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SELECTED ISSUES

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Approved By
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MOBILIZING TAX REVENUES IN NIGERIA

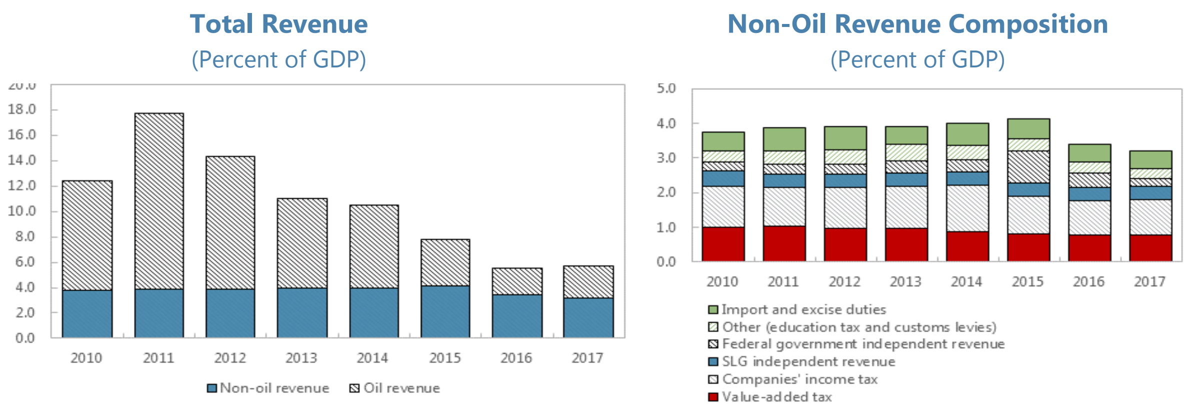
A. Options for Revenue Mobilization in Nigeria[1]

Low non-oil revenue mobilization is affecting the government's objectives to expand growth-enhancing expenditure priorities, foster higher growth and employment, and comply with its fiscal rule which limits the federal government deficit to no more than 3 percent of GDP. There is significant revenue potential from structural tax measures. A broad-based and comprehensive tax reform program is needed in the short and medium term to address these objectives and generate sustainable revenue growth by broadening the bases of income and consumption taxes, closing loopholes and leakage created by corporate tax holidays and the widespread use of other associated tax expenditures, as well as creating incentives for the sub-national tiers of government to raise their own source revenues.

B. Current Tax Effort

1. **Relative to peers, Nigeria has one of the lowest revenue-to-GDP ratios**. Between 2011 and 2017, a sharp decline in oil revenues led to consolidated government revenues falling from 17.7 percent to 5.1 percent of GDP (Figure 1). During this period, non-oil revenue stayed relatively stable at about 3 and 4 percent of GDP, although with an accelerating decline in 2016–17. In particular, the corporate income tax (CIT) decelerated by 0.1 percent of GDP and value added tax (VAT) by 0.2 percent of GDP relative to 2011. Comparing Nigeria's tax structure with those of a selected sample of advanced, emerging, and developing economies, none of its domestic tax collection showed a promising performance. Nigeria raised the least revenue of all comparators and at 5.3 percent of GDP in revenue in 2016 was significantly below the sample's 22 percent of GDP average (Figure 2). In most countries, excises alone raise 3.6 percent of GDP.

Figure 1. Revenue Trends and Composition



Source: IMF staff

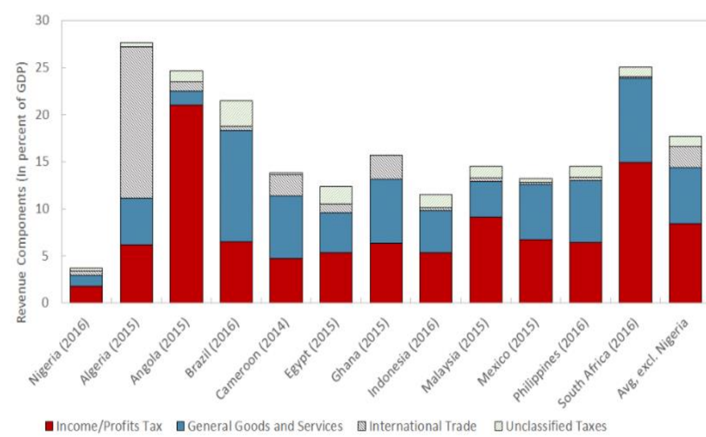
[1] Prepared by Oana Luca (FAD) with original inputs from Martin Grote, Irena Jankulov Suljagic, and Andrew Okello, and drawing on technical assistance provided by IMF's Fiscal Affairs Department.

2. Nigeria has a significantly higher revenue potential. Recent empirical work shows that internationally, there is a tipping point in the relationship between tax capacity and growth. A minimum tax-to-GDP ratio of 12 ¾ percent is associated with a significant acceleration in the process of growth and development, and likely with changes in social norms of behavior and state capacity (Gaspar at all, 2016). Taxation is not an end in itself, but an instrument for advancing citizens well-being as part of a well-functioning state.[2] Tax is a core part of state-building and constitutes a visible sign of the social contract between citizens and the state, enshrining the principle of revenue-for-service. Estimates of tax potential from the literature (Fenochietto 2013, IMF 2017b) suggest that a non-oil tax capacity of 16 to 18 percent would be optimal for a country with Nigeria's economic structure and per capita income levels. This estimate implies space for additional tax collection of 12 percent of GDP.

