INTERNATIONAL MONETARY FUND

IMF Country Report No. 17/81

NIGERIA

SELECTED ISSUES

April 2017

This Selected Issues paper on Nigeria was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on March 14, 2017.

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International Monetary Fund
Washington, D.C.

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NIGERIA

SELECTED ISSUES

March 14, 2017

Approved By
African Department

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CONTENTS

INTRODUCTION

This Selected Issues Paper contains five chapters that examine the role of lower oil prices in explaining the deterioration in Nigeria's recent macroeconomic indicators; the impact on corporate and financial sector performance; and the forward-looking aspects of promoting job-intensive growth and strengthening State and Local Government finances. While the slump in oil prices contributed to sluggish growth, the lack of foreign exchange weakened corporate performance, increasing the likelihood of non-performing loans. Structural reforms to improve the business environment can have a positive impact on growth, while fiscal reforms would help strengthen finances of sub-national governments.

Key takeaways include:

- Macroeconomic conditions deteriorated from the slump in oil prices, reflecting weaknesses in pre-shock fundamentals. Furthermore, the impact was larger than fundamentals alone would have suggested, with the outsized impact likely reflecting policies implemented after the shock (the delay in implementing the 2016 budget and the imposition of foreign exchange restrictions), as well as other idiosyncratic developments (increased occurrence of oil infrastructure sabotage).

- Foreign exchange inflows are highly correlated with corporate sector performance, with declines in performance in the services sector more sensitive to FX inflows from autonomous sources.

- The economic downturn amplified vulnerabilities in the banking sector more than in the non-bank financial sector, increasing nonperforming loans and eroding capital. This reflects the higher exposure of the banking system's balance sheet to corporates, whose performance was impacted by foreign exchange issues.

- Reducing unemployment in Nigeria will require both higher growth and reforms to strengthen the business environment. Higher growth alone is insufficient and needs to be accompanied by reforms that can increase the employment-growth elasticity.

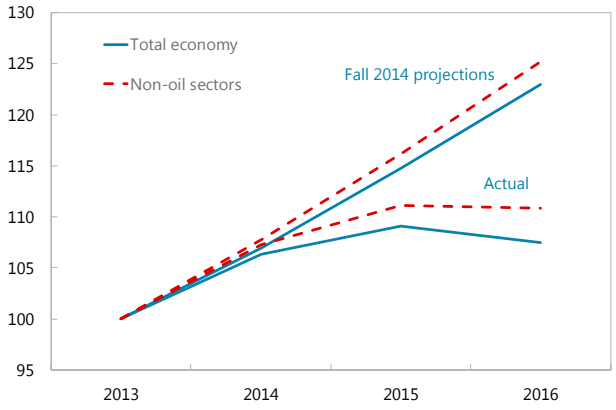
- Improving SLG's resilience to shocks requires broad fiscal reforms, including strengthening the fiscal federalism framework. Key areas of focus include the budget preparation process, expenditure controls, subnational treasury single accounts and cash management reforms, fiscal reporting, and internally-generated revenue administration.

EXPLAINING THE IMPACT OF THE OIL PRICE DECLINE ON NIGERIA[1]

This chapter examines the degree to which economic fundamentals at the time of the recent oil price decline explain the intensity of its impact on the Nigerian economy. A cross-country regression finds that countries with a stronger fiscal position, higher international reserves, a more diversified export base, a history of price stability, and a flexible exchange rate regime weathered the shock better. These factors explain about half of the outsized impact of the shock on Nigeria. In addition, the slowdown in Nigeria was larger than can be explained by fundamentals alone, suggesting that country-specific factors also played a role.

1. The Nigerian economy was hit hard by the decline in oil prices that began in 2014. Before the shock, projections were for continued robust economic growth of about 7 percent per year, in line with the average growth rate experienced over the previous two decades. However, in the wake of the oil shock, growth slowed sharply in 2015 and the economy experienced an outright contraction in 2016. The unexpected decline in oil production in 2016 explains only part of this downward surprise. Non-oil sectors, which account for almost 90 percent of the total economy, also slowed sharply (Figure 1).

Figure 1. Nigeria: Real GDP Lower Than Projected
(index, 2013 = 100)



Sources: National Bureau of Statistics; and IMF staff calculations.

2. The impact on Nigeria was relatively large compared to other oil exporters. To place the impact of the shock in a cross-country perspective, while keeping the focus on countries where oil prices likely played a meaningful role, real GDP growth was compared to pre-shock forecasts for 26 countries with substantial oil exports.[2] The impact of the shock was calculated as real GDP in

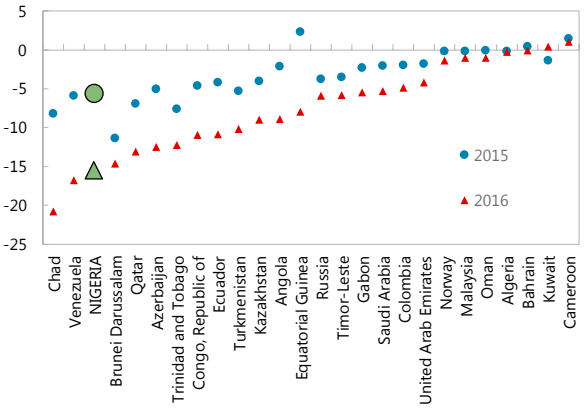
[1] By Andrew Swiston, based on a forthcoming IMF Working Paper with Francesco Grigoli and Alexander Herman, with research assistance from Adrian Robles.

[2] This includes countries in which oil exports in 2013 exceeded 8 percent of GDP, but excludes South Sudan and Yemen due to the armed conflict in these countries over this period, Iran and Iraq as their GDP growth performance was strongly affected by increases in oil production not projected as of 2014, and Libya and Syria due to data gaps. Real GDP was used as the variable of interest as there are a number of transmission channels from oil prices to economic activity in oil exporters, and real GDP forecasts are widely available.

2016 minus the projection from the Fall 2014 World Economic Outlook (WEO), the last vintage of the WEO before prices fell sharply.[3] Economic activity in most oil exporters was typically below Fall 2014 forecasts, with the shortfall in Nigeria the third largest of the 26 countries (Figure 2).[4] The impact on Nigeria was also relatively strong when measured as the slowdown in real GDP rates in 2015–16 compared to the 2011–14 period of high prices (Figure 3).

Figure 2. Nigeria: Real GDP Typically Underperformed Forecasts

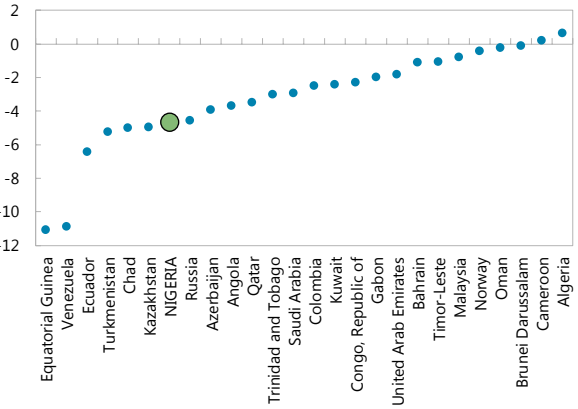
(percent; cumulative deviation from Fall 2014 forecast)



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.

Figure 3. Nigeria: Real GDP Slowdown in Oil Exporters

(real GDP growth, in percent, average 2015-16 minus average 2011-14)



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.

3. The impact appears to exceed what could be explained based solely on the basis of the importance of oil in the economy. Nigeria experienced a substantial decline in oil exports in the wake of the shock, as did most oil exporters (Figure 4).[5] While a number of other countries have oil exports exceeding Nigeria's 2013 level of 17.6 percent of GDP, Nigeria is heavily dependent on oil for export receipts and fiscal revenue.[6] However, there is no correlation across countries between the importance of oil in either exports or fiscal revenue and the impact of the shock on real GDP,

[3] A negative value indicates a higher impact of the shock, that is, that growth was lower than projected. Oil prices hit a trough in annual average terms in 2016. In addition, the shock would be expected to affect the rest of the economy with a lag. For that reason, the focus is on the cumulative impact through 2016, though the results hold when the impact through 2015 is considered.

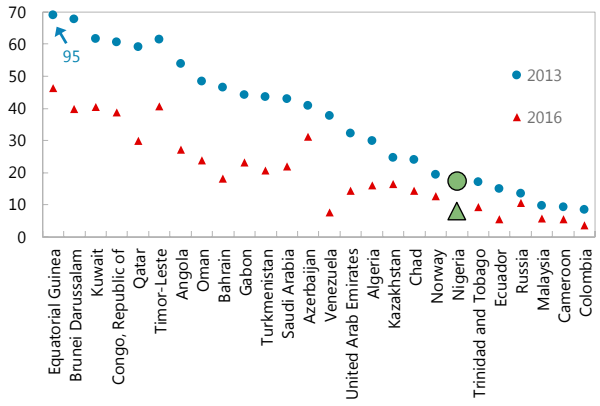
[4] While other factors affected growth in these countries over this period, the oil price was the most significant external factor to change between 2014 and 2016. The fact that growth underperformed forecasts in most countries—in many cases by a wide margin—suggests this shock played a substantial role.

[5] A portion of the decline in Nigeria's oil exports is explained by lower oil production due to an increase in sabotage of oil infrastructure.

[6] In 2013, oil accounted for over 95 percent of exports and three-quarters of government revenue, though oil GDP was less than 13 percent of overall GDP.

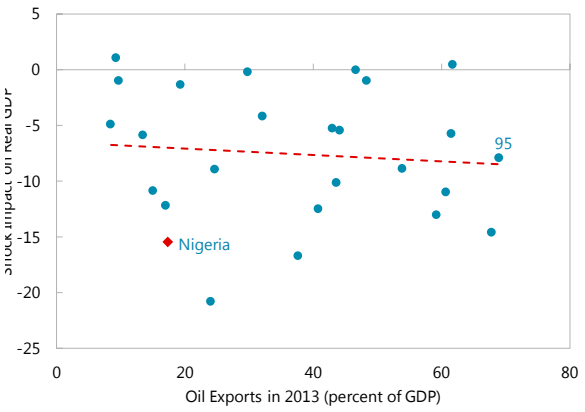
and the impact on Nigeria was larger than could have been foreseen based on any of these metrics (Figure 5).

Figure 4. Nigeria: Reduction in Oil Exports Across Oil Exporters
(oil exports, percent of GDP)



Sources: IMF, *World Economic Outlook;* and IMF staff calculations.

Figure 5. Nigeria: Oil Dependence Does Not Explain the Shock Impact
(percent; cumulative GDP deviation from Fall 2014 forecast, as of 2016)



Sources: IMF staff calculations; and IMF, *World Economic Outlook*.

4. A wide range of factors was examined in order to explain the cross-country variation in the severity of this impact. Given the low correlation between the importance of oil for each economy and the growth impact of the shock, other economic characteristics were assessed in order to evaluate their role in mediating the impact of the shock. A key issue is to distinguish between an economy's fundamentals entering the shock, as distinct from increased vulnerabilities due to the impact of the shock. For this reason, each country's fundamentals at the time of the shock—in this case, 2013 values—were used in regressions to explain the magnitude of the impact of the oil shock on real GDP.[7] A number of indicators were tested as proxies for the following factors:

- *Macroeconomic policy space:* Several indicators were used to gauge whether an economy enjoyed space for countercyclical fiscal, monetary, or exchange rate policies to buffer the impact of the shock. Among the fiscal indicators were the overall balance, primary balance, non-oil balance, gap between the primary balance and its debt-stabilizing level, and ratios of net debt to GDP, overall revenue, and non-oil revenue (the latter two as proxies of debt repayment capacity). Indicators of monetary and exchange rate policy space include the output gap as a measure of spare capacity entering the shock, the inflation rate and the historical volatility of

[7] The nature of the identification strategy precluded a panel approach, as there were no other large oil price declines in the last two decades featuring such a sizable permanent component, as gauged by movements in oil futures contract prices.

inflation (as measures of monetary policy credibility), the flexibility of the exchange rate regime, and the level of reserves (relative to the IMF-standard reserve adequacy metric.[8]

- *External factors:* Revisions to partner country growth and the non-oil terms of trade were controlled for. Other indicators were used as proxies for potential risks of a sudden stop in capital flows. These include the non-oil current account balance, the level of external liabilities, and the level of external assets.[9]

- *Oil dependence and economic diversification:* An economy more dependent on oil for foreign exchange or fiscal revenue, or with a higher share of the oil industry in the overall economy, would be expected to suffer a stronger direct impact. By contrast, a more diversified economy would be expected to weather the shock better to the extent that non-oil sectors are less affected by the shock. The share of oil output in the economy and the ratios of oil exports and oil-related fiscal revenue to GDP were used as indicators of oil dependence. The share of non-oil output and the ratios of non-oil exports and non-oil fiscal revenue to GDP were used as indicators of diversification.

- *Structural flexibility:* The ability for an economy to redeploy resources across sectors in response to a shock would be expected to contribute to resilience. Indicators of the business environment and governance were used as proxies. A deeper financial system could also help agents within the economy smooth consumption and investment in response to the shock. The ratios of private credit and broad money to GDP were used as indicators of financial development.

5. Several variables were found to be significantly related to the severity of the impact of the shock. The five variables significant in the preferred specification were exchange rate regime flexibility, the ratio of non-oil exports to GDP, reserve adequacy, historical inflation volatility (over the seven years prior to the shock), and the ratio of net government debt to fiscal revenue (Table 1).[10] Together, these variables explain sixty percent of the cross-country variation in real GDP in response to the oil shock. The same variables were still significant when the sample was expanded to oil exporters that experienced fluctuations in oil production due to severe armed conflict and other factors, as well as to a range of less oil-dependent countries, though, as expected, they

[8] Exchange rate regime flexibility is measured using the assessment of the *de facto* regime in the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions* (AREAER). The specification shown in Table 1 assigns a value of positive one to floating regimes, negative one to stabilized arrangements, conventional pegs, currency boards, and officially-dollarized regimes, and zero to others. A variable using the scale of one to ten used in the AREAER yielded similar results.

[9] Lack of data availability on maturing external obligations prevented using indicators on short-term external liabilities coming due.

[10] For all countries, the reserve adequacy metric was calculated using total external debt liabilities since data on the maturity profile of external obligations was not universally available. The ratio of reserves to imports was statistically significant in place of the reserve adequacy metric.

Table 1. Nigeria: Oil Shock Impact: Explanatory Factors

	Dependent variable: Percent deviation of actual 2016 real GDP from Fall 2014 WEO forecast		
	Core sample	Including conflict cases	All oil exporters
Exchange rate flexibility	2.078**	3.083*	2.516*
	(0.883)	(1.590)	(1.413)
Non-oil exports (percent of GDP)	0.145***	0.135**	0.145***
	(0.036)	(0.055)	(0.053)
Reserve adequacy (percent of IMF metric)	0.005***	0.008**	0.006**
	(0.001)	(0.004)	(0.003)
Inflation volatility	-0.980**	-1.150***	-0.980*
	(0.460)	(0.384)	(0.496)
Net government debt (percent of revenue)	-0.172***	-0.197***	-0.138*
	(0.031)	(0.068)	(0.070)
Constant	-7.486***	-7.053***	-6.820**
	(1.722)	(2.199)	(2.512)
Observations	26	30	42
R-squared	0.600	0.438	0.370

Source: IMF staff calculations.

Notes: Heteroskedasticity and autocorrelation robust standard errors in parentheses; ***, **, * next to a number indicate statistical significance at 1, 5 and 10 percent, respectively.

explain a lower fraction of growth developments in those groups of countries (Table 1, columns 2 and 3).[11] These same variables were also generally significant when the impact of the shock was measured by the average deceleration in real GDP growth in 2015–16 compared to 2011–14, both for overall real GDP and for non-oil real GDP.[12] Given the difficulty in summarizing the degree of available fiscal space in a single variable, a wide array of specifications was run using a number of variables. Net debt—whether expressed as a share of total revenue, non-oil revenue, or GDP—was strongly significant across all samples, and several others were significant for the core sample.[13]

[11] The group of all oil exporters includes those countries exporting more than 50 thousand barrels per day.

[12] The impact on non-oil real GDP relative to pre-shock forecasts was not assessed, as several countries did not have forecasts available for the non-oil sector.

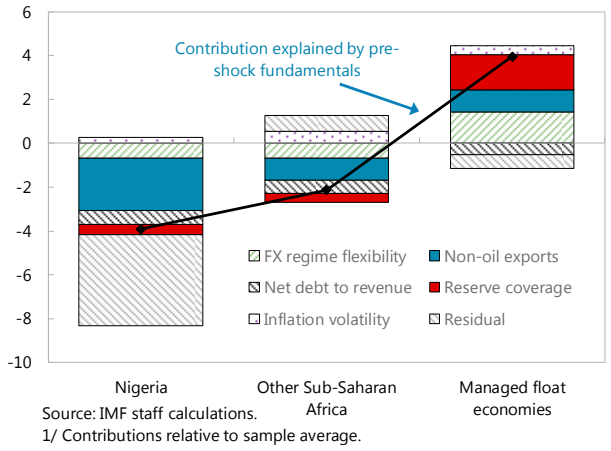
[13] These were gross debt, the overall fiscal balance, the primary balance, and interest expenditure (whether as a ratio to GDP or revenue). No combinations of these variables were significant, with multicollinearity between them, as well as the limited degrees of freedom, likely playing a role.

6. These results suggest that economic fundamentals entering the oil shock played an important role in mediating its impact. Economic activity was less affected in countries that entered the shock with a more flexible exchange rate regime, a more diversified export base, more adequate international reserves buffers, a history of price stability, and a stronger fiscal position. The other external and structural factors discussed above were not found to play an important role.

