before interest, taxes, depreciation, and amortization. As already seen with the cost structure, the median EBITDA margin is more than twice as high among the Top 30 as it is in the group of all large firms.

**Figure 10. Revenue, Costs and Income**  
(Percent of assets)



Source: Bloomberg and IMF staff calculations

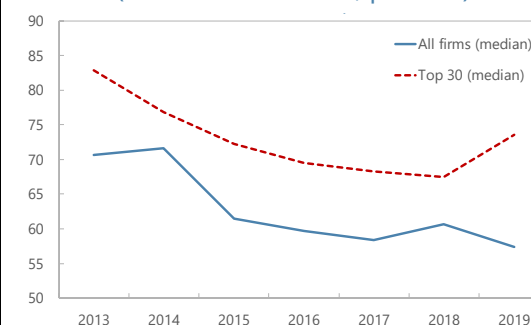
**Figure 11. Operating Efficiency: EBITDA Margin**  
(y/y growth)



Source: Bloomberg and IMF staff calculations

**12. In line with sales developments, asset productivity has deteriorated as well.** The asset turnover ratio (defined as revenue generated by a given level of assets) has persistently dropped since 2014, with the exception of the Top 30 firms that managed to reverse the trend in 2019, at least for the time being. This rebound has widened the gap between the largest firms and the rest of the sample firms that saw a continued decline. This widening gap is reflective of other differential developments in the capital stock and investment which are discussed in Section D.

**Figure 12. Productivity: Asset Turnover Ratio**  
(Revenue-to-Assets, percent)

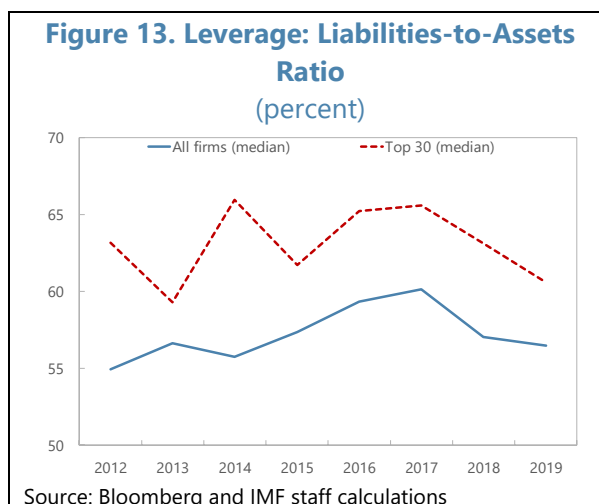


Source: Bloomberg and IMF staff calculations

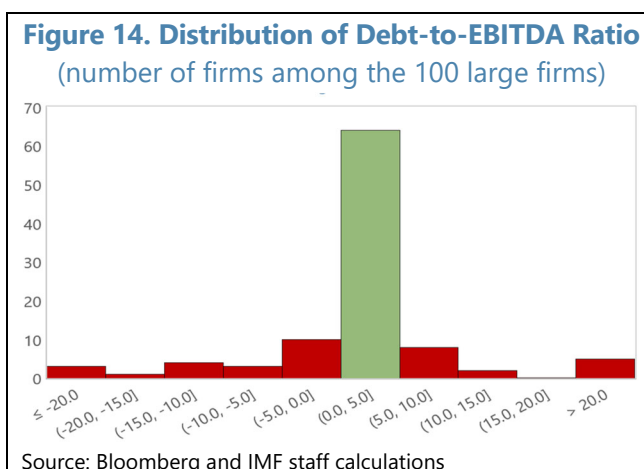
<sup>1</sup> EBITDA is related, yet not identical to operating income. Knowing the EBITDA margin allows for a comparison of one company's real performance to others in the industry.

## Debt Sustainability and Liquidity

**13. Many large Nigerian firms are overleveraged and unable to service their debt from operations.** While leverage, as measured by the debt-to-assets ratio, may not be overwhelming, the debt and debt service in relation to operating income certainly is overwhelming for many. In fact, it is the low or negative earnings that render the debt load unsustainable. To assess debt sustainability, we use two metrics, the net debt-to-EBITDA ratio and the interest coverage ratio defined as EBIT (earnings before interest and taxes) to interest payments.