3. The authorities have made a key development objective raising the non-oil revenue to GDP ratio[3] to 15 percent by 2020. Both the ERGP published in March 2017, which seeks to keep the fiscal deficit within the boundary established by the Fiscal Responsibility Act, and the draft 2018 Budget emphasize this revenue target. Increasing non-oil tax revenue would be realized through a series of tax administration initiatives (improving tax compliance, broadening the tax net, employing appropriate technology) combined with tax policy reforms (strengthening tax legislation, introduction of tax on luxury items, and other indirect taxes to capture a greater share of the informal economy).

Figure 2. Nigeria and Comparators: Revenue Mix and Performance, 2016 or most recent year

(Percent of GDP)



Source: WEO, except for Egypt (GFS), Malaysia, Mexico (OECD).

4. This chapter analyzes key features of the Nigerian tax system and administration, and suggests there is significant scope for broad-based and comprehensive policy and administration reforms. Achieving higher revenue performance depends heavily on building capacity in tax administration to gain control of the tax system, complemented by targeted tax policy reforms being implemented in parallel—as also demonstrated by the experience of countries that implemented

[2] Fjeldstad, O-H, 2011. According to Fjeldstad, South Africans were more likely to pay local service charges if they felt that the government was providing services equitably and using the revenue to provide services.

[3] The ERGP refers to this ratio as tax to GDP and compares it to a yield of 6 percent of GDP in 2016. In effect, in 2016, total revenue (which includes non-tax oil proceeds and other revenue) to GDP was 5.5 percent. The draft 2018 Budget provides more clarity by referring to non-oil revenue as a "more predictable and less volatile" source and stating that "in the medium term, efforts will be geared towards increasing the ratio of non-oil tax revenue to GDP from the current rate of 6 percent to 15 percent".

successful reforms over the past 15 years (Akitoby et al, 2018). Staff will argue that in the short term, the tax reform should include broader use of revenue-productive excises (such as alcohol, tobacco products, fossil fuels, and mobile phone air use), and placing a moratorium on new business tax holidays; followed by decisive steps to transition toward a broad-base consumption VAT at a higher rate, an all-embracing rationalization of expenditures, and a reform of personal income and property taxation in the medium term.

C. Tax Administration Reforms

5. The very low tax collection rates in Nigeria are a direct reflection of weaknesses in revenue administration systems and a high level of systemic noncompliance. Despite successful initiatives to bring in a significant number of new corporate and self-employed individuals (over 530,000 new corporate registrations were made during the first quarter of 2016—a 67 percent increase), these efforts have not delivered expected revenue. Of 1.5 million registered corporations, only 522,000 could be matched (as of May 2016) to any type of data available within the Federal Inland Revenue Service (FIRS), and only 77,000 filed VAT returns in 2016—suggesting an active taxpayers' population of only 5 percent. For CIT, the active taxpayers were 5.6 percent of the registered taxpayers, while for personal income tax (PIT) they were less than 2 percent (Table 1). Data on payment compliance is incomplete, but it is generally believed to vary between 15 and 40 percent for VAT.

Table 1. Nigeria: Registered Taxpayers (2016)

Type of tax	No. of registered taxpayers	No. of active taxpayers	Percent active (percent total)
PIT	761,057	14,823	1.95
CIT	1,003,010	56,329	5.62
VAT	1,505,831	77,082	5.12

Source: International Survey on Revenue Administration (ISORA)

6. Recent reform measures have sought to strengthen revenue collection at the federal level through information technology improvements and by expanding the number of registered taxpayers. FIRS has implemented technology initiatives such as online portals for assessment and payment of stamp duties (e-stamp) which has dramatically reduced the time to register a company, the processing of tax clearance certificates (e-TCC), and the automation of withholding tax remittances by MDAs. The Integrated Tax Administration System (ITAS) project had also been completed following its deployment in a majority of tax offices, although a major test for success remains that it also be actively used for compliance management FIRS has also continued to expand the taxpayer register, and has taken steps to create a specialized collection enforcement function and improve the integrity of the audit process. It also continued to improve staff capacity and infrastructure. Importantly, these measures are strengthening the foundation of tax administration, yet compliance levels across all levels of tax payments remain low. The strategy of relying on strengthened collection efforts and one-off initiatives (such as the Nigerian Voluntary Asset and Income Declaration

Scheme, VAIDS[4]) as a first level intervention may not be that effective in delivering higher revenues sustainably.