7. These findings can be applied to explain the relative intensity of the impact of the shock on Nigeria. For each factor in Table 1, its contribution to explaining the growth impact of the oil shock was calculated for Nigeria and two groups of comparator countries—other Sub-Saharan African oil exporters and economies that operated managed float foreign exchange regimes in 2013.[14] This latter group of countries has some key similarities to Nigeria in terms of their ratio of oil exports to GDP and the size of their economies.

8. Nigeria's vulnerabilities entering the oil shock explain about half of the higher impact on economic activity. The cumulative impact on Nigeria's real GDP was 15.5 percent, about 8 percentage points more negative than the sample average, of which about 4 points can be explained by its lower-than-average fundamentals (Figure 6). For other Sub-Saharan African oil exporters, the contribution of pre-shock fundamentals was only minus 2 percentage points. The main difference was Nigeria's lower level of non-oil exports, as the contributions of below-average exchange rate regime flexibility, net-debt-to-revenue ratio, and reserve adequacy to the impact on Nigeria were similar to those among other Sub-Saharan African oil exporters. By contrast, the countries with managed float regimes entered the shock with higher-than-average non-oil exports and reserve coverage, and slightly lower fiscal deficits. Their relatively sound fundamentals diminished the impact of the shock on real GDP by about 4 percentage points.

Figure 6. Nigeria: Contributions to Oil Shock Impact
(percent deviation of 2016 real GDP from Fall 2014 WEO forecast) 1/



Source: IMF staff calculations.
1/ Contributions relative to sample average.

9. In addition, the impact on Nigeria was more negative than would have been expected solely on the basis of its pre-shock fundamentals. The regression residual for Nigeria, shown in Figure 6, is negative 4.1 percentage points, while the average residuals of other Sub-Saharan African oil exporters and managed float economies were close to zero, on average. This suggests that

[14] Other Sub-Saharan African oil exporters are Angola, Cameroon, Chad, Equatorial Guinea, Gabon, and Republic of Congo. Countries with managed floats in 2013 were Algeria, Kazakhstan, Malaysia, and Russia.

policies in the wake of the shock, such as the delay in implementing the 2016 budget and the imposition of foreign exchange restrictions, as well as other idiosyncratic developments since the shock, such as the increased occurrence of oil infrastructure sabotage in Nigeria, have also contributed negatively.

10. These results underscore several policy priorities for Nigeria. Fiscal consolidation and building a more substantial reserve cushion would help build buffers to allow the economy to weather the sizable fluctuations typical of oil prices. Building a track record of price stability would create space for countercyclical monetary policy, and allowing the exchange rate to flexibly adjust to external conditions would reduce the transmission of oil shocks to the non-oil sector. Finally, structural reforms to improve the business environment would help diversify the economy and boost non-oil exports (see Chapter 4).

FOREIGN EXCHANGE AND CORPORATE PERFORMANCE[1]

This chapter focuses on the relationship between foreign exchange (FX) liquidity and corporate sector performance.[2] Using panel data from 2013 Q3 to 2016 Q2, results from a simple empirical model show that recent declines in corporate earnings were associated with declines in FX earnings, whether from oil exports or autonomous sources.[3] Results vary by sector, with the services sector particularly impacted by FX inflows linked to autonomous sources. This evidence highlights the importance of policy actions impacting FX inflows and in turn affecting non-oil economic activities more generally.

A. Background

1. The performance of the corporate sector declined in the past few years. Financial statements (Orbis reports) for 150 companies covering a wide range of industries and sizes indicate:

- The corporate sector's earnings on average have declined: earnings before interest, tax, depreciation, and amortization (EBITDA), earnings before interest and taxes (EBIT), and net income all declined (Figure 1, panel a). EBIT, also referred to as operating profit/loss (P/L), is defined as gross profit minus operating expenses. Net income is defined as operating P/L after taxes and interest.

- The corporate sector's activity or the level of efficiency, measured in terms of the asset turnover ratio (operating revenues / total assets) declined, reflecting that revenue generated for a given level of assets declined (Figure 1, panel b).

- The corporate sector's leverage, in terms of the debt-to-equity ratio, peaked in 2013 (Figure 1, panel c). Moreover, the interest cover ratio (EBITDA / interest paid) on average declined from about 85 in 2013 to below 4 in 2015, indicating financial stress on the corporate sector.

- The corporate sector's profitability also declined. EBITDA margin (EBITDA / operating revenues) and profit margins (net income / operating revenues) both declined. Profit margin had been negative on average since 2014 (Figure 1, panel d).

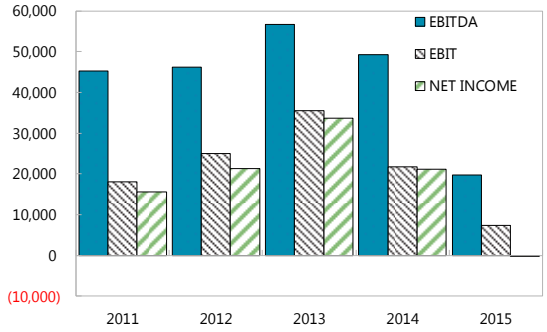
[1] Prepared by Marwa Ibrahim, Miriam Tamene and Mika Saito.

[2]. Please see Chapter 3 for corporate sector debt-at-risk analysis and the potential impact on the banking sector

[3] Quarterly Orbis data are only available for this period and do not cover all sectors

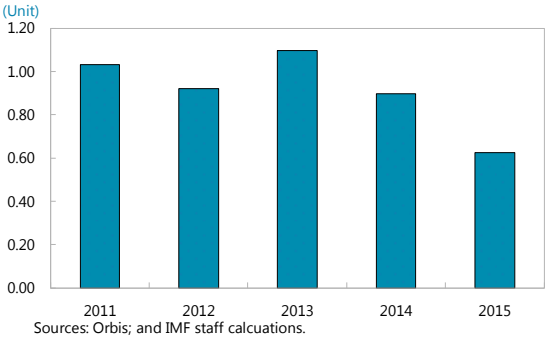
Figure 1. Nigeria: Corporate Performance, 2011–15

Nigeria: Corporate Earnings, 2011-15
(Thousand U.S. dollars)



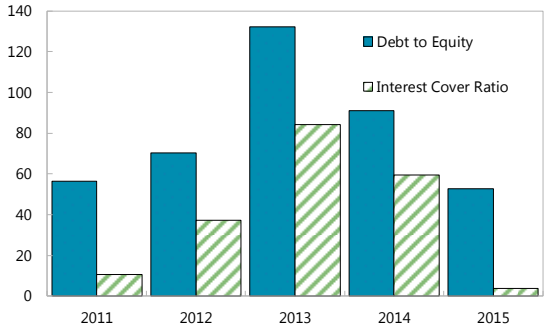
Sources: Orbis; and IMF staff calculations.

Nigeria: Firms' Asset Turnover Ratio, 2011-15
(Unit)



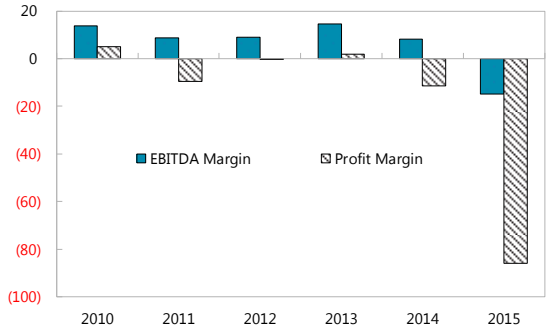
Sources: Orbis; and IMF staff calcuations.
Note: The asset turnover ratio (=revenue/total assets) indicates firms' efficiency (the higher the ratio, the better the efficiency).

Nigeria: Firms' Leverage, 2011-15
(Percent)



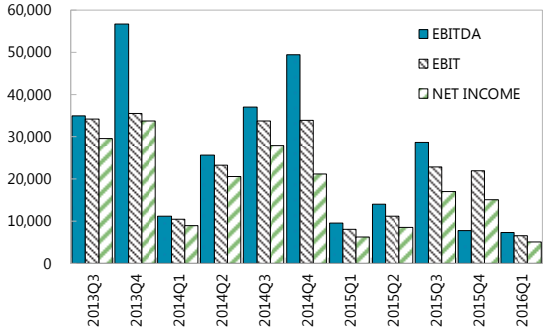
Sources: Orbis; and IMF staff calculations

Nigeria: Firms' Profitability, 2011-15
(Percent)



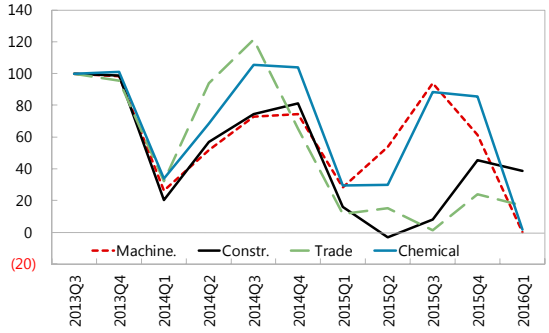
Sources: Orbis; and IMF staff calculations.

Nigeria: Corporate Income, 2013Q3-16Q1
(Thousand U.S. dollars)



Sources: Orbis; and IMF staff calculations

Nigeria: EBIT by Sector, 2013Q3-16Q1
(Index: 2013Q3=100)



Sources: Orbis; and IMF staff calculations.

2. The quarterly data show a similar declining pattern, but with possibly different dynamics across sectors. Firms tend to have the highest income in the last quarter, but this was not the case in the last quarter of 2015 (Figure 1, panel e). Moreover, the seasonal pattern and lag lengths are not necessarily the same across sectors (Figure 1, panel f). The EBIT of the wholesale and retail sectors never seem to have recovered to the 2014Q3 level, while the machinery and equipment and chemical sectors recovered to the 2014Q3 level before falling sharply in 2016Q1.

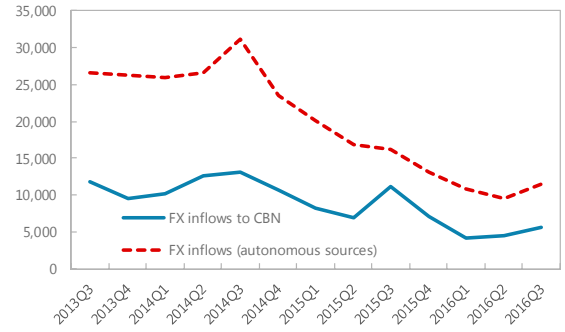
3. FX inflows fell sharply, mirroring the decline in corporate performance. By end-2016, FX inflows were only a third of the level observed in 2013. Starting in mid-2014, the slump in oil prices sharply curtailed FX availability in the economy: FX inflows to the Central Bank of Nigeria (mostly oil tax revenue) declined from $12 billion in 2013Q3 to $4.5 billion in 2016Q2, while other FX inflows to the economy—which include non-oil exports, capital inflows, and over-the-counter (OTC) purchases by oil companies—declined from $27 billion in 2013Q3 to $9.5 billion in 2016Q2 (Figure 2). During this period, three major devaluations occurred, with the exchange rate in the parallel market segment depreciating following the introduction of FX restrictions, including on CBN sales to Bureau de Change operators in January 2016 (Table 1 and Figure 2).

Table 1. Nigeria: Chronology of Events, 2014-16 Q2

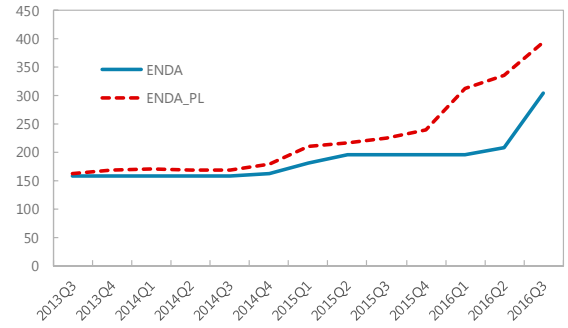
2014Q3	Oil prices start to decline
2014Q4	8 percent devaluation
2015Q1	18 percent devaluation; Dutch Auction System closed
2015Q2	Election; FX restrictions (41 items) introduced
2015Q4	Cabinet appointed
2016Q1	FX sales to Bureau de Change stopped (these were reintroduced in Q3 2016)
2016Q2	40 percent devaluation; Flexible FX regime introduced

Figure 2. Nigeria: Foreign Exchange Inflows and Rates, 2013–16

Foreign exchange (FX) inflows declined since mid-2014, especially in inflows through autonomous sources.



Depreciation pressure on the parallel market rate increased especially since mid-2015.



B. Empirical Analysis

4. Given high import dependence for intermediate inputs and finished products, the link between FX availability and corporate performance was assessed using the following autoregressive model:

$$\ln EBIT_{ijt} = \alpha_{0j} + \alpha_{1j} \ln FX_t + \alpha_{2j} \ln EBIT_{ijt-1} + \alpha_{3j} \ln FX_{t-1} + \varepsilon_{ijt}, \quad (1)$$

where $EBIT_{ijt}$ is the EBIT of firm i in sector j at time t; FX_t is the FX inflows to the economy at time t. FX inflows include federation oil revenue to the CBN plus other autonomous inflows. The empirical analysis was conducted for the whole economy as well as for individual sectors. Firm-specific characteristics are modeled using $\ln EBIT_{ijt}$ in mean-from-deviation form (instead of firm-specific dummies) to minimize the number of regressors, while quarterly macroeconomic fluctuations affecting firms' EBIT are controlled for using quarterly dummies.

Transforming the ADL model specification into an error correction model (ECM), equation (1) is expressed first as:

$$\Delta \ln EBIT_{ijt} = \alpha_{0j} + \alpha_{1j} \Delta \ln FX_t + (\alpha_{2j} - 1) \ln EBIT_{ijt-1} + (\alpha_{1j} + \alpha_{3j}) \ln FX_{t-1} + \varepsilon_{ijt} \quad (2)$$

and reparameterized in ECM format as:

$$\Delta \ln EBIT_{ijt} = \alpha_{0j} + \alpha_{1j} \Delta \ln FX_t + (\alpha_{2j} - 1)(\ln EBIT_{ijt-1} + \alpha_{4j} \ln FX_{t-1}) + \varepsilon_{ijt}, \quad (3)$$

where α_{1j} can be interpreted as the sector-specific short-term elasticity of EBIT, or operating P/L, relative to the FX availability at the macro-level, and $\alpha_{4j} = (\alpha_{1j} + \alpha_{3j}) / (\alpha_{2j} - 1)$ can be interpreted as the sector-specific long-term elasticity.

C. Empirical Results

5. FX inflows to the economy are highly correlated with corporate sector performance, mostly through macroeconomic fluctuations. Specifically, column (4) in Table 2 shows that in the short run, a 1 percent decline in FX inflows through autonomous sources have reduced firms' operating profits by about 1 percent on average across sectors.[4] This implies, that after accounting for macroeconomic factors, autonomous sources—remittances and non-oil inflows—are directly linked to corporate sector performance.

[4] The regression results in table 2 for equations 1 to 3 either suffer from an omitted variable bias or multicollinearity.

Table 2. Nigeria: EBIT, FX Inflows, FX Exchange Rate Spread, 2013Q3-2016Q2

VARIABLES	(1) ΔlnEBIT	(2) ΔlnEBIT	(3) ΔlnEBIT	(4) ΔlnEBIT
ΔlnFXinflows_CBN, t	0.465***	1.373***	1.196***	0.155
	(0.121)	(0.186)	(0.208)	(0.202)
ΔlnFXinflows_auto, t		-0.665**	-0.535*	1.040***
		(0.291)	(0.291)	(0.263)
ΔFX_spread, t			-0.020***	0.002
			(0.005)	(0.005)
lnEBIT, t-1	-1.065***	-1.010***	-0.926***	-0.756***
	(0.041)	(0.039)	(0.046)	(0.041)
lnFXinflows_CBN, t-1	1.629***	3.517***	3.487***	0.155
	(0.154)	(0.283)	(0.306)	(0.311)
lnFXinflows_auto, t-1		-1.776***	-2.116***	0.035
		(0.226)	(0.251)	(0.246)
FX_spread, t-1			0.001	0.004
			(0.008)	(0.007)
firstquarter				-1.602***
				(0.077)
secondquarter				-0.592***
				(0.106)
thirdquarter				-0.527***
				(0.110)
Constant	-15.026***	-14.610***	-10.859***	-1.108
	(1.416)	(1.472)	(2.609)	(2.041)
Observations	611	611	611	611
R-squared	0.553	0.595	0.604	0.772

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Analysis of the sectoral data shows that some sectors were more impacted than others (Table 3):

- **Adverse impact is stronger in the primary sector, food, beverages, chemical, and plastics.** For these sectors, representing about 40 percent of the economy, a one percentage point decline in FX autonomous inflows can reduce earnings by more than one percentage point.
- **There is an almost four-to-one relation between FX inflows from autonomous sources and declines in earnings in the services sector,** which accounts for 25 percent of GDP.

- **A change in the market spread only appears sensitive for petroleum firms,** with a one percentage point increase in the spread associated with a 9.5 percent decline in firms' operating profits.

- **While FX inflows from oil exports to the CBN matters less for the profitability of the corporate sector in general, firms in the chemicals, rubber, plastics and non-metallic products sector seem more sensitive to the decline from such FX inflows than other sectors** (coefficients on CBN flows are statistically significant only for this sector).