**14. The debt load is deemed unsustainable for more than one-third of large firms, considering their operating income.** Debt is typically considered sustainable up to a net debt<sup>2</sup>-to-EBITDA ratio of 5, implying that it would take a firm a maximum of five years to repay the debt from operating income.<sup>3</sup> EBITDA is taken in this calculation instead of operating income, since it is considered a proxy for cash flow from operating activity and allows comparison across industries.<sup>4</sup> The analysis shows that the debt load of about one-sixth of the 100 large firms<sup>5</sup> is beyond that threshold, and another one-fifth have negative EBITDA, automatically rendering their debt non-sustainable by definition. One-fourth of the firms with an unsustainable debt load operate in the oil & gas and basic materials sectors.



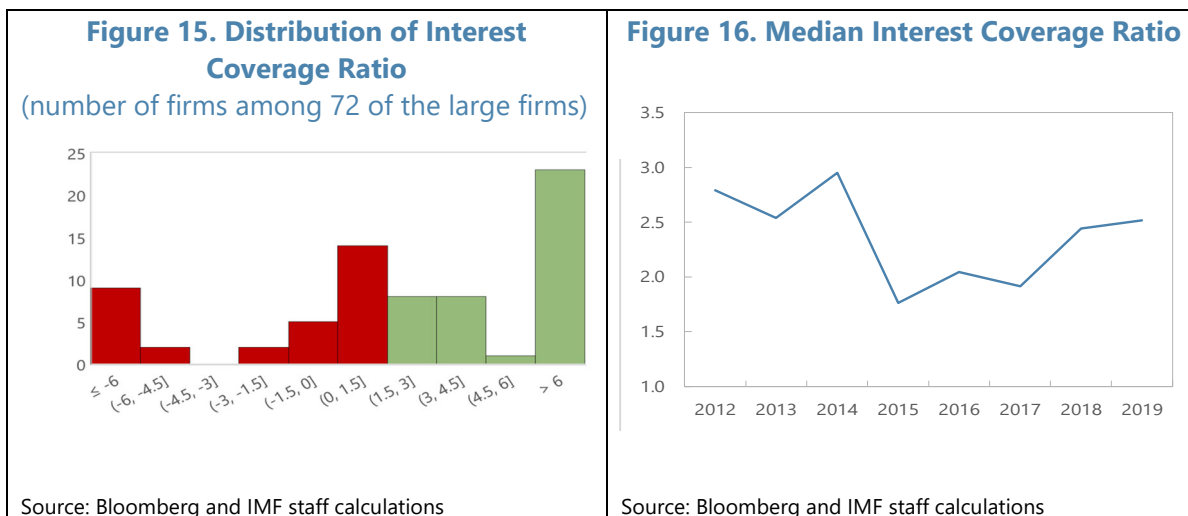
<sup>2</sup> Net debt is defined as interest-bearing liabilities (excluding accounts payable) minus cash and cash equivalents, which are subtracted because the firm could always use the cash on hand to repay part of the debt.

<sup>3</sup> The threshold can be higher for capital-intensive industries (e.g. utility firms) or, conversely, lower for service providers. A uniform threshold is applied here because of a relatively coarse sector classification in the Bloomberg data and the presence of mixed conglomerates in the sample.

<sup>4</sup> EBITDA breaks down the business to its fundamental operating cash flow since it removes changes in cash due to the firm's past decisions about financing, investment and tax structure that are not reflective of the current operations performance.

<sup>5</sup> The debt-to-EBITDA analysis is carried out for all 100 sample firms, whereas the subsequent analyses for debt service sustainability and liquidity use a slightly smaller sample because not all sample firms reported the variables used in the metrics.

**15. Similarly, the income of many large firms is insufficient to service their debt.** The relevant metric for assessing debt service sustainability, the interest coverage ratio (ICR) defined as EBIT (earnings before interest and taxes) over interest payments, is below the commonly assumed sustainability threshold of 1.5 times<sup>6</sup> for close to half of the 72 firms expressly reporting the necessary data. Among these firms, three-fourth have negative EBIT which, again, automatically renders debt service untenable. While the median ICR is below pre-crisis 2015 readings, it has recovered in 2018-19 on the back of higher EBIT. Not all firms having unsustainable debt service capacity have an unsustainable debt load and vice versa. In fact, about two thirds of the firms assessed are over-indebted in one or the other category.



**16. The liquidity situation of some firms is precarious.** The median growth rate of cash holdings fell from 22 percent in 2013 to -2 percent, raising issues about liquidity. About one-fifth of firms (19 out of 86 reporting the necessary data) can be considered illiquid judging by the concept of “net cash”, which is defined here as cash and cash equivalents plus the sum of accounts receivable and short-term investments minus the difference between current liabilities and short-term debt (see Tressel, 2021).<sup>7</sup> Other things equal, this also implies that such firms depend on a more-than-full rollover of debt.