7. Additional revenue could be raised in the short term with tax and customs administration measures, including by:

- *Strengthening the Large Taxpayers Offices (LTOs)*. Organizationally, it will be important to protect the investments Nigeria has made in implementing taxpayer segmentation principles and allow the LTOs to focus exclusively on the administration of large tax payers.[5] Other measures include: (1) cleansing of taxpayer data in the LTO; (2) updating taxpayer ledgers in ITAS and deactivating dormant taxpayers; (3) strengthening audit and enforcement capacity by recruiting additional staff into the LTOs supported by a well-established mentoring program (thus relying less on external auditors doing audit work); and (4) by making full use of the recently—deployed ITAS to support the collection and audit functions. A comprehensive independent review of the ITAS system will be necessary to assure completeness of deployment, and identify major strengths and areas in need of improvement, including strategies for transitioning fully to the automated system.
- *Initiating large scale data analysis and cross matching[6] using the Taxpayer Identification Number (TIN) and the Unified Taxpayer Identification Number (UTIN) as part of a broader compliance management framework*. Data analysis and cross matching offers real potential for enhancing revenue, reducing both administrative and compliance costs, and strengthening the working relationship between the FIRS and the Nigerian Customs Service (NCS). Developing a repeatable data matching methodology for deployment, initially for a small group of data sets, will be needed. This should be supported by legislative, policy and procedural changes to support long term data acquisition and management. This would also require further capacity development, better coordination, and progressively increasing data capture and analysis, was well as integrating the results into information systems and operational process, in particular risk assessment.
- *Recovering tax arrears (such as, unremitted withholding of PAYE)*. The stock of arrears has grown significantly and as of mid-2017, it stood at N 1.4 trillion—N1.2 trillion of which were attributable to large taxpayers. Early wins could thus be made by targeting large and medium taxpayers for migration into ITAS, fully utilizing the debt management module, and implementing a well-resourced collection and enforcement compliance improvement plan to validate arrears,

[4] VAIDS is a time-limited initiative that allows taxpayers to regularize their tax status relating to the six previous years' tax assessment periods. In exchange for full declaration of previously undisclosed assets and income, taxpayers are forgiven overdue interest and penalties and receive assurance of immunity from criminal prosecution for tax offences and from tax investigations. Implemented by FIRS in collaboration with all States Internal Revenue Services (SIRS) including the FCT, the scheme commenced on July 1st, 2017 running for a nine-month period until March 31st, 2018. It is expected to generate up to US$1 billion in tax revenue. VAIDS covers all federal and state taxes, including companies' income tax, personal income tax, petroleum profits tax, capital gains tax, withholding tax, stamp duties, and tertiary education tax and technology tax (NITDA levy).

[5] Small and medium taxpayers, which under recent policy can choose to file with, and be administered by the LTOs, would be better served by other FIRS tax offices. ITAS presents opportunities to reduce compliance costs which is the justification for the current policy.

[6] Data matching is an organized approach for extracting, matching, and analyzing information relevant to the identification and selection of non-compliance and revenue risk.

institute collection measures, and enforce difficult debt, including debt owed by public agencies. Staff estimates that additional minimum revenue yields of N150 billion could be generated in 2018 only from these measures.

- *Improving filing and payment compliance*. In the short term, the focus would need to be on outreach initiatives for dormant registered taxpayers to motivate them to start filing and paying taxes and actively sending bulk reminders to taxpayers shortly before the filing dates. Data analysis and cross-matching can help identify taxpayers with active economic activities.
- *Improving integrity and putting in place appropriate management controls in customs.* Stakeholders report widespread "irregular practices and payments" that have a negative impact on revenue flows and investor confidence. Implementation of a comprehensive integrity strategy that is anchored in a strategic plan would help improve ease of doing business and improve revenue. At a minimum, these measures could yield N15 billion in additional revenue in 2018.

D. Reforming the VAT System

8. The VAT in Nigeria raises 0.9 percent of GDP in revenue, which is notably smaller than the 3.8 percent of GDP collected by ECOWAS peers. The VAT yield has stagnated at this level for more than a decade. By comparison, for the same period the average revenue collection was 3.6 percent of GDP for the group of emerging and developing economies, 4.4 percent of GDP for the group of lower-middle income countries, and 4 percent of GDP for the member states of the Southern Africa Development Community (SADC). The VAT rate of 5 percent is also very low compared to a regional average of 16.8 percent.

9. The Nigerian VAT does not have the features of a modern consumption tax. The current system disallows credit on capital goods and services, making it a gross product VAT (and de facto, a turnover tax) which penalizes investment and makes Nigerian manufacturing and related sectors uncompetitive relative to foreign suppliers of goods and services. The lack of a VAT registration threshold, coupled with a large informal sector, implies that the number of potential VAT taxpayers is very large—making it difficult for the tax authorities to monitor and control effectively. While hard data is not available, it has been suggested that filing compliance levels are between 15 to 40 percent. Importantly, the lack of a registration threshold in combination with limited input tax credits encourages taxpayers to continuously lobby for VAT exemptions.

10. Over time, extensive exemptions have substantially narrowed the VAT base. Exemptions now include commercial vehicles, all farming inputs including capital equipment, all medical and pharmaceutical products, some services, educational material, and basic food items. The many exemptions and the very low compliance rate have contributed to a low VAT revenue productivity[7] of 0.16 percent in Nigeria compared to averages of 0.4 percent in relevant comparators.

[7] The revenue productivity of a tax, or the yield of one point of the rate in percent of GDP defined as (actual revenues / (standard tax rate * GDP), is useful for making comparisons of tax-to-GDP ratios across countries. However, in Nigerian context this should be taken with caution due to a turnover nature of the tax.