Conclusion

6. The recent decline in FX inflows seems to have adversely affected corporate performance, mostly through macroeconomic fluctuations, but with additional adverse effects through a decline in non-oil FX inflows. After controlling for macroeconomic fluctuations, the decline in FX inflows to the CBN, which mostly captures the oil revenue to the federation account at the central bank, was associated with the recent decline in operating profits of firms in the chemicals, rubber, plastics, and non-metallic products sectors. The decline in FX inflows to the economy through autonomous sources, which capture non-oil export receipts, remittances, and capital inflows, however, seems to have had a more pervasive and adverse impact on operating profits, particularly in the other services sector.

7. Evidence highlights the importance of policy actions affecting non-oil FX inflows. FX inflows through autonomous sources are certainly not independent of developments in the oil sector and oil revenue, but evidence shows that the decline in those inflows has had additional adverse effects on firms' operating profits. This evidence highlights the importance of policy actions affecting those flows and the potential impact of those actions on economic performance.

Table 3. Nigeria: EBIT, FX Inflows, FX Exchange Rate Spread by Sector, 2013Q3-2016Q2

Sectors used:	Total	Primary sector	Food, bever., tobacco	Textiles, wearing apparel, leather	Chemi., rubber, plastics, non-metallic	of which petroleum	Metals & metals; Machine-ry. & equipt.	Whole-sale & retail trade	Trans-port; Post & telecom.	Hotels & restau-rants	Other services
VARIABLES	(1) ΔlnEBIT	(2) ΔlnEBIT	(3) ΔlnEBIT	(4) ΔlnEBIT	(5) ΔlnEBIT	(5a) ΔlnEBIT	(6) ΔlnEBIT	(7) ΔlnEBIT	(8) ΔlnEBIT	(9) ΔlnEBIT	(10) ΔlnEBIT
ΔlnFXinflows_CBN, t	0.155	0.048	0.080	0.986	0.773*	2.044**	-0.051	0.794	-0.701	-0.561	0.134
	(0.202)	(0.326)	(0.329)	(0.820)	(0.399)	(0.826)	(0.323)	(0.703)	(0.952)	(1.431)	(0.736)
ΔlnFXinflows_auto, t	1.040***	1.773***	1.770***	-1.251	1.104**	1.592*	0.494	0.261	2.502	2.228	3.722**
	(0.263)	(0.655)	(0.657)	(1.594)	(0.505)	(0.871)	(0.418)	(1.348)	(1.458)	(3.158)	(1.436)
ΔFX_spread, t	0.002	-0.006	-0.006	0.002	-0.019*	-0.095***	0.006	0.001	0.022	-0.007	0.028
	(0.005)	(0.006)	(0.006)	(0.016)	(0.009)	(0.029)	(0.008)	(0.014)	(0.046)	(0.029)	(0.017)
lnEBIT, t-1	-0.756***	-0.703***	-0.706***	-0.816***	-0.947***	-1.103***	-0.646***	-0.762***	-0.892***	-0.710**	-0.864***
	(0.041)	(0.052)	(0.052)	(0.181)	(0.107)	(0.207)	(0.118)	(0.139)	(0.227)	(0.248)	(0.102)
lnFXinflows_CBN, t-1	0.155	-0.492	-0.461	1.250	1.202*	1.624*	-0.429	0.603	-1.311	-0.773	-0.401
	(0.311)	(0.464)	(0.467)	(1.131)	(0.621)	(0.918)	(0.494)	(0.990)	(0.864)	(2.076)	(1.050)
lnFXinflows_auto, t-1	0.035	0.622	0.634	-1.436	-0.019	-	0.291	-0.651	-	2.087	1.309
	(0.246)	(0.518)	(0.520)	(1.270)	(0.465)		(0.367)	(1.089)		(2.365)	(1.172)
FX_spread, t-1	0.004	0.048	0.050	-0.030	0.014	0.100*	0.002	0.006	-0.036	0.178	0.067
	(0.007)	(0.035)	(0.035)	(0.086)	(0.011)	(0.048)	(0.007)	(0.073)	(0.065)	(0.161)	(0.076)
firstquarter	-1.602***	-1.788***	-1.781***	-1.396***	-1.287***	-1.179***	-1.671***	-1.787***	-1.460***	-1.380*	-2.112***
	(0.077)	(0.164)	(0.165)	(0.386)	(0.158)	(0.241)	(0.127)	(0.325)	(0.307)	(0.776)	(0.342)
secondquarter	-0.592***	-0.949***	-0.957***	-0.313	-0.862***	-1.995***	-0.652***	-0.657	-0.580	-1.349	-1.178*
	(0.106)	(0.308)	(0.309)	(0.759)	(0.200)	(0.478)	(0.195)	(0.659)	(0.907)	(1.379)	(0.674)
thirdquarter	-0.527***	-0.744***	-0.747***	-0.049	-0.791***	-1.396***	-0.535***	-0.491	-0.742	0.044	-1.239**
	(0.110)	(0.261)	(0.262)	(0.631)	(0.212)	(0.413)	(0.185)	(0.549)	(0.774)	(1.176)	(0.568)
Constant	-1.108	-1.157	-1.585	3.611	-10.179**	-14.442	1.673	1.719	13.171	-14.780	-8.855
	(2.041)	(3.831)	(3.885)	(10.059)	(4.220)	(8.749)	(3.205)	(8.408)	(8.211)	(17.441)	(8.887)
Observations	611	104	103	73	148	25	81	97	30	25	98
R-squared	0.772	0.919	0.919	0.759	0.781	0.938	0.879	0.774	0.817	0.751	0.767

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

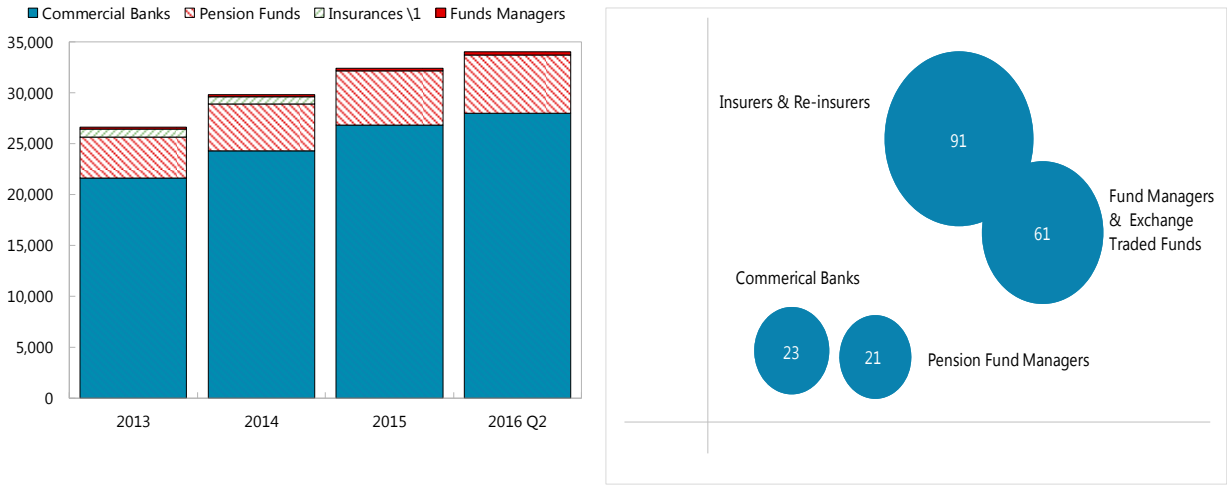
FINANCIAL SECTOR DEVELOPMENTS AND VULNERABILITIES[1]

This chapter highlights the impact of the economic downturn on banking sector vulnerabilities. The outlook points to higher NPLs and eroding capital. Results of stress test results show that a depreciating exchange rate and interest rate increases would adversely impact capital adequacy ratios (CARs), although these would remain above Basel II prudential norms. In contrast with the banking sector, non-bank financial institutions have been less impacted by the current economic downturn.

1. The size of the financial sector of Nigeria is driven by activity in the banking sector, which accounts for 80 percent of total assets. During the past year, banking sector growth was dominated by the impact of a depreciating naira, given 45 percent of the banks' loan book is in foreign currency. In contrast, growth in non-bank financial institutions, whose assets are mainly in local currency, was driven primarily by new funding. (Figures 1 and 2).

Figure 1. Nigeria: Structure of the Financial System, 2013-16

(in billions of Naira) (number of firms \2)



Sources: IMF Financial Soundness Indicators; Nigeria Pension Commission; Nigeria National Insurance Commission, Securities and Exchange Commission Nigeria; and IMF staff calculations

1/ Latest data available is 2014.

2/ Figures as at 2016

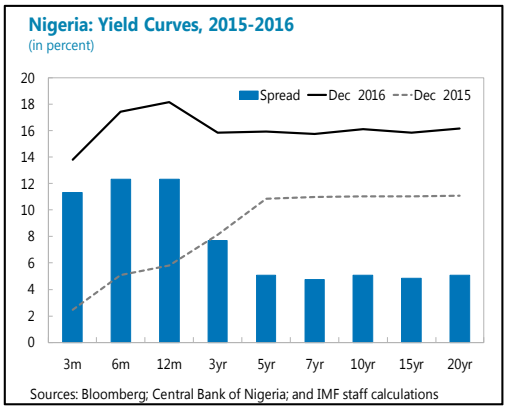
[1] Prepared by Miriam Tamene, Mika Saito and Marwa Ibrahim.

A. Banking Sector

Recent Developments

2. The banking system is oligopolistic. While the size of the five largest banks fell from 60 percent of assets in the second half of 2015 to 43 percent of assets in the first half of 2016, low competition continues to characterize Nigeria's banking system. The Herfindhal-Hirschman index for the industry was 743 at end-June 2016 (Financial Stability Report) and market shares for the other 18 banks in Nigeria ranged from 0.3 to 6.4 percent.

3. With no clear sign of an economic recovery, the structure of the banks' balance sheets is changing. To limit further credit loss, banks have reduced their level of lending which remained relatively flat in 2016 after taking into account the impact of foreign exchange depreciation. Nigeria remains relatively unbanked compared to other emerging markets, with a credit-to-GDP ratio of 15 percent. Moreover, current high yields on government securities present attractive options, particularly considering that they carry zero-risk weighting for regulatory capital and count towards liquidity ratio requirements.



4. Despite weaker balance sheets, banks' funding sources remain stable with deposits continuing to be the primary source. Deposits (about 75 percent of total liabilities) have been gradually declining, reflecting mostly the implementation of the Treasury Single Account, which shifted government accounts to the central bank. Deposits below one-year maturity represent 95 percent of all deposits, of which 44 percent are unremunerated demand deposits. That said, the funding structure (loan-to-deposit ratio at 130 percent) of banks remains stable. Financing from alternative sources, such as money and capital markets, was lower in 2016, $0.6bn versus $1.47bn in 2015.

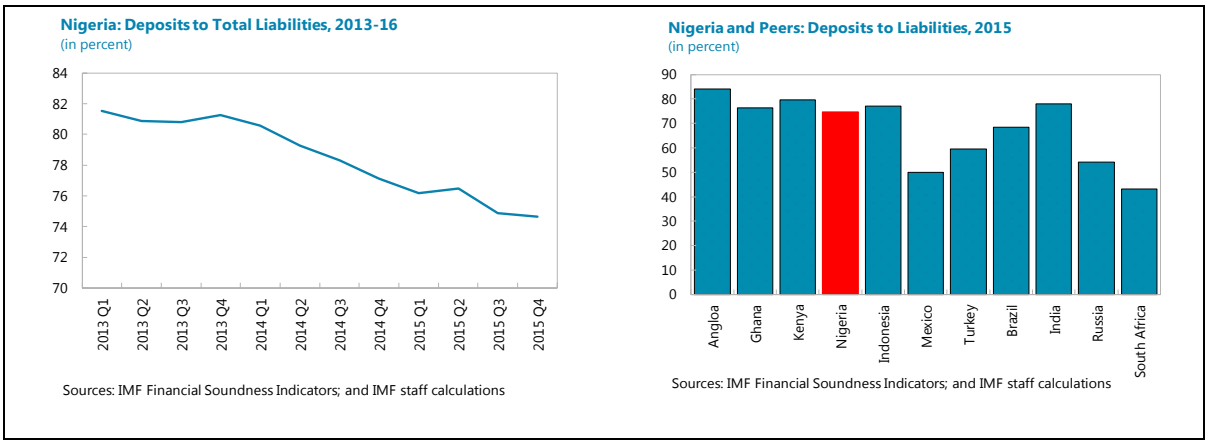
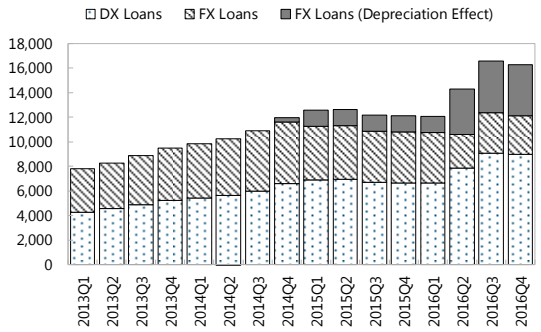


Figure 2. Nigeria: Evolution of Banking Sector Credit

Banks have reduced lending, the recent increase in loans can be accounted for by the depreciation of the naira, ...

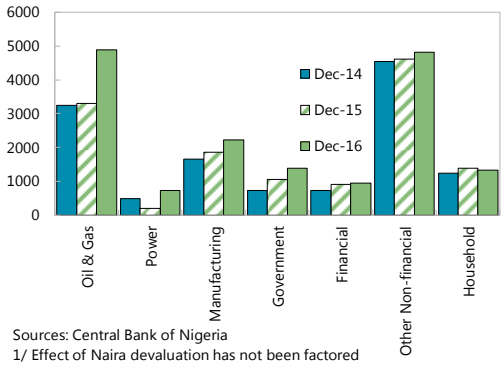
Nigeria: Banking Sector Loans, 2013-16
(in billions of Naira)



Sources: IMF FSI, Central Bank of Nigeria; and IMF staff Calculations

...Impacting, particularly, the oil and gas sector.

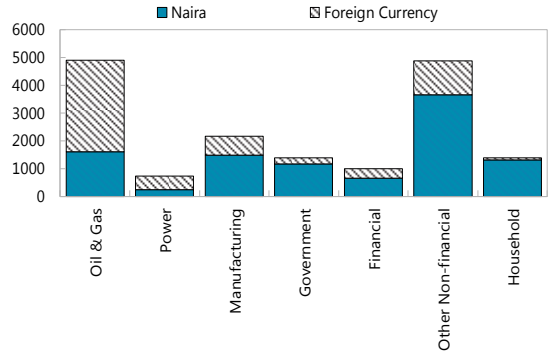
Nigeria: Banks' Sectoral Credit Allocation, 2014 - 16
(in billion of Naira)



Sources: Central Bank of Nigeria
1/ Effect of Naira devaluation has not been factored

Manufacturing and the energy sector (power, oil and gas) account for 70 percent of FX loans

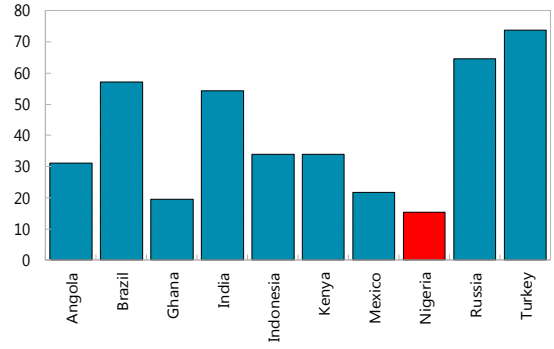
Nigeria: Banking Sector Credit Allocation by Sector and Currency, 2016
(in billions of Naira)



Sources: Central Bank of Nigeria

Nigeria's credit depth is low compared to peers

Nigeria and Peers: Banking Sector Loan to GDP, 2016
(in percent)



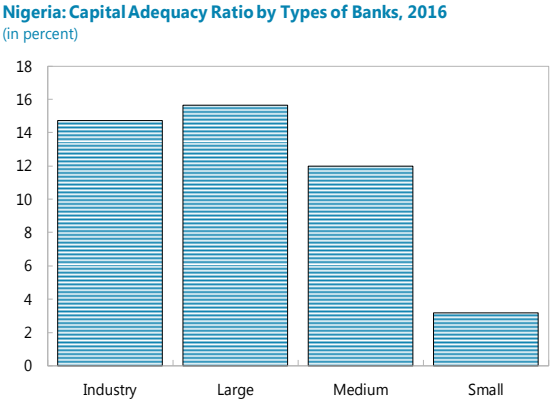
Sources: IMF Financial Soundness Indicators
1/ Angloa as at end 2015

5. Banking sector vulnerabilities have increased, although capital and liquidity buffers remain adequate:

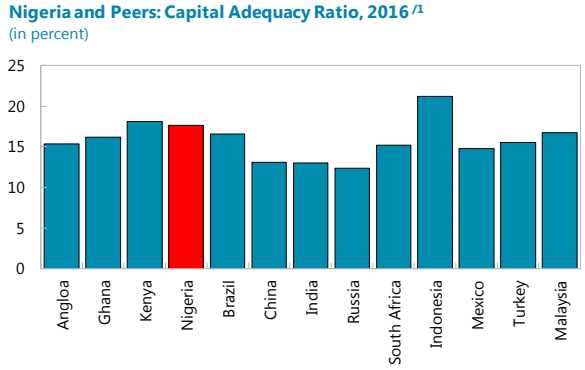
- **Asset quality deteriorated**. Non-performing loans (NPLs) have doubled from a year ago, to about 13 percent of total loans by end-2016, making Nigeria the weakest performer amongst peers. Despite an increase in provisions to about 65 percent since end-2015, NPLs net of provisions relative to capital remain relatively high. The same sectors that have weighed down the economy—oil and gas, and power—continue to do so. Businesses in these sectors, coupled with sectors that depend on foreign exchange such as general commerce, have been the major contributors to the recent surge in non-performing assets (Figure 3).