**17. Taken together, one in six large firms can be considered overindebted and/or illiquid.** Of the 100 large firms analyzed, nine fail all three sustainability criteria, and another six are in debt distress by one count and illiquid. The total number of clearly overindebted firms (i.e. failing both debt sustainability criteria irrespective of liquidity) is 18. Considering that the ICR could only be calculated for 72 firms, the true share of overindebted firms is likely closer to one in four.

<sup>6</sup> By the time a firm’s ICR dips below 1, it may have already been in distress. As an early warning signal of potential corporate difficulties, analysts often use a more conservative ICR threshold of 1.5 (Chow, 2015).

<sup>7</sup> Note that even if the cash stock is positive, a wider measure of near-cash assets and liabilities can be negative (assuming that all short-term liabilities are actually paid, and no arrears incurred).

## Corporate Stress Test

### 18. Debt sustainability can be expected to weaken further under the current crisis conditions.

To assess firms' resilience to the combined oil price and COVID-19 shock, we conduct a corporate stress test on the two debt metrics. In addition, we run a cash flow test that checks how many firms' net cash position would turn negative (or more negative) after the shock impact.

### 19. The tests assume severe but plausible shocks to firms' earnings and some recourse to external financing.

In both debt sustainability tests, we assume that operating earnings proxied by EBITDA and EBIT, respectively, fall by 40 percent relative to end-2019. This certainly represents an extreme shock roughly double the shock experienced during the 2015 oil price shock episode when EBITDA and EBIT relative to assets of the median firm fell by 18.5 and 28.9 percent, respectively. In addition, in line with the trend in credit to the economy (+11½ percent year-to-date) we assume that short-term debt rises by 10

**Table 1. Nigeria: Shocks Assumed in Corporate Stress Test**

EBITDA; EBIT	-40%
Short-term debt	+10%
Interest expense (on additional debt)	+8%
Revenue (in cash flow test)	-40%
Cost of goods sold (in cash flow test)	-40%

percent relative to end-2019 since many firms are unable to service debt and make other scheduled payments without additional financing. For the ICR, this is assumed to translate into a rise in interest expense by only 8 percent, as interest rates have dropped since end-2019 (during August and October 2020 the prime rate fell from 15 to 11¾ percent). In the cash flow test, we assume in addition that revenue falls by 40 percent, but also that firms can adjust the cost of goods sold (COGS) by the same rate, thereby softening the impact on operating income<sup>8</sup>. Table 1 summarizes the shocks.

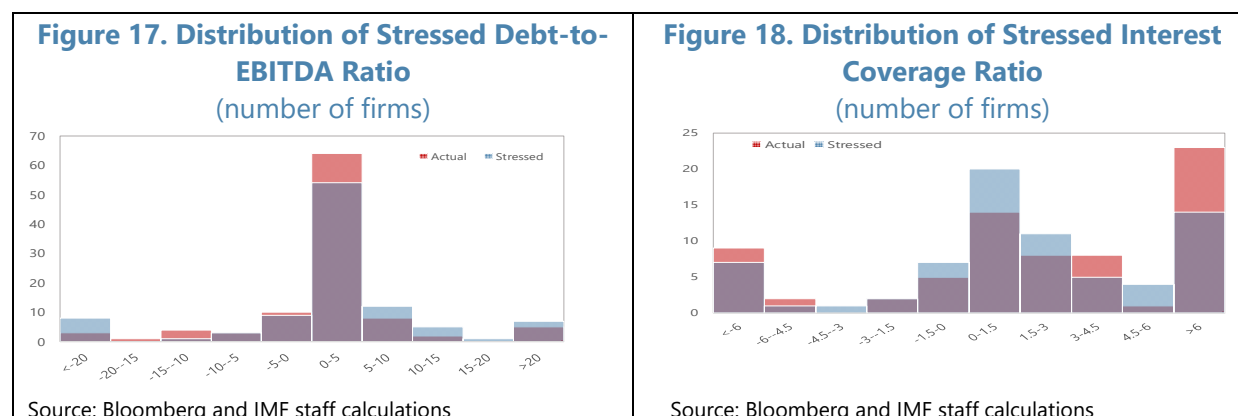
### 20. Under this simple stress scenario, the share of large firms with an unsustainable debt level or service increases moderately.