11. A reform of the VAT in Nigeria would primarily aim to transform it into a system that generates revenue predictably and efficiently, and grows as its base (consumption expenditures) expands with economic development.[8] A modern VAT would embed features such as:

- *Allowing input tax credits for intermediary inputs and capital expenditures*. A proper VAT with a functioning input tax credit could neutralize business' motivation to lobby for direct and indirect tax preferences, portrayed as compensatory measures for the inability to offset input tax credits against output tax.
- *Introducing an annual turnover threshold (for example, of US$40,000) for VAT registration* so that only larger companies and persons that make supplies of goods and services are subject to VAT, and thus small and micro businesses are excluded.
- *Having a comprehensive base that includes in principle all goods and services, using only a few and well-targeted exemptions*[9]. The VAT is an ineffective mechanism for addressing concern about vertical equity (Cnossen 1982). Exemptions should only be provided for the public provision of non-commercial goods and services; and for technical reasons, when certain supplies are difficult to tax under a credit-invoice VAT and when the compliance and administrative burden associated with taxing small businesses does not justify the revenue raised. The experience of other countries has showed that streamlining exemptions could immediately and lastingly increase revenue—as for example in Uganda, where revenues went up by 1 percent of GDP after streamlining exemptions during 2013–14, or in Rwanda, whose tax-to-GDP ratio increased by 2.9 percent between 2010–14, in part due to revisions of the investment code in 2012 to reduce exemptions (IMF 2017).
- *Introducing a single positive rate consistent with revenue targets, with a zero rate on all exports.*[10] Depending on the revenue target, Nigeria could choose a single rate in the range of 10–15 percent—which would still be below ECOWAS average of 16.8 percent. Based on worldwide experience, a one percentage point increase in the VAT rate could raise on average 0.4 percent of GDP in VAT revenue. Depending on the final design of the system, a 5 (10) percent VAT rate could collect 2 (4) percent of GDP only if the compliance rate (currently at 25 percent) is significantly improved (Table 2).

[8] The VAT differs from excise taxes in that it does not change consumer behavior (relative prices should remain unchanged); from import duties in that it should not be used to support trade policy; and from income tax in that it cannot and should not be used to redistribute income or stimulate industry through investment incentives.

[9] Exempt supplies do not attract output tax but input tax paid making such supplies is also not creditable. This breaches VAT neutrality and distorts production decisions, as it provides an incentive for exempt local business to self-supply, integrate vertically, or purchase inputs from abroad. Such businesses may also be disadvantaged on the export markets as their supplies bear non-creditable input tax.

[10] Like exempt supplies, zero-rated supplies do not attract output VAT but unlike exempt supplies input tax paid on making such supplies is creditable.

Table 2. Nigeria: Potential VAT Revenues by Compliance Levels

VAT Rate	25%	30%	35%	40%	45%	50%	55%	60%	65%	70%
5%	0.8	1.0	1.2	1.3	1.5	1.7	1.9	2.0	2.2	2.4
6%	1.0	1.2	1.4	1.6	1.8	2.0	2.2	2.4	2.6	2.8
7%	1.2	1.4	1.6	1.9	2.1	2.4	2.6	2.8	3.1	3.3
8%	1.3	1.6	1.9	2.2	2.4	2.7	3.0	3.2	3.5	3.8
9%	1.5	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2
10%	1.7	2.0	2.4	2.7	3.0	3.4	3.7	4.0	4.4	4.7

Source: IMF Staff Calculations.

E. Excise Taxation

12. **Excises on alcohol, tobacco, fossil fuels, motoring and environmental degradation (such as littering and pollution) are among the most import pillars of tax revenue systems around the world**. Several considerations underpin the wide use of excise taxation: (a) excises on smoking, abusive drinking, and environmental degradation are imposed to internalize the external costs (physical, financial, psychological) that consumption of such products and activities impose on the society, in this way promoting an efficient allocation of resources; (b) excises on items of luxury consumption and airtime may be used to promote progressivity in taxation; (c) excises on motor fuel and motor vehicles can be rationalized as proxies for the cost of government-provided road services and the external costs (pollution, congestion) imposed on other people; and (d) the marginal cost of collecting excise duties is much lower than that of all other taxes, including the VAT.

13. **In Nigeria, excises yield little revenue and do not fulfil their role in internalizing the negative external costs of use or consumption**. At current levels, excises contribute less than 2.3 percent of total tax revenue or about 0.04 percent of GDP—a situation which contrasts sharply with comparator countries where excise duties contribute on average 12. 3 percent of total tax revenue (more than 5 times higher than Nigeria or 3.2 percent of GDP (Table 3). On a comparative basis, it should be possible therefore to triple or quadruple excise tax collections in Nigeria.

Table 3. Nigeria: Excise Collections (2016) and Selected Countries (2014)

Countries	Total Tax, as percent of GDP	Excise Duty Revenue, as percent of GDP	Excise Duty Revenue, as percent of Total Tax
Nigeria (non-oil)	4.1	0.1	2.3
Comparator countries			
Ghana	15.3	1.7	11.0
Kenya	19.5	2.9	14.9
South Africa	27.9	3.5	12.2
Commonwealth			
Australia	27.6	3.2	11.4
Canada	31.9	2.9	9.2
United Kingdom	32.5	2.4	7.3
Others			
United States	26.4	2.3	8.7
Turkey	30.0	6.4	22.4

Note: Following OECD, excises are defined as the *sum* of taxes on specific goods and services (5120) *plus* taxes on the use of goods and the performance of activities (5200) *plus* pollution levies, listed under other taxes (6000) *minus* customs and import duties (5123).