- **Capital buffers have been eroded, but remain adequate**. In line with worsening NPLs, capital adequacy ratios have declined from 17.7 percent in 2015 to 14.8 percent in 2016. However, the overall solvency ratios in 2016 would have averaged 16.9 percent, after excluding three

undercapitalized banks--including one internationally active bank[2]—which have ratios below 8 percent and account for 5 percent of assets. Performance across banks is striking with solvency ratios ranging from 3.2 percent for small banks to 15.7 percent for Tier I banks.



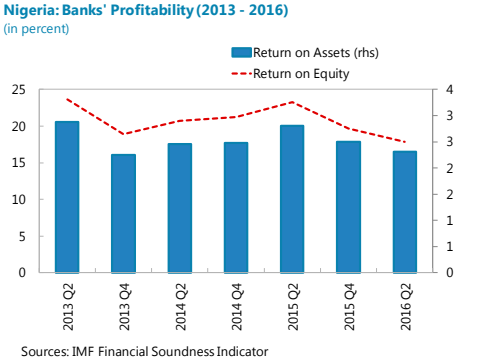
Sources: Central Bank of Nigeria



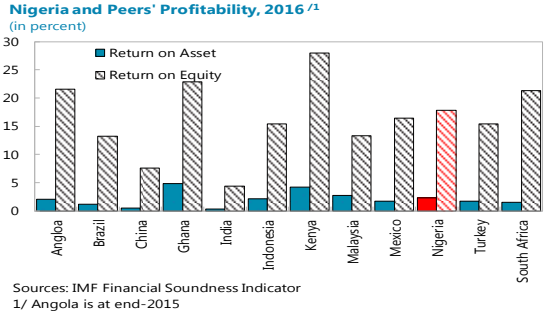
Sources: IMF Financial Soundness Indicators and Central Bank of Nigeria
1/ Latest data is Q2 2016, except for Turkey (Q1 2016) and Angola (end-2015).

- **Liquidity ratios decreased to 42 percent at end-June 2016**, from 48 percent at end-2015, but remains comfortably above the prudential minimal limit of 30 percent.[3]

- **Profitability ratios have been worsening,** with ROE and ROA reaching 12.6 and 1.5 percent in 2016, driven by declining net interest margins, which are still in line with peers. While audit results would need to confirm possible gains, the majority of banks long on foreign currency expect the recent depreciation to have increased "unrealized" valuation gains.



Sources: IMF Financial Soundness Indicator



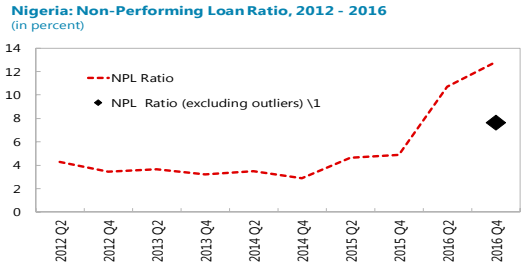
Sources: IMF Financial Soundness Indicator
1/ Angola is at end-2015

[2] Earlier in the year, the central bank intervened in one domestic systemically important bank (D-SIB), Skye, by replacing its management and injecting liquidity. Skye and the two small undercapitalized banks have submitted remedial plans for recapitalization.

[3] Liquidity Ratio, where CBN applies the threshold of 30 percent, is defined slightly different to the IMF's Financial Soundness Indicators. In CBN's measure, both assets and short-term liabilities capture a broader set of items. For example, assets include state government bonds, whereas financial derivatives and redeemable preference shares are included in current liabilities.

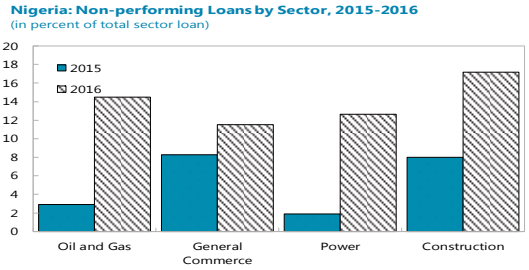
Figure 3. Nigeria: Deterioration in Asset Quality and Capital Adequacy Ratios

NPL ratio is above 10 percent, but marginally lower excluding the three undercapitalized banks



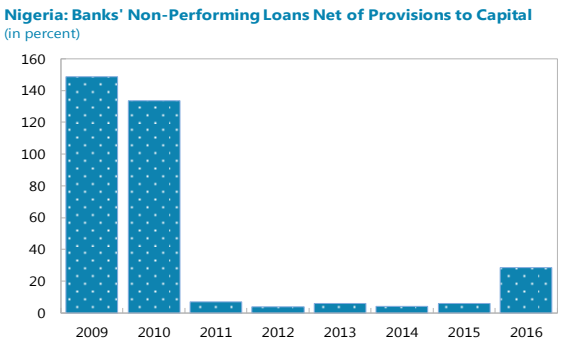
Source: Central Bank of Nigeria
1/ Excluding the three undercapitalized banks

NPL have more than doubled for sectors affected adversely, such as oil and gas, power and construction...



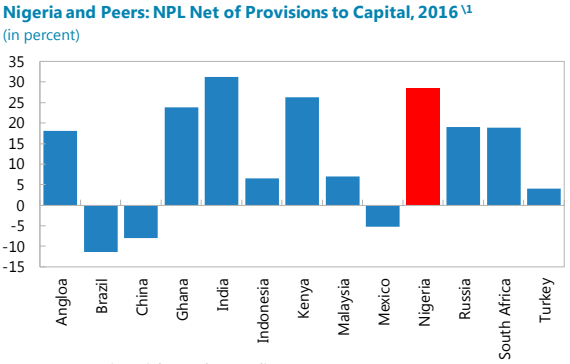
Source: Central Bank of Nigeria

Non-performing loans, although below the levels reached at the last banking crisis, have been increasing



Sources: Central Bank of Nigeria

Despite strengthening provisions, high NPL puts Nigeria at the top end of weak performers among its peers.



Sources: IMF Financial Soundness Indicators
1/ Latest data for Angola is end 2015 and Turkey is 2016 Q1; the rest is 2012 Q2

6. Reforms in the aftermath of the 2009-10 crisis and the buildup of regulatory buffers have contributed to containing risks so far. Amendments made in regulations over the past two years increased prudential ratios above international norms, and tried to contain credit and market risks arising from low economic activity and exchange rate volatility (see Box 1).

Box 1. Nigeria: Major Prudential Regulations and Measures Adopted Since 2010

Solvency

- Capital Adequacy Ratio (Banks with National Authorization) — 10% of Risk-Weighted Assets
- Capital Adequacy Ratio (Banks with International Authorization) — 15% of Risk-Weighted Assets
- Undercapitalized Banks of <2% — Take over management/revoke banking license

Provisioning

- Sub-standard — 10% of the outstanding balance
- Doubtful — 50% of the outstanding balance
- Lost — 100% of outstanding balance
- General (that is performing loans) — 2% of total outstanding balance

Liquidity

- Liquidity Ratio (excluding Cash Reserve Ratio)/1 — 30% of Total Assets
- Illiquid Banks of less than 50% prescribed amount — Change management/board

Concentration

- Single Obligor Limit — 20% of Equity
- Breach of Single Obligor Limit without regulatory approval — Impairment to Capital
- Exposure Limit to Any Single Group/Related Borrowers — 10% of Total Credit Portfolio
- Exposure to any industry within a sector >20% of credit — Risk weighting of 150%
- Limit on Largest Aggregate Exposure — 8% of Equity

Exchange Rate

- Net Open Position/2 — 10% of Equity (down from 20%)
- FX Borrowing/2 — 125% of Equity (up from 95%)
- Natural Hedge — FX Loans to Customers with FX Revenue

Notes:

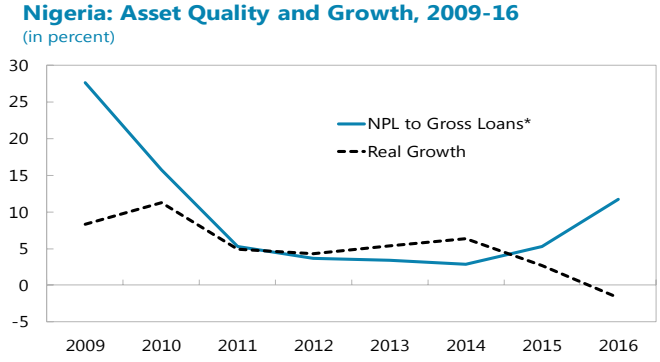
1/ Cash Reserve Ratio (CRR), a monetary policy tool, is currently 22.5%

2/ Indicate recent revisions in 2016/17

Source: Central Bank of Nigeria

Outlook and Risks

7. NPLs would continue to rise before returning to normal levels. On average, it takes 5 to 6 years for NPLs to return to their normal level.[4] In Nigeria, post the 2009 crisis, NPLs took three years to return to their normal levels, which was much faster than the experience of other countries. The rapid recovery was due to the swift action taken by the authorities to establish an asset management company (AMCON) that bought non-performing loans from banks. This time, the fiscal space for a similar action is limited; consequently, NPLs could persist for a while longer, although the regulatory environment is much improved. In addition to the weakened economic outlook, the increase in NPLs would depend on three critical and related factors:



Sources: IMF Financial Soundness Indicator and World Economic Outlook, October 2016.
*2016 as at end-June.

- **Developments in the oil and gas sector.** At 30 percent of banks' loan books, concentration risk is high; further, 14 percent of loans are non-performing. Sabotage of oil infrastructure, along with lower oil prices than initially envisaged at loan origination, is depressing revenues and companies' ability to repay. Hence, solving oil production problems in the Niger Delta would be key to reducing weaknesses in this area.

- **Developments in the power sector.** Non-payments by electricity distribution companies of their bills to power generation companies continues to increase NPLs in the sector. Reforming the power sector, including through an introduction of cost-reflective tariffs, will be essential to improve firms' performance in this domain.

- **Exchange rate risk.** The depreciation of the naira may in some cases benefit those banks with FX assets that outweigh their FX obligations, through net valuation gain. However, FX risks either from a shortage of FX or further naira depreciation could also lead to defaults, which will increase required provisioning and reduce profits. With about 45 percent of loans and 40 percent of NPLs in foreign currency, a further depreciation of the naira by 50 percent would increase NPLs net of provisions to capital by 12 percentage point (from 28 to 40 percent) (See Chapter 2).

8. Solvency ratios would continue to decline. The need for capital injections will depend on the banks' vulnerability. Overall, staff (and banking industry analysts) estimates that Nigeria's NPL

[4] See, for example, S. Aiyar, W. Bergthaler, J. Garrido, A. Ilyina, A. Jobst, K. Kang, D. Kovtun, Y. Liu, D. Monaghan, and M. Moretti, 2015, "A Strategy for Resolving Europe's Problem Loans", SND/15/19. Comprehensive strategy to NPL solutions take time as these include developing markets for distressed debt, tightening supervisory policies, and reforming insolvency regimes (IMF, 2015)

would have to increase to 27 percent for CARs to fall below 10 percent. Under that scenario, the banking sector would need a capital injection of N352 billion (about 0.33 percent of GDP).

9. Concentration risk may continue to escalate, mainly as a consequence of naira depreciation. Banks' exposure to FX loans implies the depreciating naira gave rise to a passive breach of the concentration risk threshold, which requires banks to limit single obligor exposure to 20 percent of equity and eight times equity on aggregate large exposure.[5] The breach, currently the subject of regulatory forbearance, is supposed to be temporary; the regulator has demanded that banks submit proposals setting out the path to levels within the prudential thresholds.

10. To contain further exchange risk, banks may seek to reduce their FX assets and liabilities. Prudential regulations on exchange rate include foreign exchange net open position (FX NOP) and foreign currency borrowing as a percent of equity. In light of the naira depreciation, the regulator eased the limit on FX borrowing, increasing it from 95 to 125 percent of equity, but lowered the FX NOP from 20 to 10 percent of equity, to ensure that banks continue to reduce FX exposure on both sides of their balance sheets. In addition, recent measures introduced in 2014 require banks to have natural hedges for FX exposure, by matching interest rate terms of financing with lending (so that there is no mismatch of variable and fixed interest rate), and since August 2015, banks have been instructed to avoid extending FX loans to borrowers with no FX revenue.

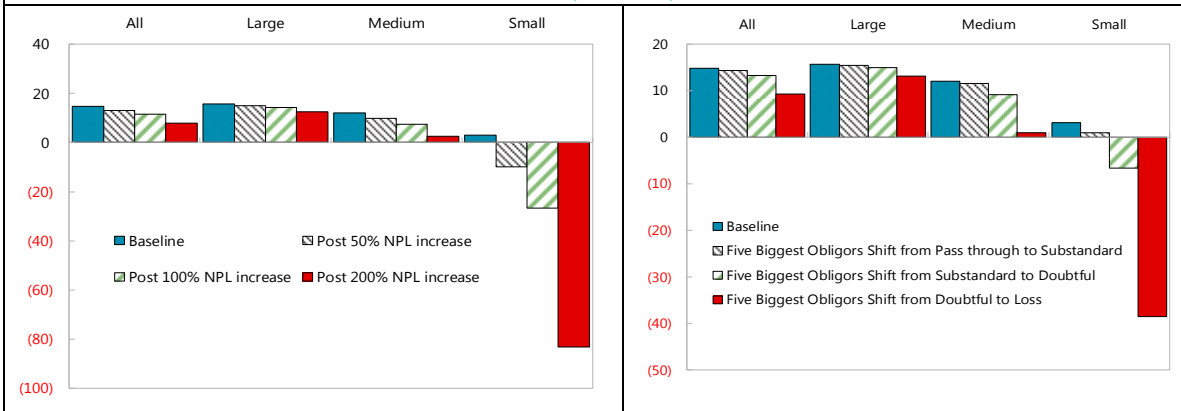
Banking Stress Test Scenarios

11. Sensitivity stress tests performed by the Central bank indicate that banks can withstand extreme shocks. CBN sensitivity analysis on the NPL and Single Obligor Limits show that the industry as a whole remains resilient to such shocks (Figure 4).[6]

[5] Such rules, for example for the oil and gas sector, which represents a huge concentration risk, have impelled banks to diversify exposure to single obligor via syndicated loans. In addition, exposures to any industry in excess of 20 percent of total credit facilities of the bank, attracts risk-weighting of 150 percent for the entire portfolio in that industry.

[6] The authorities undertake sensitivity stress testing on a regular basis. Key risks from the Financial Stability Report, June 2016 indicate: (i) a 50% increase in NPLs will see small banks become insolvent with CARs at -9.8 percent while the industry CAR will be reduced by 1.5 percent to 13.2 percent; and (ii) a 200 percent increase in NPLs will reduce overall banking sector capital adequacy ratio to 8 percent. Based on updated information from CBN, if the provision of the five biggest obligors credit facilities were to increase to 100%, the industry's CAR would be reduced to 6.3 percent.

Figure 4. Nigeria: Banking Sector Sensitivity Stress Test Capital Adequacy Ratio
(Percent)



Source: Central Bank of Nigeria

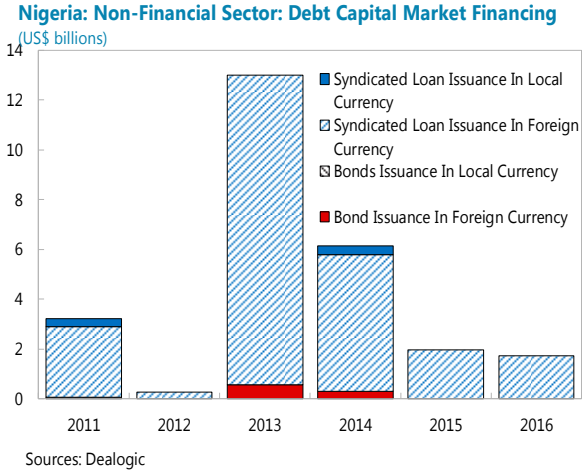
12. The performance of the banking sector is interlinked with the financial health of the corporate sector. The banking sector is heavily exposed to the corporate sector—which has come under earnings pressure, accounts for 75 percent of the loan book, and whose performance is heavily dependent on foreign exchange availability (See Chapter 2). On the other hand, corporate funding depends heavily on bank loans (including syndicated ones). Funding from capital markets (bonds and equities) accounted for only $1.75 billion—down from $2.3 billion in 2015 (Figure 5).

Figure 5. Nigeria: Corporate Sector Developments

Corporates continue to heavily rely on the banking sector for their sources of financing, with total debt outstanding amount to $85 billion in 2015.

Sources: Dealogic, CBN

A sizable portion of market-based financing is sourced from syndicated loans, where banks are heavily involved.



Sources: Dealogic

13. Corporate Sector vulnerability stress tests complement the stress tests by looking at the potential risk to the banking sector (See Box 2 for the methodology). The level of non-performing loans is estimated by applying Moody's estimated probability of default of 15 percent for companies with Interest Coverage Ratio less than 1.5. The extreme adverse scenario— showing an exchange rate increasing from N/$197 to N/$600 and interest rate up by an additional 400 basis points would imply (Table 1 and Figure 6):

- **NPLs rising by 26 percent,** which would cause the capital adequacy ratio to fall by 8 percentage points.[7] Given initial capital buffers, banks would remain resilient under this scenario. Drawing on preliminary staff analysis, which indicates that for each 1 percentage point change in capital adequacy ratio annual credit growth contracts by 4.4 percentage points, this would lead to credit to the private sector contracting by as much as 34 percentage points.