Under the debt-to-EBITDA test another 10 firms display unsustainable debt, bringing the total to 46 out of 100 firms, while under the ICR test the number of firms with non-viable debt service rises by 6 to a total of 38 firms (i.e. more than half of the 72 firms reporting the required data). Based on the debt-to-EBITDA ratio, this corresponds to a share of "debt at risk"<sup>9</sup> in total debt of the sample firms of 37 percent or 1.2 percent of GDP. The charts below show the movement between bins (for example, in the EBITDA chart the number of firms in the central column drops by the red area (10), leaving 54 firms sustainable (corresponding to the

<sup>8</sup> EBITDA is arguably a better measure of cash flow than EBIT as depreciation & amortization (D&A) is a non-cash expense, but following Tressel (2021) we instead take EBIT and assume that the cash outflow for investment (capital expenditure) equals D&A. This seems a reasonable assumption since the ratio of the two measures was 87 percent at end-2019 for the median firm and had been on an upward trajectory from its trough in 2017 (see Section D).

<sup>9</sup> For more detail on the concept and application of "debt at risk" see IMF (2020) and Tressel (2021).

purple area), with the transitioning firms added to columns to the right (shaded in blue); the same goes for the ICR where firms migrate from the right-hand side to the left-hand side columns).



**21. The impact of the cash flow test on available liquidity is much larger than for the debt sustainability tests.** In addition to the 19 firms already illiquid firms, another 29 also end up with negative net cash, using the following formula (Tressel, 2021):

$$\text{End of period net cash } (t) = \text{Net cash}(t-1) + \text{EBIT}(t) - 60\% \times [\text{Revenue}(t) - 60\% \times \text{COGS}(t)] - \{108\% \times [\text{STD}/\text{TD}] \times \text{interest payments}(t)\} + [1 - \text{STD}/\text{TD}] \times \text{Interest payments}(t) + 110\% \times \text{Short-term debt}(t),$$

where *STD* = short-term interest-bearing debt and *TD* = total interest-bearing debt.

In total, 48 out of 86 firms assessed (or 56 percent) are shown to be illiquid after the assumed set of shocks—2½ times the number of firms already cash-strapped at end-2019. Put differently, to keep the aggregate net cash amount (sum of cash surpluses and deficits) constant, the rollover of short-term debt would have to be 250 percent, and for the number of illiquid firms (19, not necessarily the same firms) to remain the same even 363 percent, but in both cases deficit firms would increase their cash gaps overall. To stabilize the total cash gap, the rollover would have to be 670 percent.

**22. In aggregate perspective, a worrisome number of firms would wind up overleveraged and/or illiquid.** The number of firms failing all three sustainability criteria rises from nine to 14, and of those in debt distress by one count and illiquid triples, from six to 18. The total number of clearly overindebted firms (i.e. failing both debt sustainability criteria irrespective of liquidity) rises by another eight to 26 (i.e. one-fourth, but again, the true number is likely higher for those data coverage reasons). More than half of the firms (52 out of 100) have an indication of excess leverage, failing at least one of the debt sustainability tests. And close to three-fourths of large firms (72 out of 100) have an issue with debt or liquidity (i.e. at least one negative count of three in the sustainability assessment).

**23. The interplay between excess leverage and additional financing may create a vicious circle requiring decisive remedial measures.** A high debt load together with lackluster earnings leads to stressed cash flow, requiring additional financing that in turn further raises leverage and so on. This process cannot continue indefinitely, but rather requires productivity-enhancing structural