Source: Nigerian authorities; comparator countries - budget documents; Commonwealth and other countries - OECD, Revenue Statistics 1965-2014.

14. The excise taxation base in Nigeria is relatively narrow. The federal government taxes only tobacco products and alcoholic beverages, independent of alcohol content, at a rate of 20 percent (Table 4). Petroleum products are not taxed, while states tax motor vehicles. Other products, such as non-alcoholic beverages, fruit juice, and telephone recharge cards, had been subject to a 5 percent excise before their removal in 2009. Following the British tradition, Nigeria does not levy excise duties on imported excisable goods, but subsumes these in the import duty. The draft 2018 Budget presented by the authorities to the National Assembly in December 2017 incorporates revenue assumptions from increases in excises (implied on alcohol and tobacco).

Table 4. Nigeria: Excisable Goods, Excise and Duty Rates (Percent)

Duty or tax	Cigarettes	Beer	Wine	Spirits	Tax base
Importation					
Import duty (ID)	20%	Prohibited	20%	20%	CIF value
Levy	50%	N/A	50%	50%	CIF + ID
Port Development Surcharge	7%	N/A	7%	7%	CIF + ID
Comprehensive Import Supervision Scheme	1%	N/A	1%	1%	CIF + ID
Total effective duty at import	89.60%	N/A	89.60%	89.60%	CIF + ID
VAT	5%	N/A	5%	5%	
Total effective duty and tax on CIF value	94.10%	N/A	94.10%	94.10%	
Domestic					
Excise duty	20%	20%	20%	20%	Unit cost
VAT	5%	5%	5%	5%	Unit cost + Excise
Total effective duty on pre-tax value	26%	26%	26%	26%	

Note: It is assumed that the Port Development Surcharge and the Comprehensive Import Supervision Scheme are calculated, along with the Levy, on the CIF value of imports plus the import duty.
Source: Nigerian Customs Service

15. A reform of excise taxation in Nigeria would strengthen its revenue-raising efficiency and externality-correcting properties. Relevant measures would include:

- *Converting ad-valorem excises on alcohol and tobacco to specific (and higher) rates indexed for inflation to reflect the external costs of consumption and production*. In line with international practice, tobacco excises could be more than doubled in real terms, imposed at NGN 100/pack of cigarettes of 20 over a three-year period (with equivalent duty for other tobacco products). Alcohol excises could be linked to alcohol content (beer, wine, and spirits) and increased in value. For example, doubling the excise duty on beer would align it with the current Kenyan excise burden.
- *Recognizing the role of environmental charges in increasing resource efficiency and revenues*. This could be achieved by introducing specific consumer charges on the use of plastic shopping bags, plastic bottles, aluminum cans, and incandescent light bulbs (for example, a waste packaging charge of NGN 5 per plastic bag). To compensate for the cost of global air pollution (carbon dioxide, methane, nitrous oxide) and its contribution to climate change, a low-rate excise charge of NGN 10/liter could be imposed on all fossil fuels (gasoline, diesel and kerosene)

- *Contributing to the cost recovery of road transport infrastructure*. In addition to air pollution, road users create multiple externalities in the form of road damage, particularly by heavy trucks; congestion, which carries an implicit tax on labor; and noise and accident costs. Consumers would make better decisions regarding their use of the road network if such costs were internalized in the price of fuel—for example, by introducing an additional motoring fuel duty on gasoline and diesel products (NGN 10/liter on leaded gasoline and diesel fuel, NGN 5/liter on unleaded gasoline). Since kerosene is mostly used by poorer households for cooking, heating and lighting, kerosene could be exempted from this additional excise duty on motoring.
- *Improving tax progressivity by increasing excise duties on luxury goods and air time.* This could be achieved by increasing excise duties and motor vehicle license fees on cars (new and imported) and proceeding with preparations for introducing a low charge on mobile phone use (airtime) on call minutes and SMS.
- *Providing a level-playing field for the internalization of external costs by levying excise duties at equal rates on domestically produced and imported goods*. A reform of excise taxation would correct the current policy of subsuming excise on foreign goods in the import duty. This would make the protective function of the tax system the exclusive prerogative of the import duty regime, while allowing excise duties to serve an allocative function regardless of whether the products originate domestically or from abroad. As elsewhere, VAT should be imposed on the excise (and import) duty-inclusive value of excisable items.