- **Corporate Sector debt at risk** would in that case amount to $11.6 billion, with the number of firms with debt-at-risk doubling to 29 (Figure 6).

Box 2. Nigeria: Methodology for Corporate Sector Stress Test

Data

- Individual corporate financial data from Orbis; in our sample there are 144 firms
- Firms' total outstanding liabilities amounted to $7.3 billion, about 9 percent of our estimate of outstanding debt
- Analyze debt at risk using two definitions in the first instance a) net income as a ratio of interest expense (interest coverage ratio, ICR), and b) debt to gross income (debt income ratio, DGI). The DGI ratio was introduced to complement the analysis under ICR as the data on net income was lacking for a large number of firms in our sample. For example, of the $7.3 billion liabilities reported by firms, $0.411 billion was excluded from the ICR, compared to $0.05 billion under DGI.
- Debt-at-risk, using both definitions has gradually declined, reaffirming the use of ICR should not underestimate the level of debt at risk for assessing impact on banks' balance sheet.

Scenarios

- Three scenarios: Baseline, Adverse and Extreme, are applied to corporate sector debt to assess the impact on banks' balance sheet. 1/
- Baseline scenario, incorporates 200 basis points increase in interest rates in line with increase in policy rate, and 55 percent devaluation (reflecting the exchange rate shift from USD/NGN 197 to 305). Plus, reduction in income by 5 percentage points.
- Adverse scenario, includes a further depreciation, based on the shift from USD/NGN 197 to 400, an additional 100 bps increase (up 300 bps) in interest rates, and an income shock of 10 percent.
- Extreme scenario, assumes a further deprecation to USD/NGN 600, a 400 bps increase (twice the level of the increase under the baseline scenario) in interest rates, and an income shock of 20 percent.

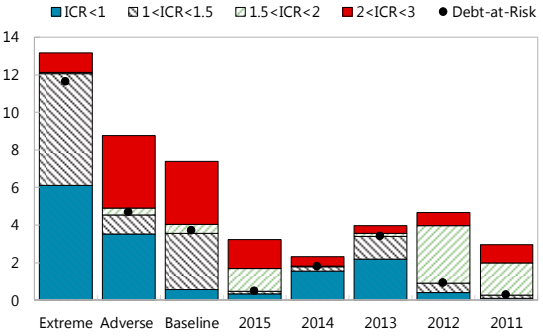
1/ Interest rate risk scenario is only applicable for the ICR measure.

[7] Using Basel II guidance on loss given default (LGD) of 45 percent, we generate the reduction in Capital Adequacy Ratio. Although a more prudent approach would suggest applying LGD of 70 percent for Nigeria (based on World Bank's Doing Business Assessment).

Figure 6. Nigeria: Evolution of Corporate Sector Debt-at-Risk, 2011–15

Significant deleveraging took place in 2015, explaining the sharp decline of debt-at-risk

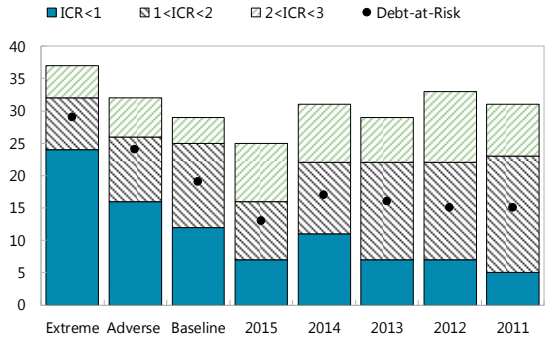
Nigeria: Corporate Sector Debt by Interest Coverage Ratio
(US$ billions)



Sources: Orbis, and IMF staff calculations

Number of firms with debt-at-risk are also lower

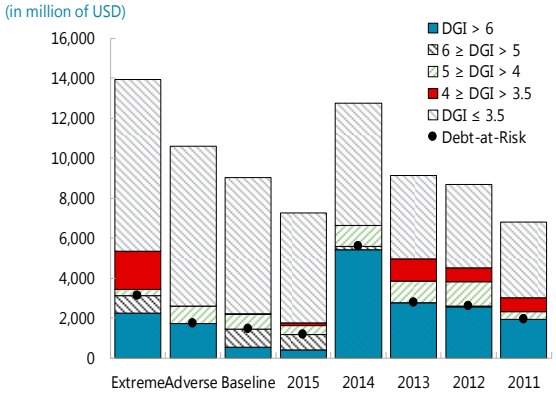
Nigeria: Corporate Sector Debt by Interest Coverage Ratio
(number of firms)



Sources: Orbis; and IMF staff calculations

Debt-at-risk has sharply decreased compared to previous years….

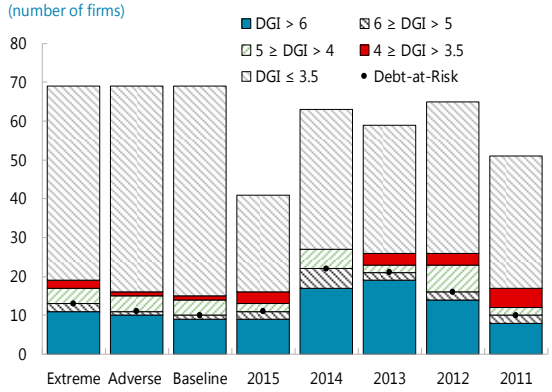
Nigeria: Corporate Sector Debt by Debt to Gross Income
(in million of USD)



Sources: Orbis; and IMF Staff calculations

As has the number of firms with debt-at-risk.

Nigeria: Corporate Sector Debt by Debt to Gross Income
(number of firms)



Sources: Orbis; and IMF staff Calculations

Table 1. Nigeria: Impact of Corporate Sector Stress Scenario on Banking Sector, 2015

	End 2015	Baseline Scenario 1/	Adverse Scenario 1/	Extreme Scenario 1/
Current claims on private sector (N billions)	13,074	13,074	13,074	13,074
Implied increase in aggregate NPLs (N billions) 2/		182	537	3,229
Aggregate NPLs (N billions)	484	666	1,021	3,874
Implied NPL Ratio (percent)	4.0	5.1	7.8	29.6
Implied increase in aggregate NPLs (percent)		28	83	525
Implied loss rate (percent) 3/		3.6	4.6	11.4
Implied loss (N billions)		472	596	1,488
Implied capital (N billions)	2,945	2,473	2,349	1,4357
Implied risk weighted assets (N billions) 4/	17,695	17,223	17,098	16,206
CAR (percent)	16.6	14.4	13.7	9.0
Impact on CAR (percentage points)		(2.3)	(2.9)	(7.7)
Impact on credit growth (percentage points) 5/		(10.1)	(12.8)	(33.7)
Credit growth (implied) (percent)	5.3	(4.75)	(7.49)	(28.38)

Sources: IMF Financial Soundness Indicators; and IMF staff estimates

1/ Scenarios are as below, where baseline reflect actual changes from end of 2015 to end 2016:

	Baseline	Adverse	Extreme
Exchange Rate	-55%	-103%	-205%
Interest Rate	+200bps	+300bps	+400bps
Net Income	-5%	-10%	-20%

2/ Assuming banking sector holds same percentage of debt-at-risk as in corporate sector sample, with a 15 percent probability of default.

3/ Assuming a 45 percent loss given default (note, this is an optimistic assumption, based on WB Doing Business, Resolving Insolvency should be 70 percent).

4/ Assume 100 percent risk weighting.

5/ Using multiplier of 4.4 on the change in CAR based on preliminary empirical work done by Julian Chow applying the Bernanke and Lown (1991) approach on a sample of 2,317 banks across emerging market countries for the period 2001 to 2014. Note as a reference, various empirical studies with U.S. data suggest the multiplier for the U.S. to lie within the range 0.7 - 2.8 depending on the specification; emerging markets are likely to have a higher multiple (given they are more dependent on the banking system for credit).

Policy Recommendations

14. The policy and operational implications of the vulnerabilities highlighted above imply the following policy recommendations for banks:

- Addressing undercapitalized banks through the following measures is important to restore confidence
    - capital raising, though challenging under the current unfavorable market climate, should be pursued.

  - buyout and/or merger with other banks, existing shareholders will sustain losses (diluted shares and/or value of their shares), but this will have to be balanced against the broader benefit of restoring market confidence.

- Dealing with non-performing loans is essential to kick-start bank lending

  - NPLs constrain banks' balance sheet as they depress CAR and profitability. Options for dealing with NPL are limited, nonetheless banks should be encouraged to divest non-performing loans and restructure those that will become viable.

- Strengthen monitoring and supervision through

  - strict enforcement of existing prudential measures on FX and concentration risks, and considering further tightening of these measures.
  - undertaking an intrusive and conservative approach to supervision.

B. Non-Banking Financial sector

15. In contrast to the banking sector, the non-bank financial sector has been less affected by the economic downturn. Pension funds, insurance companies, and managed funds remain healthy, despite a decline in asset market prices.

16. The pension sector has grown considerably in both membership and asset size over the past decade. The pension industry is on track to meet its strategic objective of capturing 30 percent of the working population under the Contributory Pension Scheme (CPS). The recent enactment of the Pension Reform Act 2014, calls on the CPS to be applicable for organizations with employees of more than three, compared to 15 under the earlier Act of 2004. Organizations with less than three employees and self-employed persons are also entitled to participate. (Figure 6).

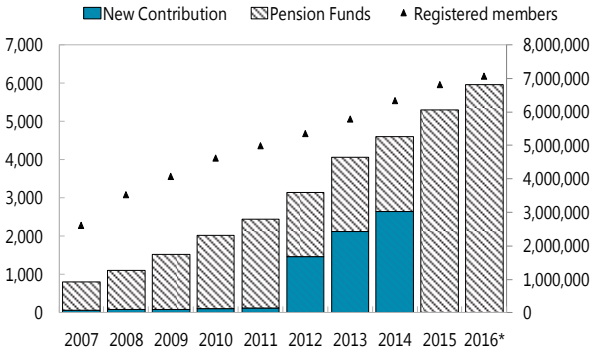
17. A significant portion of the pension funds' assets is held in government paper. Fixed income assets, including government bonds, provide a hedge for the funds' obligations. Indeed, investment in government securities is approaching the upper limit of 80 percent, as fund managers rebalance their portfolio towards less risky assets.

18. In contrast, growth of the insurance sector has been modest. Mandatory requirements, for insurance coverage in motor, oil, gas and aviation sectors, plus life insurance for companies with 5 or more employees, have supported the industry's development. Individual penetration is relatively low with corporates accounting for 80 percent of insurance coverage. Assets are currently invested mostly in short-term instruments and equities, or held as bank deposits, that is, with no exposure to government securities (Figure 7).

Figure 7. Nigeria: Developments in the Non-Banking Financial Sector

There has been considerable growth in both the size of pension funds' assets and contributors

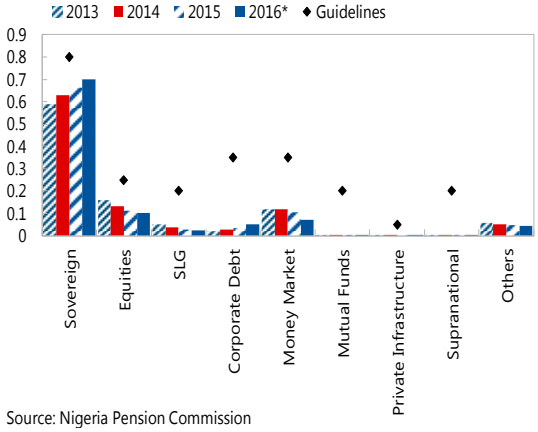
Nigeria: Pension Fund Asset Size, 2007 - 2016
(in billions of Naira, apart from registered members)



Sources: Nigeria Pension Commission; and IMF staff Calculations
1/ Data for 2016 is at September 2016.

Pension funds investment is skewed towards government securities, where it is nearing the upper limit

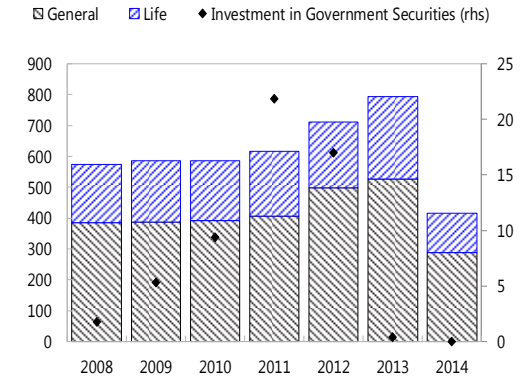
Nigeria: Pension Funds' Investment, 2013 -16
(in percent of total)



Source: Nigeria Pension Commission

The insurance sector similar to the pension fund sector has been successful in growing the asset base and participants

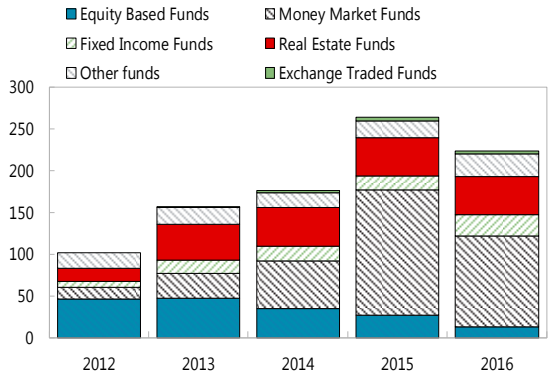
Nigeria: Insurance Firms Assets, 2008-14
(in billions of naira)



Source: Nigeria National Insurance Commission

After a steady rise, managed funds experienced a downturn in 2016, primarily due to contraction of one money market fund

Nigeria: Managed Funds Net Asset Value, 2012-2016
(in billions of naira)



Source: Nigeria Securities and Exchange Commission

19. The introduction of new insurance products is expected to further boost growth. Micro and Islamic insurance companies (for example, Takaful, a sharia compliant insurance) are in the process of being launched. It is expected that by 2020 the size of the sector will triple, and premium income will grow by 18 percent per annum.

20. Fund managers' net market value of investments was marginally lower over the course of 2016. This trend was in line with the decline in stock and bond markets. In terms of lending to government, this is represented by "Fixed Income" of which about a third is held as investment in government bonds; exposure to government declined slightly since the beginning of the year by half a billion Naira (from 8 billion to 7.5 billion); however, most of this could be attributed to changes in market value of government bonds. (Figure 7).

Policy Recommendations

It would be important to review regulations and enhance monitoring as the sector develops.

- As pension funds approach the upper limit on investment in government bonds, it will be important to introduce regulatory measures to limit their liquidity and interest rate risks, and consideration should be given to relax exchange rate risk.

- With respect to the insurance sector, while the move towards risk-based regulation is welcomed, it will be important to maintain close monitoring and continue building the capacity of the regulator as the industry grows. Preparation to adopt Solvency II, an international standard for the insurance sector, should be pursued building on work done to date.

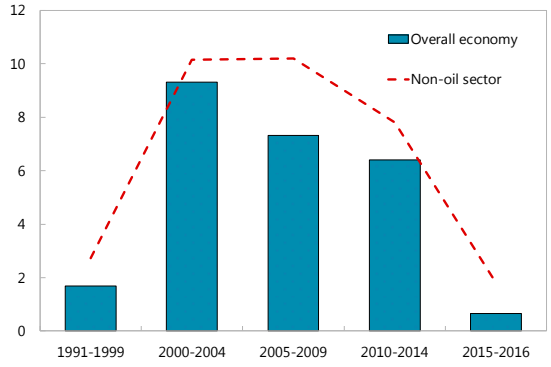
JOB-INTENSIVE GROWTH THROUGH STRENGTHENING THE BUSINESS ENVIRONMENT[1]

This chapter examines recent developments in Nigeria's labor market, the state of the business environment, and the potential for improvements in the latter to bring about more job-intensive growth. Unemployment and underemployment remain high, especially among youth, as a long period of robust growth did not translate into sufficient job creation relative to rapid population growth. The business environment has improved, but lags peer comparators across several areas. Targeting the substantial heterogeneity in practices across the states, we show that if states operating at sub-par levels adopted best practices, the ease of doing business could improve substantially at the national level. This improvement could reduce labor underutilization, as cross-country evidence suggests that reforms to the business environment could improve the job-intensity of growth.

A. Labor Market Developments and Prospects

1. Until the current downturn, Nigeria experienced robust growth from about 2000. Real GDP grew at an average rate of almost 8 percent per year from 2000–2014, and almost 10 percent per year in the non-oil sector, before slowing sharply in 2015 and experiencing an outright contraction in 2016 (Figure 1).

Figure 1. Nigeria: Economic Growth
(real GDP, average annual percent change)



Sources: National Bureau of Statistics; and IMF staff calculations.