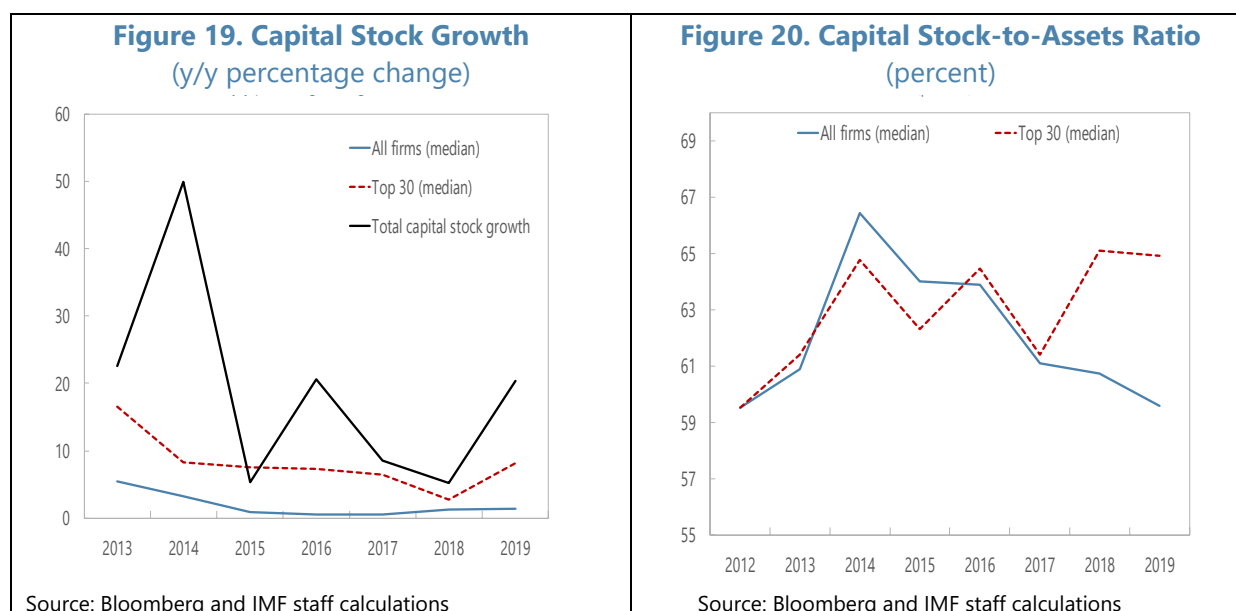
reforms, including more capital investment, or active deleveraging that may eventually lead to consolidation or market exit, as has already happened in the flour mills industry (Ofonyelu, 2016). The next section discusses these issues in more detail.

## D. Capital Stock, Investment and Financing

### Capital stock, Investment and Cash Flow

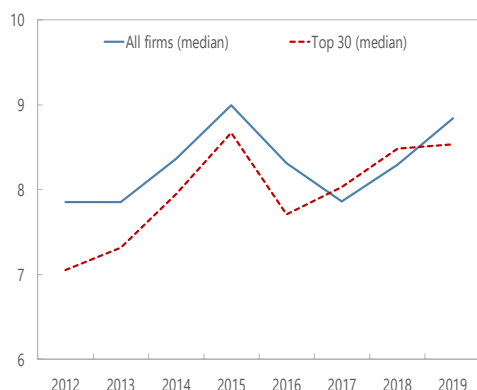
#### 24. The development of firms' capital stock has been uneven across years and firm size.

Proxied here by total non-current assets, the capital stock expanded in 2019 thanks to investment by the largest firms (the stronger pickup in the total capital stock (black line) implies that the very largest firms drove that expansion). By contrast, capital growth of the median firm has stalled to a mere 1.4 percent (which means fallen in real terms). In fact, as a share of total assets the capital stock has been on a declining trajectory since 2014. Still, as with the overall growth rate of capital, the Top 30 rebounded starting in 2018, widening the gap between them and the average large firm.



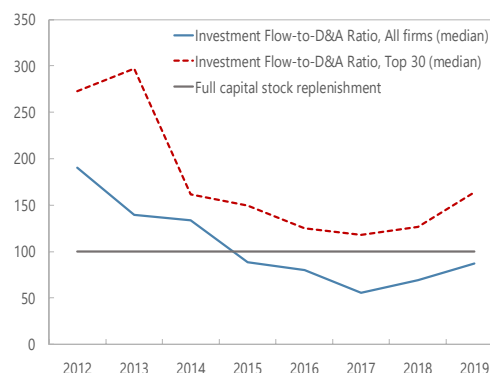
**25. There is also a divide in capital stock replenishment between the average firm and the Top 30.** Since the 2015 crisis, the median firm's investment, proxied by cash flow (for investment, has been below the depreciation of its capital stock (D&A). This implies that the average firm no longer replenishes its capital stock in full. The Top 30 firms have avoided this conundrum, with the median investment-to-D&A rate having stayed above 100 percent throughout and rebounding to 164 percent at end-2019. To be sure, this is not because of a slower depreciation schedule. The effective write-off rate, as proxied by D&A in percent of non-current assets, has remained at around 8 percent for the last few years and does not differ significantly between the two groups of firms.