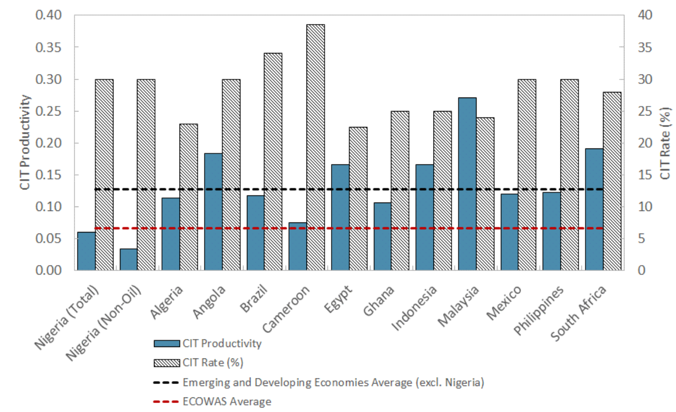
16. Converting ad-valorem excises into a specific rate system is supported by both theoretical and practical considerations. Economic theory favors the correction of externalities through specific duties over ad-valorem taxation as the external costs on the society of smoking, drinking, motoring, and polluting are independent of the underlying products' sales price. In practice, excises provide the authorities with the opportunity to increase revenues without major administrative costs associated with a new ICT system development or the hiring of additional staff. As specific duties require only counting (e.g., cigarettes) or measuring strength (alcoholic beverages) or volume (e.g., of motor fuels), they pose no contentious valuation issues relating to unit cost or unit value at the manufacturing or the import stage. To preserve the real value of excise revenue, specific duties would need to be indexed for inflation through annual adjustments.

17. Gradual excise duty increases at prevailing ECOWAS levels could yield revenues of 2.5 percent of GDP in the medium term, and of about 4 percent of GDP in the long run. In the medium term, a comprehensive review should be made of all taxes, duties, levies and charges on road transport, broadly defined. Such a review should have regard not only for revenue-raising efficiency aspects and externality-correcting issues, but also for distributional incidence aspects (as discussed in the chapter 2 on the distributional aspects of fiscal reform). The review should be undertaken in cooperation with the Nigerian States and the Federal Road Authority.

F. Rationalization of Tax Incentives

18. The extensive use of tax holidays, reduced rates, and generous allowances have eroded revenues from CIT, which only yielded 1 percent of GDP in 2016. Despite imposing a relatively high statutory rate of 30 percent[11], Nigeria's CIT efficiency, as measured by the ratio of CIT revenues to the product of GDP and the corporate tax rate, is 0.03 when calculated with respect to the non-oil economy only, and 0.06 when CIT revenue is compared to total economy GDP. These values are significantly below the 0.07 ECOWAS average and the 0.13 average for the group of emerging and developing economies (Figure 3), indicating that Nigeria's corporate tax base has been eroded by tax expenditures.

Figure 3. Nigeria and Comparators: CIT Productivity



Source: WEO, GFS, OECD. Note: Nigeria (Total) and Nigeria (Non-Oil) calculated based on statutory rate of 30 percent and: i) total corporate income tax revenues in percent of total GDP for the former; ii) non-oil corporate income tax revenues in percent of non-oil GDP for the latter.

19. Nigeria offers several types of tax incentives and allowances. The income tax system has generous incentives in the form of tax holidays of 3 to 5 years for pioneer industries and products, complete exemption of tax at the federal, state and local level for companies under the free zones regime, and various waivers and reductions by presidential decree or as embedded in the CITA for preferential sectors (NIPC 2017). Without coordination between measures, in practice some of these incentives are likely to overlap and be redundant.

Table 5. Nigeria: Partial Estimate of Tax Expenditures

Partial Quantification of Tax Expenditures

(billion Nairas)	Import Duty Waivers/ Concessions	VAT Waivers/ Concessions	Pioneer status (oil companies)	Pioneer status (non-oil companies)		Total	% GDP
				CIT	Duty waivers		
2011	78.5	52.5	15.74	5.3	0.3	152	0.24%
2012	128.5	47.1	77.86	4.8	0.3	259	0.36%
2013	46.1	24.3	107.73	17.3	2.1	198	0.24%
2014	87.7	22.9	18.22	24.7	3.0	156	0.17%
2015	162.8	80.9		14.6	2.3	261	0.27%
Total	503.6	227.8	219.5	66.7	8.0	1026	

Source: Report of the Inter-Ministerial Committee on the Review of Duty Waivers, Exemptions, Concessions and Incentives (May 2016)

20. The authorities intend to rationalize Nigeria's endemic use of tax incentives as one of the strategies of increasing non-oil revenues, which is a timely development. An Inter-Ministerial Committee was constituted in January 2016 and tasked with undertaking a review of tax expenditures resulting from 52 types of incentives being implemented by the Federal Government through its agencies (NCS, FIRS and NIPC). The Committee's preliminary findings based on a partial quantification

[11] Activities in upstream petroleum are taxed under the Petroleum Profit Tax law at a statutory rate of 85 percent, except for the first five years of production when companies benefit of a reduced rate of 65 percent. However, the productivity of this tax will not be discussed in this chapter, as the focus is on non-oil revenue mobilization.

of expenditures indicate that between 2011 and 2015, the government conceded N1 trillion, or 1.28 percent of GDP to the granting of only four types of incentives: import duty waivers/concessions/grants, VAT waivers/concessions/grants, and pioneer status—separately for non-oil companies and oil companies – which carries tax holidays of 3 to 5 years. The largest share of incentives came from the granting of import duty waivers, which represented almost half of the total cost of incentives (Table 4). Importantly, these estimates do not include incentives granted by Government under existing laws such as the Corporate Income Tax Act, Personal Income Tax Act, Petroleum Profits Tax Act, or the Minerals and Mining Act, on which the Committee could not obtain data, but nevertheless suggest that the size of expenditures is likely considerable.