2. Despite this high growth, the labor market has been characterized by low job creation and underutilization of the labor force, especially among youth. While little labor market data is available before 2010, available information suggests that job creation was not commensurate with the rapid growth of the economy. From 2005–2016, the labor force grew by 45 percent (from 55 million to 80 million people), but full-time employment only increased 10 percent (from 49 million to 54 million people) (Figure 2).[2] Part-time employment did grow more quickly than full-time employment since 2010. However, unemployment and underemployment rates have risen, reaching over 13 and 19 percent, respectively, in 2016.[3] Unemployment and underemployment

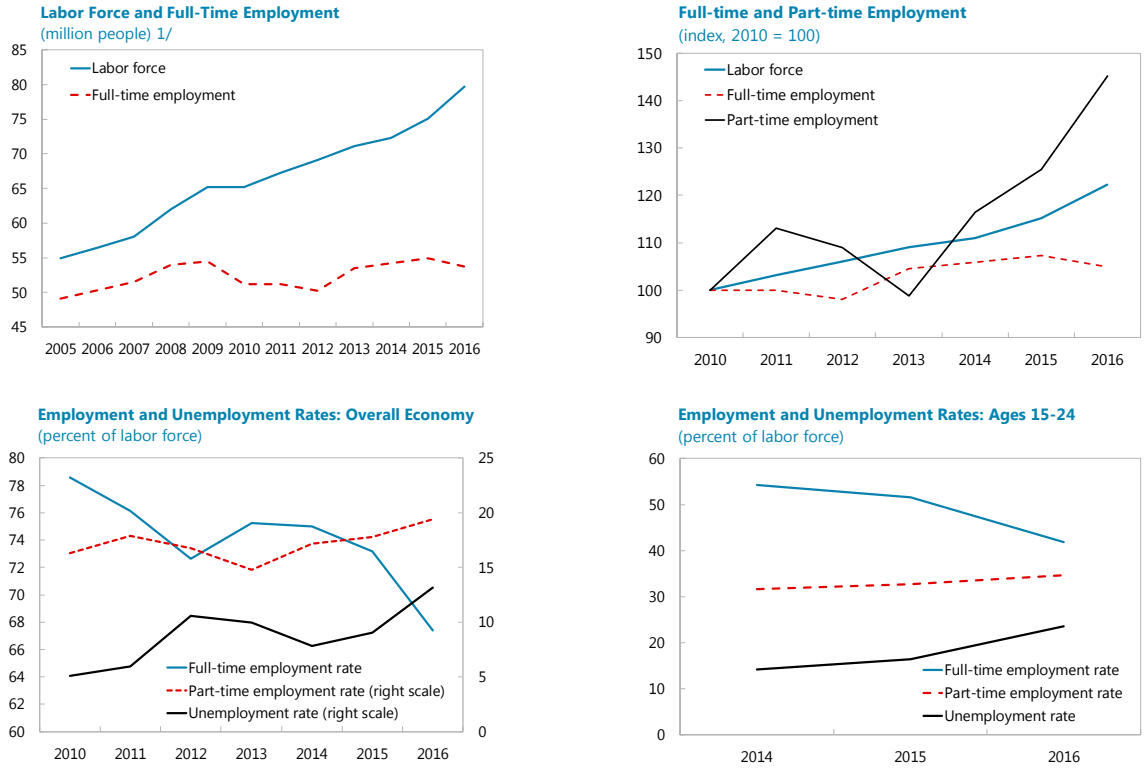
[1] By Andrew Swiston, with research assistance from Marwa Ibrahim.

[2] Full-time employment is defined as working 40 or more hours per week; part-time employment as 20 or more hours per week; and unemployed as working less than 20 hours per work.

[3] Annual data for 2016 has not yet been released. Figures for 2016 are the average for the first three quarters, to minimize the effects of seasonality in the data.

among labor force participants aged 15-24 is higher, at 24 and 35 percent, respectively, having risen sharply in the last two years (Figure 2).

Figure 2. Nigeria: Labor Market Indicators

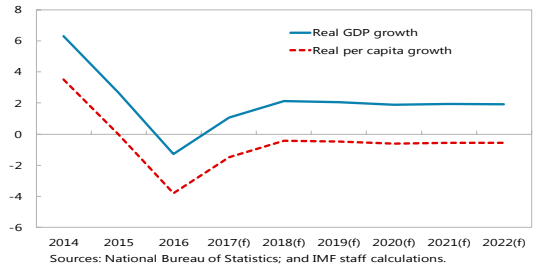


Sources: National Bureau of Statistics; Haver Analytics; and IMF staff calculations.

[1] Data for 2016 are through the third quarter.

3. Looking ahead, the Nigerian economy faces a challenge in creating sufficient jobs to keep up with the rapid growth in the working-age population. The population 16 years old and over has grown by over 2½ percent per year over the last decade, and this rate is projected to continue over the next ten years. Economic growth is projected to slow, and in staff's baseline scenario would be negative in per capita terms (Figure 3). In this context, significant job creation will be needed to absorb new entrants to the labor force and reduce current high rates of labor underutilization.

Figure 3. Nigeria: Per Capita Growth Forecast
(annual percent change)

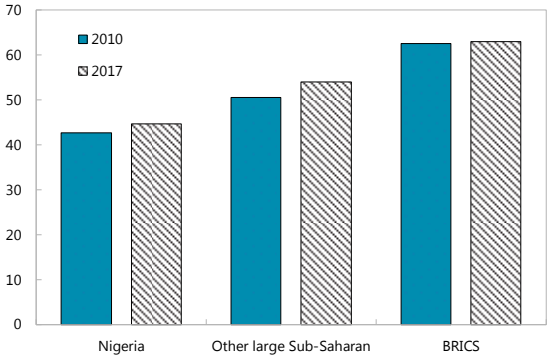


Sources: National Bureau of Statistics; and IMF staff calculations.

B. Business Environment

4. Indicators suggest that there is substantial room to improve Nigeria's business environment, which would boost job creation and contribute to sustained growth. According to the World Bank's 2017 Doing Business indicators, Nigeria ranks 169 out of 190 economies.[4] Its ease of Doing Business was 45 out of a maximum of 100, where 100 represents the "frontier," or best practice among all economies. Nigeria's score improved two percentage points from 2010, but remained lower than the average for other large Sub-Saharan African economies and well below that for BRICS (Figure 4).[5] This ranking is corroborated by broader measures of economic competitiveness, such as the World Economic Forum's Global Competitiveness Index (127 out of 138 countries) and the Fraser Institute's

Figure 4. Nigeria: Overall Ease of Doing Business
(0 to 100, with 100 the best-practice frontier)



Source: World Bank Doing Business indicators.

[4] These indicators should be interpreted with caution due to the limited number of respondents, limited geographical coverage, and standardized assumptions on business constraints and information availability. In particular, Nigeria's indicators in 2017 consist of population-weighted averages of the scores of Kano and Lagos (2010 scores are for Lagos only). Furthermore, methodological changes can complicate the interpretation of movements in an indicator over time. See http://www.doingbusiness.org/methodology for further details on the Doing Business methodology.

[5] Other large Sub-Saharan African countries include all those with a population greater than 30 million (Democratic Republic of Congo, Ethiopia, Kenya, South Africa, Tanzania, and Uganda).

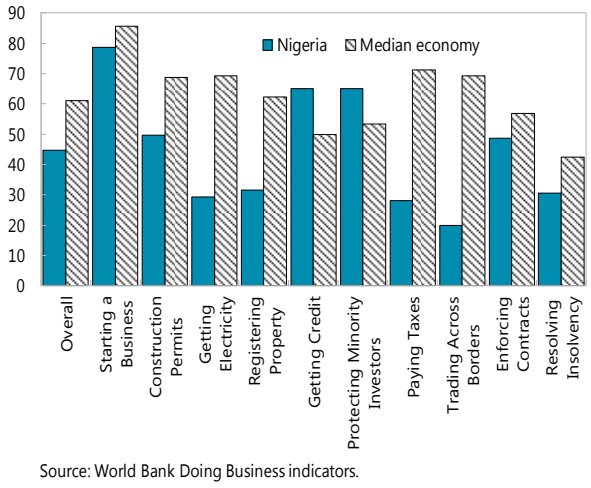
World Economic Freedom Rating (113 out of 159 countries).

5. The Doing Business study highlights some reforms made in recent years.[6] Starting a business was made easier through improved online portals for some government agencies. A centralized collateral agency was created, strengthening access to credit. Finally, minority investor protections were strengthened by requiring related-party transactions to undergo external review and receive approval by disinterested shareholders.

6. An examination of the subcomponents of the Doing Business indicators points to areas for further reform. Figure 5 shows the ten subcomponents of the overall Doing Business index for Nigeria and for the median across economies, since this differs by subcomponent. Nigeria was closest to the best-practice frontier in the ease of starting a business, though slightly below the median economy, while it was above the median in getting credit and protecting minority investors. Nigeria was 15 points or more below both the best-practice frontier and the median economy in five categories: dealing with construction permits, getting electricity, registering property, paying taxes, and trading across borders.

Figure 5. Nigeria: Doing Business Subcomponents

(0 to 100, with 100 the best-practice frontier)



Source: World Bank Doing Business indicators.

7. Some improvements will depend on policies at the Federal Government (FG) level. Making tax payments and trading across borders generally depend heavily on policies set at the national level. The number of tax payments for the stylized firm under consideration in Doing Business is 59 in Nigeria, compared to 25 for the median economy, and the compliance burden in terms of number of hours is also more than four times the median. Similarly, the time and cost required to both export and import are high for both documentary compliance and border compliance, ranging from two to five times the figures for the median economy. These indicators suggest there is ample scope for improving processes at the national level.

8. The FG is putting together an ambitious strategy as part of its Economic Recovery and Growth Plan (ERGP) to improve the business environment. It has set the goal of reaching 100th in the Doing Business rankings by 2020, and to that end has formed the Presidential Enabling Business Environment Council (PEBEC), chaired by the Vice President. The PEBEC includes senior

[6] See http://www.doingbusiness.org/reforms/overview/economy/nigeria.

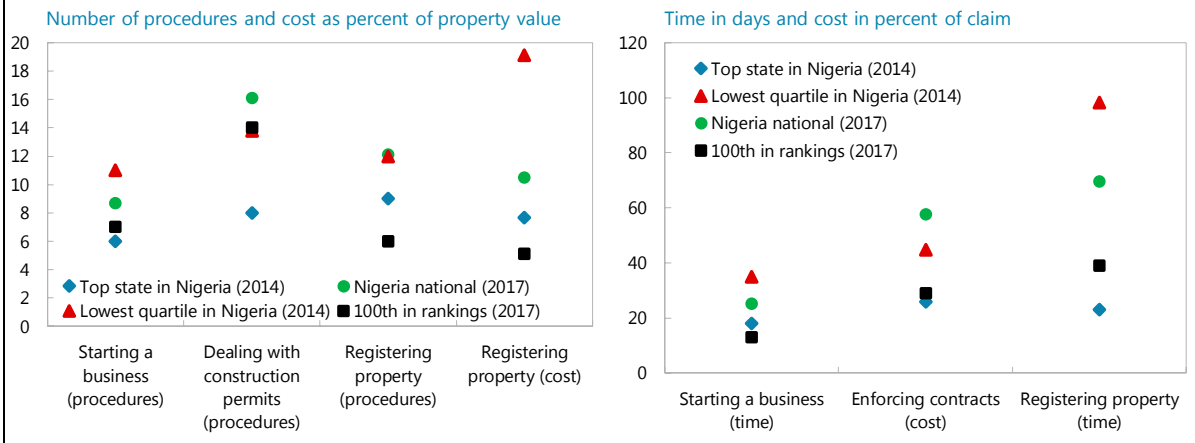
representatives from ministries involved in facilitating doing business, and is mandated to identify and oversee the implementation of reforms in this area. Furthermore, it will, with the help of a secretariat of staff from across ministries, conduct regular engagement with state governments to coordinate reforms.

9. A number of reform initiatives are already underway. Specific goals for 2017 set out in the ERGP involve improving port efficiency; streamlining administrative procedures for the entry and exit of people and goods, including through creation of a single customs window; simplifying, clarifying, and automating processes for starting, formalizing, and operating businesses; and simplifying government procurement processes. The FG also plans to pursue a strategy of stimulating industrial activity through targeted Special Economic Zones, which would enjoy dedicated road, water, power, and technological infrastructure to support productivity.

10. State and local governments (SLGs) can also play a key role in strengthening the business environment. As noted above, while several indicators in the overall Doing Business rankings are driven by policies at the national level, others are a weighted average of conditions prevailing in Lagos and Kano. This obscures substantial heterogeneity in the business environment across states, as found in a subnational Doing Business study in 2014.[7] Figure 6 plots a selection of indicators that depend more heavily on SLG policies, showing outcomes for the best state and lowest quartile state in Nigeria in 2014, compared with the 100th place economy and Nigeria's national indicator in 2017. The figure illustrates the wide range of practices across states—some follow practices more conducive to doing business than in Lagos and Kano while other states have less favorable practices. It is noteworthy that in four of the seven indicators surveyed, the best practice within Nigeria would already be enough, if adopted at the national level, to rank the country 100th place or better. In the other three indicators, adopting existing best practices across all states would still represent a substantial upgrade. This underscores the potential improvements to Nigeria's business environment through more widespread adoption of practices already in place in the most business-friendly states.

[7] See *Doing Business in Nigeria 2014*, http://www.doingbusiness.org/Reports/Subnational-Reports/Nigeria.

Figure 6. Nigeria: Subnational Doing Business Indicators



Sources: World Bank Doing Business indicators; and IMF staff calculations.

C. Impact of Reforms on Job Creation

11. Cross-country evidence suggests that a better business environment can improve job creation. Melina (2016) examines the elasticity of employment to output across 70 countries, and finds that for countries with a stronger business environment, the employment intensity of growth is significantly higher.[8] Applying these results to Nigeria, with other large Sub-Saharan African countries serving as a benchmark for reforms, suggests that reforms over the medium term to strengthen the business environment could raise the elasticity of employment growth to GDP growth to 0.69, from its historical level of 0.43 (Table 1).

Table 1. Nigeria: Business Environment Reforms and Growth-Employment Elasticity

(A)	Historical employment-growth elasticity	0.43
	Freedom in business regulations[1]	
(B)	Nigeria	4.71
(C)	Other large Sub-Saharan African	6.23
(D)	Nigeria gap (C) minus (B)	1.52
(E)	Cross-country impact of business regulations on elasticity (one point improvement)	0.17
(F)	Employment-growth elasticity with reforms (A) plus (D) times (E)	0.69

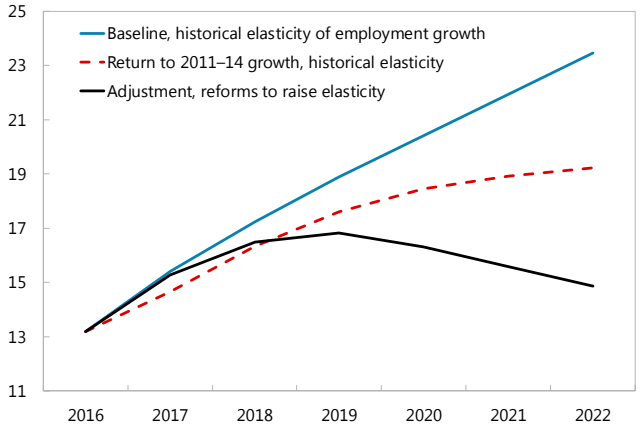
Sources: Melina (2016); Economic Freedom of the World, 2016; and IMF staff calculations.

[1] Scale of 0 to 10, with higher being more freedom.

[8] Melina, Giovanni, 2016, "Enhancing the Responsiveness of Employment to Growth in Namibia," in *Namibia: Selected Issues*, IMF Country Report No. 16/374.

12. Reducing unemployment in Nigeria will require both higher growth and reforms to strengthen the business environment. Applying the historical elasticity of employment growth to staff's baseline forecast for real GDP growth, the unemployment rate would increase from its current 13 percent to over 20 percent by 2020 (Figure 7).[9] Higher economic growth alone, such as that experienced during the recent oil price boom, would not be enough to keep unemployment from rising. Under a scenario in which the economy gradually returns to its average growth rate from 2011–14, and the historical elasticity of employment growth persists, the unemployment rate would still increase substantially over the medium term. However, under a scenario in which growth follows the path set out in staff's adjustment scenario, accompanied by reforms sufficient to reach the higher employment-GDP growth elasticity calculated above, unemployment would be placed on a downward path once the economy recovers from the current downturn. These scenarios illustrate the critical importance of reforms to Nigeria's business environment for attaining job-intensive growth

Figure 7. Nigeria: Unemployment Rate Scenarios
(in percent)



Sources: National Bureau of Statistics; and IMF staff calculations.

[9] Each of these scenarios uses United Nations projections for the working-age population, and assumes that labor force participation remains at its 2016 share of the working-age population.

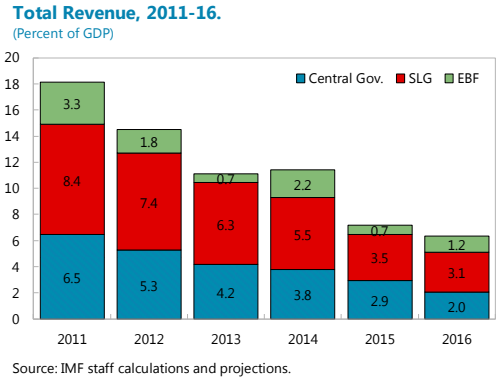
SUBNATIONAL GOVERNMENTS: VULNERABILITIES AND CHALLENGES[1]

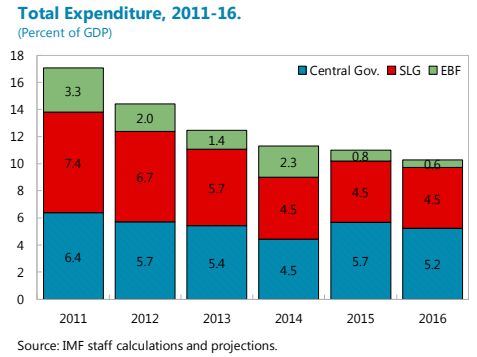
This chapter reviews subnational fiscal performance and vulnerabilities[2], discusses policy initiatives taken by the government, and explores options to improve the subnational fiscal framework to cope with future shocks. It documents the heavy dependence on oil receipts; mounting debt and financing pressures; and the fast buildup of arrears. Going forward, bold reforms and revenue diversification will be essential.