**Figure 21. D&A-to-Capital Stock Ratio**  
(percent)



Source: Bloomberg and IMF staff calculations

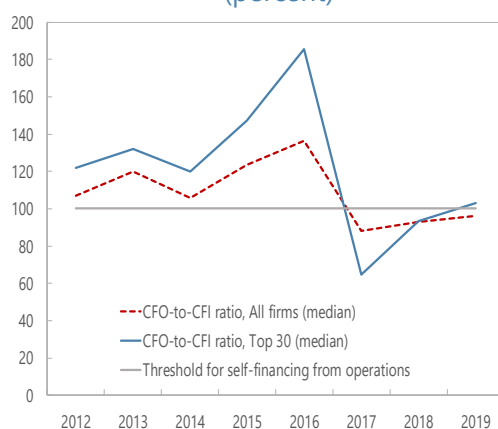
**Figure 22. Investment Flow-to-D&A Ratio**  
(percent)



Source: Bloomberg and IMF staff calculations

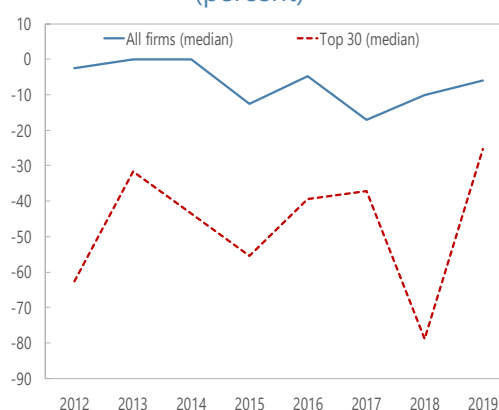
**26. Part of the low capital expenditure may be explained by lackluster cash flows from operations, inhibiting firms' self-financing.** While cash flow from operations used to exceed investment outlays, reducing the need for external financing, the ratio between the two cash flow types fell below the threshold for self-financing from operations in 2017. Since, as shown before, corporate investment hit a low point that year, this means that the reduction in operational cash flow was even higher, in line with depressed sales. Of course, it is not clear whether the low operational cash flow inhibited an increase in investment. However, it stands to argue that a combination of both low cash flow from operations and from external financing has limited the potential for investment. The ratio of cash flow from financing (which includes dividend payments as an offsetting factor) to cash flow for investment has been close to zero or even negative for the median firm, indicating that external financing net of dividends has played a limited role; this seems to be particularly true for the Top 30 firms that may pay out larger dividends.

**Figure 23. Cash Flow from Operations-to-Cash Flow for Investment Ratio**  
(percent)



Source: Bloomberg and IMF staff calculations

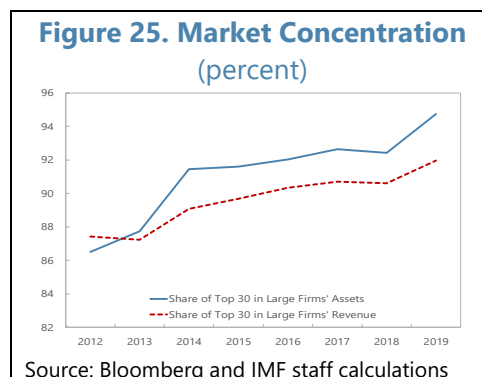
**Figure 24. Cash Flow from Financing-to-Cash Flow for Investment Ratio**  
(percent)



Source: Bloomberg and IMF staff calculations

**27. The discrepancies between the average large firm and the Top 30 raise questions about concentration and market power.**

As shown, the Top 30 firms have had less difficulty than the other large firms maintaining their capital stock in absolute terms and as a share of total assets and, more recently, even expanded it on the back of a more favorable operating performance. Since the difference between the two groups in various aspects of corporate performance, including capital investment, is so pervasive, the question of market power arises.<sup>10</sup> In fact, the Top 30 now account for more than 90 percent of large firms' assets and sales, with both concentration measures having risen consistently since 2012. The four largest firms alone account for about half of large firms' sales and, as Ofonyelu (2016) reports, over 90 percent in some agricultural product markets. While firm-level data for smaller Nigerian firms are difficult to obtain, the same type of concentration and market power issues may exist between large firms as assessed here and SMEs.