21. A systematic review of tax expenditures, ideally accompanying the annual Budget, would help quantify the cost of incentives and identify ways to improve the fairness of the tax system and recover lost revenue. The scarce availability of corporate taxpayer-level data would need to be considerably improved to undertake such an assessment. Cost-benefit analyses of tax incentives would also allow determine which incentives provide a net benefit to the economy. Generally, there are better options for low income countries' effective and efficient use of tax incentives for investment than tax holidays and income tax exemptions (IMF 2015):

- Mechanisms such as investment tax credits and accelerated depreciation generally yield more investment per dollar spent than tax holidays and income tax exemptions, which tend to be fiscally costly for the country and often redundant;
- Tax incentives targeted at export-oriented sectors and mobile capital appear to be more effective, while those targeted at sectors producing for domestic markets or extractive industries generally have little impact;
- Enabling conditions (such as good infrastructure, macroeconomic stability, and rule of law) are critical for effectiveness and efficiency, as are the good governance of incentives and transparency—the granting of tax incentives should be rules-based and consolidated under the authority of the Minister of Finance.

22. While the justification for tax incentives is to change relative prices, profits and costs to steer investment in a desired direction, if granted almost to all sectors of the economy their efficiency is diffused and make little difference in attracting investments. Streamlining tax expenditures in the short term would require placing a moratorium on the introduction of new profit tax incentives, followed in the medium term by a rationalization of granted expenditures. The expansion of the tax base will afford to the gradually alignment of CIT rates to the current international average of approximately 25 percent for non-extractive industries, which in itself would help reduce pressures for tax incentives from the business community.

G. Revenue Mobilization at the Sub-National Tiers of Government

23. The federal tax reform initiatives need to resonate similarly at subnational level with view to raising own revenues from well- designed taxes. Property tax and personal income tax, both of which are applied at the states and local governments level, are key instruments to not only raise revenue but also redistribute wealth. Relying more on these taxes would create space to reduce the multiplicity and cascading of small charges at state and local government level, which businesses regard as an impediment to their competitiveness and survival. Streamlining and simplifying small taxes will help to not only reduce the cost of doing business in Nigeria, but also increase the efficiency of revenue mobilization by allowing subnational revenue services to focus their collection efforts on more productive taxes.

24. Property taxation could provide a stable revenue base for local governments. Well-designed and properly administered property taxes are considered fair since they are imposed on property owners whose properties appreciate due to improvements in local roads, sewage and trash services funded by enhanced collections. It is a progressive tax in that property tax incidence primarily rests on property owners. Property taxes may also induce more efficient land use. In addition, property taxes are good local taxes as they are levied on an immobile tax base: those who pay the tax also live in the jurisdiction where the local government services are provided. Staff estimates that property taxes could help raise [0.5] percent of GDP in revenue in the medium term, with gradual wins as the underlying cadaster and property valuation structure are gradually put in place.

25. Personal income taxation could also make a greater contribution to Nigeria's tax effort. Modernizing and simplifying the tax regime are key to fulfilling this objective, and at a minimum require: (i) consolidating personal allowances into a single tax-free threshold that would simplify the system, improve distributional fairness and progressivity, and reduce the compliance burden; and (ii) simplifying the list of exclusions from employment income and streamline exemptions to broaden the base. Compliance efforts would also need to be significantly strengthened. According to the Joint Tax Board, 10 million people are registered for PIT purposes in all the states of the federation including the Federal Central Territory of Abuja, of which 4.6 million or 46 percent are registered with the Lagos State Internal Revenue Service (LIRS). This indicates that only an average of 153,000 or 1.5 percent are registered in each of the remaining states. It also suggests a huge vertical imbalance of tax bases in Nigeria. The narrow PIT tax base should be contrasted with a labor force of 77 million (2015) meaning that only 13 percent of potential taxpayers are registered.

H. Conclusions

26. There are opportunities for efficiency- and growth-enhancing reforms of Nigeria's tax system. Medium-term revenue wins from tax policy reforms, reinforced by a strengthened tax administration, could be considerable—yielding an additional 3.4 percent of GDP from VAT reforms, 1.6 percent from excises, 2.1 percent from the rationalization of tax expenditures, and 0.9 percent from efficiency gains and the taxation of property at the sub-national tiers of government. These would allow Nigeria to approach its true tax potential and help meet its development objectives.

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DISTRIBUTIONAL IMPACT OF FISCAL REFORMS IN NIGERIA[1]

Income inequality and poverty rates are high in Nigeria, with the latter having declined more slowly compared to other countries. At the same time, moving closer to achieving the sustainable development goals and addressing Nigeria's large development needs will require additional financing. This chapter finds that reforms to generate fiscal space—increases in value-added tax collection, excises, and electricity tariffs—are progressive, i.e. they reduce income inequality. However, they increase poverty gaps and rates to varying extents. Scaling up social safety net transfers and expanding their scope to cover a wider share of the poor can, to some extent, compensate for these adverse impacts at relatively low cost, and bring down poverty rates more generally. In the short term, other measures to shield vulnerable households' income, including through lifeline electricity tariffs, and higher spending on health and education are needed.