A. Fiscal Federalism arrangements

1. Nigerian fiscal federalism[3] is based on a constitutional revenue-sharing mechanism to support expenditure-devolution assignments. Oil and non-oil revenues are pooled in and shared from the Federation Account (FAAC allocation) according to allocation formulas. These formulas are set by the National Assembly, and can be updated every five years following the recommendations of the Revenue Mobilization Allocation and Fiscal Commission (RMAFC). With the recent decline in oil revenues, from lower oil prices and production disruptions, SLGs' public finances have come under severe strain and potential contingent liabilities for the federation are substantial. The implications are significant, as SLGs account for about half of the Consolidated Government, both in terms of revenue and expenditure (Figure 1).

Figure 1. Nigeria: Revenue and Expenditure Trends, 2011–16





Note: Central gov.: Federal Government; SLG: State and Local Governments; and EBF: Extra-Budgetary Funds.

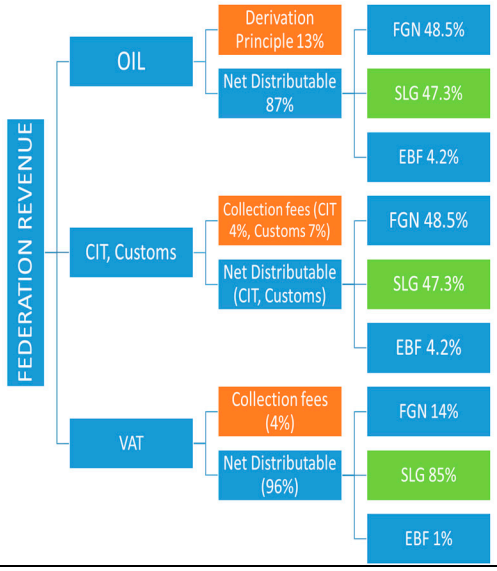
[1] Prepared by Sampawende Jules Tapsoba and Marwa Ibrahim.

[2] We focus on 2011-16, with 2016 data based on all IMF estimates.

[3] The Federation comprises a Federal Government (FG), 36 states, and 774 local authorities, labelled States and Local Governments (SLGs). The Constitution allocates responsibilities for public service delivery across different levels of government, with expenditure assignments supported by revenue-sharing agreements. Some of the federation's responsibilities are carried through extra-budgetary funds (EBFs).

2. Sharing formulas vary according to the type of resources collected (Figure 2). For oil receipts, the revenue-sharing is done at the agreed budgeted oil price set through negotiations between the Executive and Legislative branches. Depending on the realization of the oil price, the windfall (shortfall) is transferred (withdrawn) to (from) the Excess Crude Account (ECA), a stabilization fund. The Constitution mandates (a derivation principle) that no less than 13 percent of the oil revenue is to be allocated to the states endowed with oil.[4] The remaining 87 percent is allocated among the FG (48.5 percent), EBFs (4.2 percent), and SLGs (47.3 percent). For the subnational component, the revenue-sharing mechanism allows for 40 percent of allocations to be distributed equally among the states and the remaining 60 percent to be allocated according to equity considerations (population, land mass, internal revenue generation, school enrollment, hospital beds, and rainfall). Corporate Income Tax (CIT) and Customs fees follow a similar sharing principle, with collection fees (7 percent for Customs fees and 4 percent for CIT) deducted before distributions. Value Added Tax (VAT) is allocated 85 percent to SLGs, 14 percent to the FG, and 1 percent to EBFs. Besides these statutory allocations, SLGs can impose specific taxes (Internally Generated Revenue (IGR))—so far, these include property taxes, Pay-As-You-Earn (PAYE), direct assessment, and road taxes.

Figure 2. Nigeria: Sharing Mechanisms of the Federation Revenue



3. SLGs are constitutionally responsible for financing basic public services. The constitution sets an exclusive list for the FG (including national interest, defense, international affairs, elections, roads and railways), a joint list for the FG and the states (including electricity, industry, commerce and agriculture, research, statistics, higher education, health, and social welfare), a joint

[4] For other FAAC revenues (CIT and customs) a collection fees are deducted before the FAAC and transferred to revenue and customs authorities.

list for SLGs (including primary, adult, and vocational education, health care, agricultural, and non-mineral natural resources), and an exclusive list for local governments (roads, streets, public facilities, sewage).

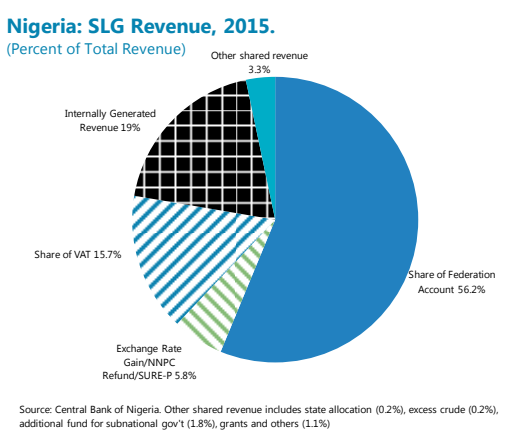
B. Recent fiscal performance

4. SLGs are heavily dependent on statutory allocations, mostly oil revenue. In 2015, more than half of the distributable revenues went to SLGs (Figure 3a). In the distributable part, oil receipts remain the largest source of financing of SLGs—averaging about 66 percent of total revenue during 2011-13, before the collapse in oil price in 2014. SLGs' revenue-to-GDP ratio fell from 8.6 percent in 2011 to 2.7 percent in 2016, primarily from lower oil revenue that dropped by 5 percentage points following the large decline in oil price and production (Figure 3b). Accordingly, the share of oil revenue declined significantly from 70 percent in 2011 to 26 percent in 2016, while non-oil revenue (excluding IGR) proved relatively resilient at around 1.6 percent of GDP in 2016 (and represented 59.2 percent of total SLG revenue in 2016). IGR performance was stable, but unsatisfactory, remaining at 0.4 percent of GDP—except Lagos State, where IGR topped 60 percent of total revenue in 2016, IGR across states averaged about 20 percent of revenue in 2016.

5. With lower revenue, SLGs' expenditure adjusted (Figure 3c). SLG expenditures declined from 7.4 percent of GDP in 2011 to 4.5 percent of GDP in 2016, with the ratio of capital expenditure to total expenditure remaining broadly the same (about 41 percent). However, revenues fell more than proportionately to expenditures, and the SLGs' overall deficit widened to 1.7 percent of GDP in 2016 (from a surplus of 1.2 percent in 2011) (Figure 3d).

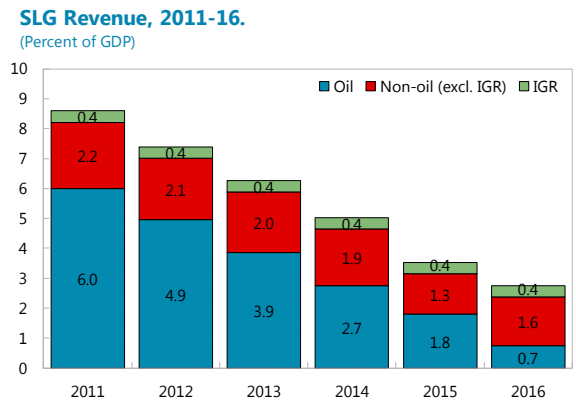
Figure 3. Nigeria: Stylized Facts on Subnational Revenue, Expenditure, and Deficits

(a)



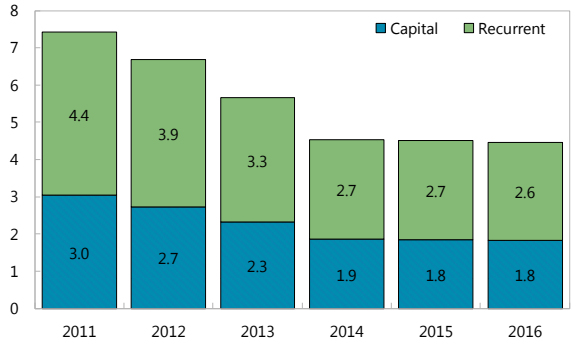
Source: Central Bank of Nigeria. Other shared revenue includes state allocation (0.2%), excess crude (0.2%), additional fund for subnational gov't (1.8%), grants and others (1.1%)

(b)



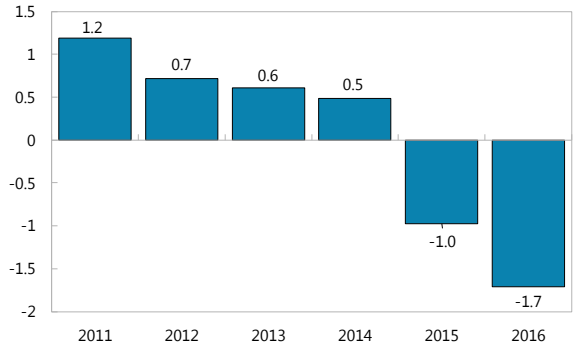
Source: IMF staff calculations and projections.

(c)



Source: IMF staff calculations and projections.

(d)



Source: IMF staff calculations and projections.

6. The fiscal deficits in 2015-16 increased SLGs' debt-to-GDP ratio by 3 percentage points, from 2 percent of GDP in 2011 to 5 percent of GDP in 2016 (Figure 4a). The increase is mostly attributed to:

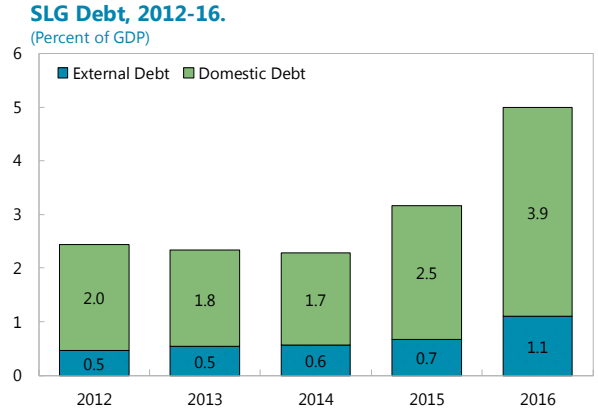
- *External debt (Figure 4a).* Over the 2011-15 period, external debt rose steadily, with the increase mostly associated with debts accrued by Lagos State, which makes up over 36 percent of SLG's total external debt.

- *Domestic debt (Figure 4b).* By 2015, domestic debt represented 75 percent of total SLG debt, mostly fueled by salary and pension arrears (10 percent), contractors' arrears (28 percent), commercial bank loans, and other liabilities. Financing pressures also pushed more SLGs to tap

the domestic bonds market (see Appendix B),[5] with about 15 states issuing bonds in the last five years. In 2015, seven states raised funds from the capital market, with a total face value of N61 billion, compared to N15 billion recorded in 2014 for Bauchi State only. Increased borrowing activities have led to wider divergence between gross and net federation revenues available to states, owing to rising debt servicing costs deducted from FG allocations through irreversible standing payment orders (ISPOs) and other service payments.

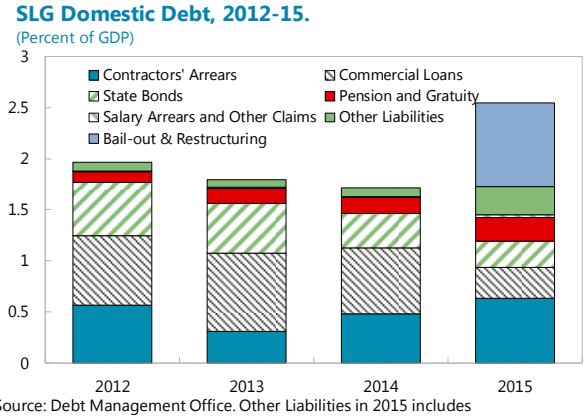
Figure 4. Nigeria: Stylized Facts on Subnational Debt Trends and Composition

(a)



Source: Debt Management Office.

(b)



Source: Debt Management Office. Other Liabilities in 2015 includes CBN Commercial Agriculture Loan & ECA backed loan.

7. To ease financing pressures, the FG provided bailouts and restructuring facilities. In 2015, the FG addressed salary arrears of SLGs through a partial bailout and facilitated the restructuring (longer maturities and lower rates) of N576 billion in commercial bank loans to 23 states (about ½ percent of GDP). The FG provided a further ½ percent of GDP financial assistance plan for 2016-17, conditional on states providing a plan for implementing a comprehensive 22-point Fiscal Sustainability Program (see below). Further contingent liabilities from SLGs could be substantial, but have not all been quantified.

C. Subnational Challenges

The vulnerabilities highlighted above reflect the immediate effect of the oil shock, but also the consequences of macro-fiscal and structural challenges.

[5] Options available to SLGs for domestic borrowing are threefold: (i) domestic on-lending from the FG (or loans guaranteed by the FG); (ii) borrowing from the capital market; and (iii) borrowing from commercial banks.

Macro-fiscal challenges

8. The fiscal federalism framework—and its dependence on oil revenue and economic activity—does not provide enough incentives to improve spending efficiency and discipline. Formula-based transfers of oil revenues depend on the budgeted oil price, which is not rooted in legislation and does not necessarily allow for macroeconomic stabilization. This helps augment SLGs' spending envelopes in good times, reducing incentives to exert expenditure control or raise independent revenue. Moreover, guaranteed transfers to SLGs raise questions on the quality of expenditure and governance. Revenue-sharing formulas do not account for expenditure capacity. For example, an increase in VAT rates would result in higher revenue for SLGs, potentially leading to inefficient expenditure, particularly in the absence of strong governance structures.

9. Under the current fiscal framework, IGR collection is intrinsically low (Figures 5a and 5b). In 2015, IGR represented on average about 19 percent of total revenue (Figure 5a). This is mostly explained by the lack of collection capacity, the importance of a rural-based economy, and limited subnational incentives to improve IGR performance. So far, the PAYE outturn has been the main source of revenue of SLGs (Figure 5a), with the best outturns concentrated in a few rich and urban centers. For instance, in 2015, Lagos bucked the trend and recorded an IGR share of recurrent revenue over 50 percent, while 23 states performed below the sub-national average of 12 percent (Figure 5b).

10. Budget execution at the SLGs level is weak, with capital projects being adjusted according to available financing. Budget implementation has been consistently below 80 percent (Figure 5c). As for the FG, the implementation of the budget at the SLGs level is skewed towards recurrent spending, particularly spending on salaries and wages, and overheads. The average budget implementation performance for the 36 states shows that actual recurrent spending has remained high compared to capital spending. Between 2010 and 2013, budget implementation for recurrent spending across the 36 states averaged nearly 100 percent, compared to 58 percent for capital spending.

11. Idiosyncratic risk pooling is absent in the current framework. In theory, an optimal federal tax and transfer scheme should have the benefit of diversification. In the face of idiosyncratic economic fluctuations across different regions, stabilization should be achieved in a Federal system through interstate transfers. In other words, spending at the SLGs levels should be disconnected from the revenue collected if risks are perfectly pooled. For Nigeria, we estimate the relationship between various categories of expenditure and both shared and independent revenues over 2011-15 and find no evidence of risk pooling among subnational governments. Expenditure is heavily determined by all revenues and in particular by independently collected revenues (Table 1). With limited borrowing capacity and little effort in mobilizing internally generated revenue, many SLGs rely almost entirely on allocated revenues to finance their budgets.

12. Poor policy coordination among all tiers of government hinders the adjustment to shocks. Fiscal federalism in Nigeria has not been accompanied by strong inter-governmental coordination, amplifying the effects of fiscal shocks. For example, the recent large shock to oil

revenue resulted in lower distributable revenues leading to adjustments across different tiers of government. Without effective coordinating mechanisms, these adjustments might lead to duplication or lack of provision of certain services or types of expenditure (capital investment) with adverse macroeconomic impacts.

Table 1. Nigeria: Extent of Risk-Sharing Among SLGs, 2011–15

	(1)	(2)	(3)
VARIABLES	Total Revenue	FAAC Allocation	IGR
Total Expenditure	0.843***	0.852***	1.188***
	(0.084)	(0.096)	(0.287)
Capital Expenditure	0.517***	0.495***	0.923***
	(0.078)	(0.088)	(0.241)
Recurrent Expenditure	0.335***	0.366***	0.280
	(0.070)	(0.077)	(0.215)

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Structural challenges

13. Disparities across states are not fully addressed. The Nigerian Federal system endows SLGs with considerable political and fiscal autonomy. Regional socioeconomic differences, in turn, have left SLGs with different needs and fiscal capacities (Figure 5d). In addition, the revenue-sharing formulas are not based on a definition of a minimum set of public services per capita, irrespective of the state of residence. This limits the ability of the current fiscal framework to address large disparities across states (for example, most of the North Eastern States have substantially higher than average absolute poverty rates). A large variation in allocation of revenue across states is observed both in terms of revenues (distributable and internally generated) and expenditures (Figures 5e and 5f).

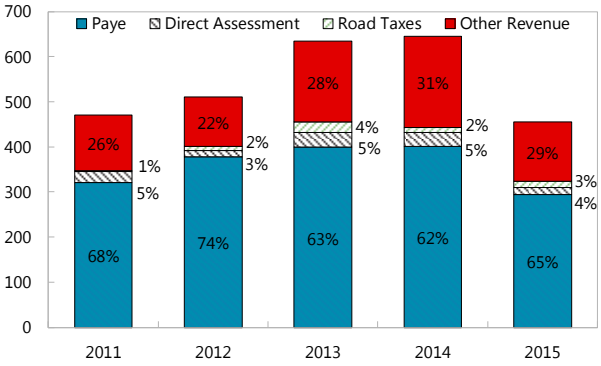
14. Data weaknesses prevent a reliable fiscal assessment of SLGs. Only limited statistical information is available for the SLGs posing challenges for macro-policy formulation. For instance, in 2015, only 10 states have disclosed information on an approved budget and no state has published an actual outturn report. Currently, only limited statistical information is available for the SLGs, posing challenges for macro-policy formulation and reliable fiscal assessment of SLGs

Figure 5. Nigeria: Subnational Internally Generated Revenue, Budget Implementation, and Regional Disparities

(a)

SLG IGR Composition, 2011-15.