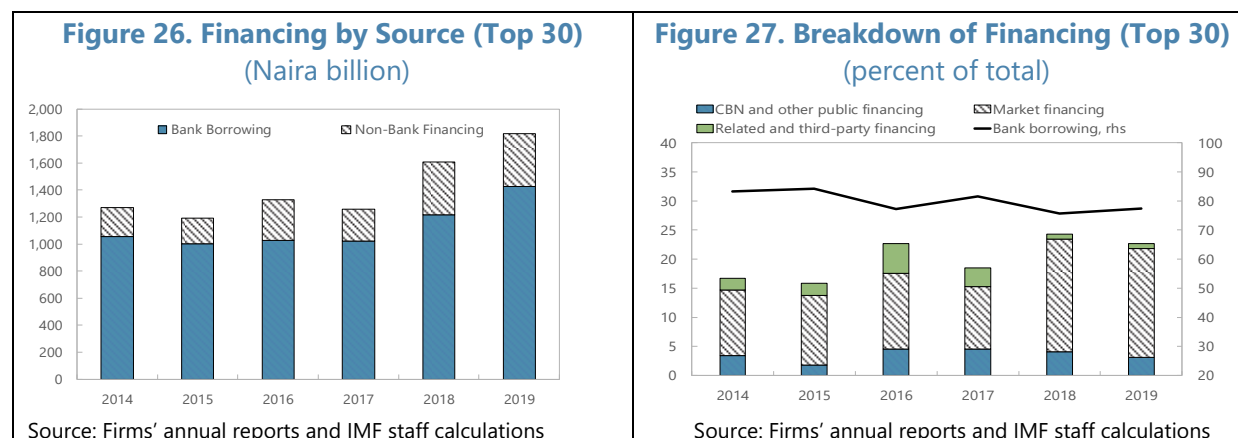
**28. Asset concentration is deemed to give market power, limit competition and increase markups—forces that may also be at work in Nigeria.** Indeed, the IMF (2019) finds that firm markups have increased in Nigeria by about 40 percent since 2002 and that small firms tend to have lower markups than larger ones. That said, local studies (e.g. Olawale, 2015, and Olawale, Adeyemi and Asogha, 2018) show that measures of market competition have affected pricing policies but not necessarily firm performance. By contrast, it has been argued that initially fierce competition caused growing firm concentration, higher excess capacity for strategic purposes and eventually the collapse of inefficient firms (Ofonyelu, 2016). Our findings also suggest that high and rising concentration aids the superior performance of the largest firms, likely at the detriment of others.

## Financing Sources

**29. Bank lending has been tentative, perhaps in reaction to the elevated credit risk of financially distressed firms and has in part been replaced by direct market finance.** As mentioned, the supply of bank credit to the private sector has been muted through much of the past years and negative in real terms (see also Tamene, Saito and Ibrahim, 2017). As illustrated, the weak credit growth cannot be explained from the demand side, since self-financing from operations has, on average, been low. Starting in 2018, the Top 30 firms have increasingly turned to non-bank financing, notably market financing (e.g. corporate bonds). The share of non-bank financing has

<sup>10</sup> Not fully replenishing the capital stock would make sense if there were spare capacity in the medium run. However, some large firms may deliberately keep excess capacity as a preying strategy for market capture. Weaker firms suffer more, as idle capacity can make stronger firms try to capture market share while raising cost for the smaller firms. In the absence of strong antitrust policy, a firm with market power can take advantage thereof to drive a competitor out of business or to prevent others from entering. This may result in reduced competition, harming consumers and the wider economy because prices rise via higher markups—also by wholesalers that, knowing about certain firms' market power, tend to over-stock and when excess demand occurs raise their prices (Ofonyelu, 2016).

increased from 17 to 23 percent during 2014-19.<sup>11</sup> This gain has been driven by market financing which has all but replaced related- and other third-party financing. One driver of this increase has been the higher investment by pension fund administrators in corporate debt, which was reinforced in late 2019 when government bond yields fell after the CBN had chosen to exclude non-banks from its OMO auctions. However, with only six years of data, it is difficult to discern a lasting trend. In fact, third-party financing peaked in relative terms in 2016-17 when market conditions were unfavorable.



**30. Notwithstanding the gradual downward trend, bank credit remains the main and steady source of corporate finance.** Almost half of the Top 30 firms (13 firms) have used no other source of financing since 2014. Interestingly, during that five-year period, these firms increased their total (bank-exclusive) financing 1½-fold (for the median firm). This compares to an average 25 and 20 percent drop in bank and total financing, respectively, for firms with mixed financing (Table 2).

<b>Table 2. Median Growth Rate of Bank Credit to Top 30 Firms, 2014-19</b> (Growth rate of total credit amount in 2019 with respect to 2014)		
By Financing structure	Firms with only bank financing	Firms with mixed financing
	154%	-20%
By Debt sustainability	Firms not in debt distress	Firms in debt distress
	197%	34%
By Principal economic activity	Firms in primary/industrial sector	Firms in consumer goods sector
	64%	83%
Source: Bloomberg, firms' annual reports and IMF staff calculations.		

**31. Still, banks appear to be mindful of credit risk in their lending.** Splitting the Top 30 firms into two groups of about equal size by whether debt is found sustainable or unsustainable in the earlier exercise (by one of the two criteria, including under stress), a relatively clear picture emerges. On average (median), banks increased their credit to firms without any debt sustainability issues

<sup>11</sup> Credit data prior to 2014 were discarded because of insufficient coverage across firms.

two-fold, whereas over-indebted firms received only 34 percent more bank credit during 2014-19 (Table 2). A few firms saw a drop in bank credit by nearly 100 percent. There is no one aggregate sector that is preferred or shunned by the banks: disaggregating the sample by primary sector/industrial firms and consumer goods firms (using Bloomberg's sector definition) does not provide a meaningful difference of less than 20 percentage points considering the small sample size. All this said, banks still lend to highly indebted firms. As a case in point, the only Top 30 firm failing all three sustainability criteria (even before stress) switched from market to bank financing, given that lasting access to market financing is reportedly subject to stricter rules.

## E. Concluding Remarks

**32. Large Nigerian firms have experienced a deteriorating performance for the most part with further negative dynamics, although the very largest firms still do relatively well.** Overall, large firms have seen revenue, profits, and asset productivity fall over the past years. In line with subdued cash flow from operations, low net cash positions and limited external financing, their resources are not sufficient for investment to fully replenish the capital stock. This does not bode well for needed productivity gains to bring firms' operations and finances on a more sustainable footing. Many firms' debt level or service has reached an unsustainable level or may do so after the combined oil price and COVID-19 shock has fully played out, further curtailing free cash flow and restricting access to finance, as banks shun additional credit risk. At the same time, the largest firms, ostensibly capitalizing on their competitive advantage and market power, have fared better. They expanded the capital stock and increased asset productivity, but in doing so also widened the gap to smaller, less competitive firms who in addition often face limited access to finance and other needed support to break into the ranks of the larger firms (The Economist, 2020).

**33. Underinvestment and excess leverage imply not only lower potential growth but potentially also negative macrofinancial linkages, emphasizing the need for prudential action.** Banks and their regulator should be wary of the evident debt overhang and take precautions. For their part, the banks had already exercised caution in lending even before the COVID-19 shock hit but further regulatory precautions should safeguard corporate debt sustainability. The Central Bank of Nigeria (CBN) should introduce additional macroprudential policy instruments geared at reining in corporate and household debt, notably limits on debt- or debt service-to-income ratios that banks and their clients would have to comply with. To render this possible, the CBN and banks will need to have a complete picture of the total indebtedness of borrowers, which may require additional data collection.

**34. As the purpose of this chapter is to assess various aspects of corporate performance in Nigeria, it leaves some salient issues with competition and market power to further research.** We have examined the performance of large firms but are not able to evaluate the condition of small and medium-sized enterprises. However, given the finding that the largest firms outperform smaller large firms and put them at a competitive disadvantage, it is likely that the same may be occurring with respect to SMEs. The growing divide between firms of different size is not a trivial matter as the smaller firms generate the bulk of jobs that Nigeria needs to employ its fast-growing

population. Further market concentration may work in the opposite direction, irrespective of how benign the macroeconomic aggregates like private sector investment and asset growth may still appear. This obviously raises issues of industrial organization which need addressing in order to strike a sound balance between healthy competition and ensuring a level playing field. Additional investigation into these specific issues is clearly warranted.

**35. Recent legal and regulatory measures aim at safeguarding competition, but they may lead to conflict with existing mechanisms and remain largely untested.** The Federal Competition and Consumer Protection Act of 2018 aims to establish rules to minimize market distortions and unfair business practices reducing competition that the newly created Federal Competition and Consumer Protection Commission (FCCPC) is tasked to enforce. While unquestionably overdue and laudably comprehensive, the new act takes a uniform, economy-wide approach that may make the work of the FCCPC conflict with sector-specific supervisory agencies and their own regulations, creating a potential overlap and blurring roles and responsibilities (Obioma, 2020). It therefore remains to be seen how effective the legal and regulatory innovations will be in bringing about the much-needed balance in market competition. Quantitative analysis as presented in this chapter on differential corporate performance linked to firm size and other research into evidence of market concentration (e.g. markups) should be conducted to ascertain that these innovations have traction or else prompt further policy initiatives.

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