(Naira billion; Shares in percent)

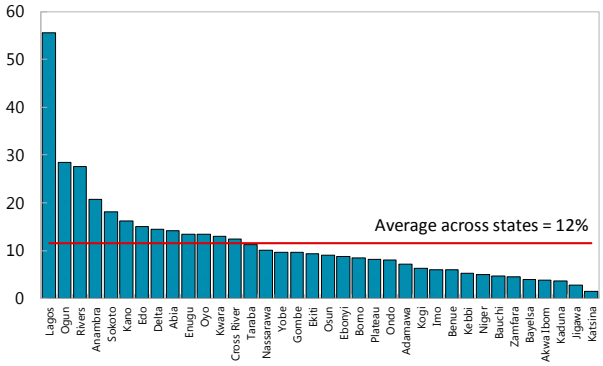


Source: Governors' Forum Data.

(b)

Ratio of IGR to SLG Revenue, 2014.

(Percent)

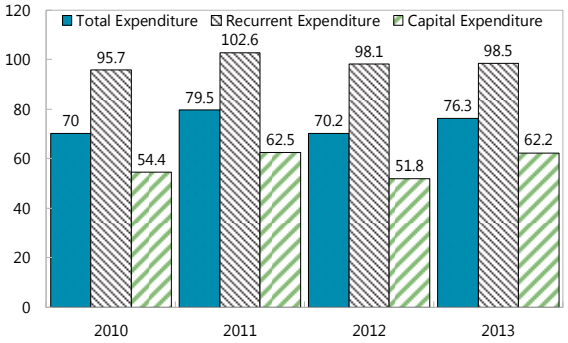


Source: IMF staff calculations.

(c)

Budget Implementation of States: Approved vs. Actual

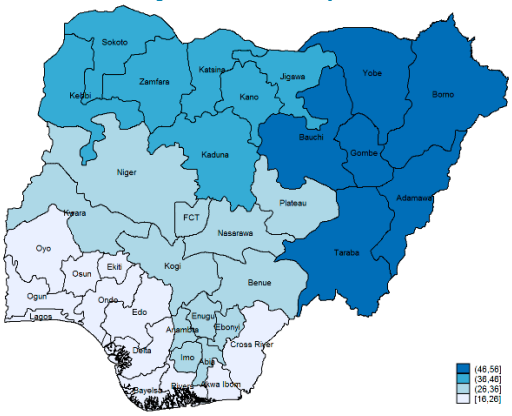
(Percent)



Source: Governors' Forum Data.

(d)

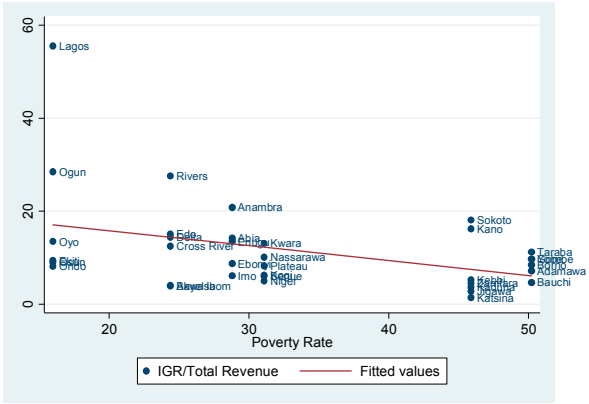
National Poverty Rate 33% of Population, 2014.



(e)

SLGs' Poverty Rate and IGR, 2014.

(Percent)

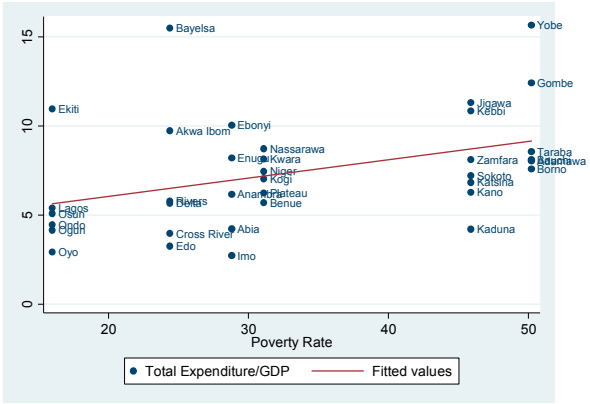


Source: IMF staff calculations.

(f)

SLGs' Poverty Rate and Total Expenditure, 2014.

(Percent of GDP)



Source: IMF staff calculations.

D. Options and Strategies to Cope with Future Shocks

Homegrown Actions

15. Nigeria has developed a homegrown plan to strengthen fiscal discipline and the accountability framework of SLGs. In 2016, the FG launched a contract-based 22-point plan (Fiscal Sustainability Plan—FSP) to help ease SLGs' financial strains. Access to the facility is conditional on States submitting an action plan for implementing the FSP's objectives to rationalize public expenditure, increase government revenue, improve accountability and transparency, debt management, and the overall public financial management system. The FSP is a positive step towards reducing SLG vulnerabilities that should be implemented by all states. However, while the 2015-17 restructuring and bailouts may have provided relief to SLGs, they also entailed significant moral hazard risks.

16. A contractual system—as is the case with the FSP—could help enforce the coordination between the FG and SLGs. Contracts (fiscal programs) have helped achieve subnational fiscal consolidation and facilitate fiscal coordination in several federations (*e.g.,* Brazil, Spain). The contracts create an institutional framework that ensures fiscal targets covering the entire federation public sector can be met. In practice, they enable the FG to supervise subnational fiscal policies while working together with state governments in: (i) the definition of fiscal programs, including primary surplus and revenue targets, (ii) limits on spending (*e.g.,* wages, investment) and (iii) debt issuances, and ensuring minimum reporting of budget execution and debt levels. Usually, the contracts stipulate numerical limits, annual fiscal targets, and sanctions in case of noncompliance. A key challenge, however, relates to implementation.

17. In line with actions already initiated by the authorities and within constitutional guidelines, Nigeria's fiscal framework at the SLGs level could be strengthened through: efforts to depoliticize the oil price, increase non-oil revenues, and strengthen coordination and transparency—including through improved monitoring, better reporting, strengthened public financial management, and capacity building.

Depoliticizing Oil Prices

18. Depoliticizing the budget oil price is key to help build comfortable buffers. As discussed above, the budgeted oil price is highly volatile and subject to political negotiation. As a result, SLGs are left with limited buffers during adverse shocks as evidenced during this ongoing downturn. In previous work, Staff showed that a price rule could limit the effect of oil price volatility and political tension on the benchmark.[7] A budget rule using a combination of the past 5-year average oil price, the current year oil price, and forward-looking 5-year average oil-price, together with a structural primary surplus target in percent of non-oil GDP (to be tailored at the time of

[7] 2016 Selected Issues Paper "Options and Strategies for a Fiscal Rule for Nigeria's Oil Wealth Management".

adoption), is one option (subject to pre-announced exceptions) that could provide a basis for long-term sustainability and the preservation of oil wealth. .

Increasing Non-Oil Revenues

19. Comprehensive tax policy reforms are necessary to ease SLGs' fiscal strains. With 85 percent of VAT receipts allocated to SLGs, reforming the VAT system and raising its rate could provide sufficient resources to fulfill subnational spending mandates. Reforming the VAT system to broaden the base (allow tax credits for all inputs including capital goods, increase the registration threshold with a simplified presumptive tax regime for SMEs, and rationalize exemptions) and progressively increasing the VAT rate from 5 to 15 percent over the medium term—will increase non-oil revenues by at least 4 percent of GDP for SLGs in the medium term. In a similar vein, reforms to Personal Income Tax (PIT) and Corporate Income Tax (CIT) (including a review of the existing rate structure, rationalizing tax expenditures, reviewing incentives, and phasing out income tax holidays) would help reduce the reliance on oil revenue since close to half of the collected revenue falls to SLGs.

20. Encouraging the collection of independent revenue is essential to diversify SLGs' finances. According to the constitution, tax revenue sources assigned to SLGs are limited. However, reforming the income tax (PAYE) and introducing a property tax could help augment internally generated revenue of states, by about 0.5 percent of GDP. Improving tax administration is also essential. For instance, states' ability to achieve development goals can be buttressed by strengthening capacity of the Joint Tax Board (JTB) to disseminate best practices and enabling systems; establish and enforce minimum standards; and monitor the quality of state PIT administration.[8]

Strengthening Coordination Mechanism

21. Looking forward, it will be important to further develop coordination mechanisms across different tiers of government. In Federal economies, coordination across tiers of government is critical for successful (durable) fiscal consolidation. It will be important to start discussions on a coordination mechanism that will ensure a coherence of fiscal objectives, help fiscal management over the business cycle, and further strengthen policy credibility. For instance, using medium-term targets for debt (e.g., commitment to achieve a certain level of debt-to-GDP over the next 4-5 years) would give a stronger signal regarding the long-term commitment to fiscal sustainability, while providing annual flexibility. Under the medium-term target, the annual target could be changed in response to large unexpected shocks, while maintaining the commitment to

[8] The Joint Tax Board meets on a quarterly basis to appraise the performance of its members (including the Internal Revenue Boards of the 36 states and the Federal Inland Revenue Service) and to deliberate on tax issues of national importance.

medium-term targets. This would operationalize the government's commitment to contain subnational fiscal imbalances.

22. The fiscal responsibility law (FRL) should be adapted to SLGs. Despite the passage of the FRL[9] at the Federal level and across some states, fiscal sustainability has remained weak for most sub-national governments. States are at different levels of adopting a Fiscal Responsibility Law. For some, the law has been passed but not implemented yet. Others require additional consensus building efforts to ensure the support of local stakeholders. An FRL, in addition to the Public Procurement Act, is essential for providing the required rules and procedures relating to three important budget processes: accountability, transparency, and stability. It is thus important to introduce an enforcement mechanism of the FRL through an effective and periodic comparative analysis of budgeting procedures at the sub-national level. Further, peer reviews can be used effectively for learning and monitoring of outcomes and compliance.

Improving Transparency

23. Improving the quality, coverage, and timeliness of fiscal reports. To help provide the full picture of public spending and facilitate fiscal coordination between Federal and sub-national levels, the fiscal reports should capture all off-budget revenues and spending and consolidate general government revenue, expenditure, and financing. The authorities have already made plans to implement international accounting standards to produce consolidated fiscal reports covering all three tiers of government.

Strengthening Public Financial Management

24. Extending a Treasury Single Account (TSA) to States along the lines implemented by the FG could help improve expenditure controls. TSA implementation requires careful phasing, taking into account the specifics of individual States. There should be a comprehensive plan, describing all stages of implementation and the required changes to be made to the existing financial regulations, IT-based financial management information systems (FMIS), and accounting arrangements or procedures. In that regard, the *Kaduna State TSA Implementation Manual (2016)* can serve as a useful guide. Also, it is important to develop cash flow forecasting and management tools to leverage the benefits of TSA implementation.

[9] In Nigeria, a procedural FRL was enacted in 2007. The objective is to provide for prudent fiscal management by ensuring long-term macro-economic stability, and by securing greater accountability and transparency in fiscal operations within a medium-term fiscal policy framework. The FRL recommends the creation of an independent fiscal responsibility commission, consisting of representatives (appointed for a single term of 5 years) of the private sector, Civil Society, Federal Ministry of Finance, and members of the six geopolitical zones (North-Central, North-East, North-West, South-East, South-West and South-South). The Commission has the power to monitor progress in meeting the FRL objectives, as well as disseminate practices for greater efficiency and transparency in public financial management (expenditure execution, revenue collection, and debt control).

Capacity Building

25. Building capacity at the SLG level will be key to support the adequate implementation of the proposed measures. This includes capacity in undertaking long-term revenue forecasts, establishing a medium-term orientation of the budget, implementing quality public investment projects, and managing stabilization funds. More specifically, in the near term, SLGs need to strengthen budget preparation process to transition from the incremental line item approach towards a programmatic approach. This will help facilitate policy costing and more effective setting of expenditure ceilings. Moreover, there is a need to capture all committed (multiannual) liabilities in the fiscal framework. It will help identify forward spending pressures (particularly from the existing capital projects contracts) and available fiscal space for new spending initiatives.

E. Conclusion

26. The recent oil shock brought to the fore vulnerabilities of subnational governments. As oil prices collapsed and economic activity weakened, SLG deficits widened, increasing recourse to debt while adjustment was insufficient. To address these vulnerabilities and structural challenges present in the current framework, strong and bold reforms are needed. Some of these have been initiated through the government's FSP. Additional reforms would include: depoliticizing the budgeted oil price, initiating comprehensive tax policy reforms, better reporting of fiscal outcomes and risks, and stronger coordination between the different levels of government. Finally, capacity building at the SLGs level is key.

Appendix I. Data, Bond Issuance by States, and Fiscal Sustainability Plan

Data

This section sheds some light on the public finance of the state governments by utilizing data from Central Bank of Nigeria's survey returns from 36 states.

Source	Description
Central Bank of Nigeria	CBN annual reports published on CBN website with appendix tables on FG and SLGS revenue, expenditure and financing.
Debt Management Office	States' Domestic Debt Data published on DMO website with breakdown of FG and SLGS external and domestic debt composition.
Governors' Forum Data	…

Bond Issuance by States

Table: Subnational Bond Issuances (NGN' Billion), 2011 – 2015

2011		2012		2013		2014		2015	
State	Bond Value	State	Bond Value	State	Bond Value	State	Bond Value	State	Bond Value
Benue	13	Ondo	27	Ekiti	5	Bauchi	15	Gombe	5
Niger	9	Gombe	20	Kogi	5			Kogi	3
Delta	50	Lagos	80	Nasarawa	5			Oyo	4.8
Ekiti	20	Osun	30	Niger	12			Benue	4.95
				Lagos	87.5			Plateau	28.2
				Osun	11.4			Zamfara	7
								Cross River	8
Total	92		157		125.9		15		60.95
Data Source: Securities and Exchange Commission (2016)									

Fiscal Sustainability Plan

Objective 1: Improve Accountability and Transparency			
1	Publish audited annual financial statements within 6 months of financial year end.	State Government	Dec 2016
2	Introduction and compliance with the International Public Sector Accounting Standards (IPSAS)	State Government	Ongoing
3	Publish State budget online annually	State Government	Mar 2017
4	Publish budget implementation performance report online quarterly	State Government	Mar 2017
5	Develop standard IPSAS compliant software to	Federal Government	Dec 2016

	be offered to states for use by State and Local Governments		
Objective 2: Increase Public Revenue			
6	Set realistic and achievable targets to improve independently generated revenue (from all revenue generating activities of the State in addition to tax collection) and ratio of capital to recurrent expenditure.	State Government	Sep 2016
7	Implement a centralized Treasury Single Account (TSA) in each State	State Government	Dec 2016
8a	Quarterly financial reconciliation meetings between Federal and State Governments to cover VAT, PAYE remittances, refunds on Government projects, Paris Club and other accounts.	State/Federal Government	Sep 2016
8b	Share the database of companies within each State with the Federal Inland Revenue Service (FIRS). The objective is to improve VAT and PAYE collection.	State/Federal Government	July 2016
9	Introduce a system to allow for the immediate issue of VAT/WHT certificates on payment of invoices.	State/Federal Government	July 2016
10	Review all revenue related laws and update of obsolete rates/tariffs	Local/State/Federal Government	Mar 2017
Objective 3: Rationalize Public Expenditure			
11a	Set limits on personnel expenditure as a share of total budgeted expenditure	State Government	Dec 2016
11b	Biometric capture of all States' civil servants will be carried out to eliminate payroll fraud	State Government	Dec 2016
12a	Establishment of Efficiency unit	State Government	Dec 2016
12b	Federal Government online price guide to be made available for use by States	State/Federal Government	Dec 2016
13	Introduce a system of continuous audit (internal audit)	State/Federal Government	Dec 2016
Objective 4: Improve Public Financial Management			
14	Create a fixed asset and liability register	State/Federal Government	Jun 2017
15	Consider privatization or concession of suitable state owned enterprises to improve efficiency and management	State Government	Ongoing
16	Establish a Capital Development Fund to ring-fence capital receipts and adopt accounting policies to ensure that capital receipts are strictly applied to capital projects	State Government	Dec 2016
17	Domestication of the Fiscal Responsibility Act (FRA).	State Government	Jun 2017
Objective 5: Sustainable Debt Management			
18	Attainment and maintenance of a credit rating by each State of the Federation	State Government	Dec 2017
19a	Federal Government to encourage States to access funds from the capital markets for bankable projects through the issuance of fast-	State/Federal Government (SEC/DMO)	Dec 2016

	track Municipal bond guidelines to support smaller issuances and shorter tenures		
19b	Full compliance with the FRA and reporting obligations, including: No commercial bank loans to be undertaken by States; Routine submission of updated debt profile report to the DMO		
20	Publish a benchmark rate for Municipal loans to achieve greater transparency	CBN	Sep 2016
21	Ensure total liabilities do not exceed 250% of total revenue for preceding year	State/Federal Government	Continuous
	Monthly debt service deduction is not to exceed 40% of the average FAAC allocation for the preceding 12 months		
22	In addition to the sinking fund, States are encouraged to establish a consolidated Debt Service Account to be funded from the State's Consolidated Revenue Fund Account to a minimum of 5% of the IGR.	State Government	Continuous
Source: Governors' Forum Secretariat.			

References

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