A. Motivation

1. **Addressing Nigeria's development needs and making progress towards the sustainable development goals will require fiscal space.** Nigeria faces large development gaps (see section B). Increasing revenues and reducing non-priority recurrent expenditures would create room to address these challenges by allowing for: (i) an increase in public capital expenditures to narrow the infrastructure gap that is currently perceived as one of the main constraints to private sector-led growth and thus to employment and poverty reduction opportunities; (ii) a higher allocation of resources to health and education to build human capital—creating more equal opportunities across income groups; and (iii) expanding and scaling-up transfers through social safety nets—currently covering only a very small share of the population—that would lift a significant share of the population out of poverty.

2. **Against this background, it is important to ensure that fiscal reforms to create fiscal space do not further worsen inequality and poverty.** Sections D and E assess the welfare impact of the package of policy measures included in IMF staff recommendations and the authorities' Economic Recovery and Growth Plan (ERGP). It simulates the impact of revenue measures—an increase in value-added tax (VAT) collection, and excises—and an increase in electricity tariffs on fiscal space, the poverty gap (average distance of the poor from the poverty line in percent of poverty line) and poverty headcount, as well as on income inequality. The results suggest that most measures are progressive (i.e. reduce income inequality) but increase poverty. The measures are estimated to generate significant revenue that allows for compensatory social transfers and an expansion of the social safety net more generally. As the results do not take into account the positive impact from increased expenditures on

[1] Prepared by Monique Newiak (IMF, AFR) and Stephen Younger (Commitment to Equity Institute), with input from Tu Chi Nguyen (World Bank). This chapter has benefited from comments and inputs from the National Bureau of Statistics Nigeria, the Federal Ministry of Labour and Employment Nigeria, the World Bank, and several IMF colleagues.

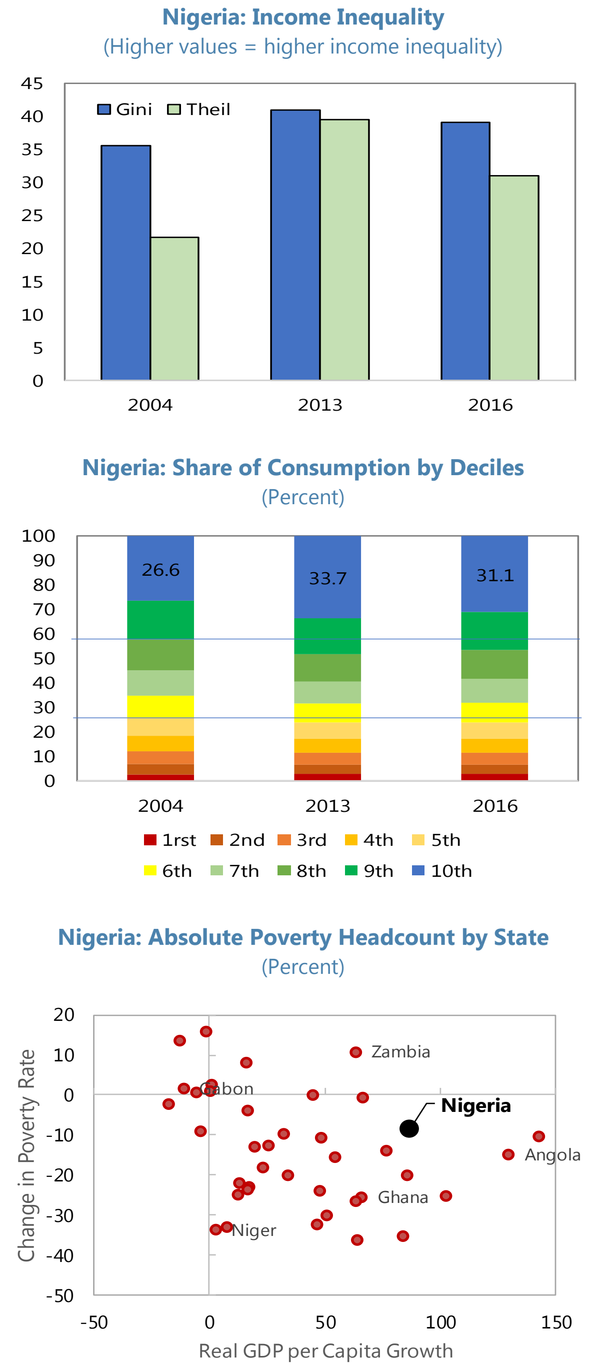
infrastructure and other development areas that can be unlocked by increased fiscal space, the simulated increases in poverty rates could be overstating the actual impact.

B. Background: High Poverty and Inequality; Large Development Needs

3. Poverty and income inequality remain high in Nigeria; economic growth has been less inclusive than in other sub-Saharan African countries. Latest published data for Nigeria show that:

- *Income inequality* in 2016, as measured by both the Theil and Gini Index, has decreased from its 2013 level but remains above levels observed more than a decade ago (Figure 1, Panel 1). Almost one third of income in Nigeria belongs to the 10 percent at the upper end of the income distribution, while less than three percent goes to the 10 percent at the bottom (Figure 1, Panel 2).
- *Poverty* rates have declined more slowly than in other sub-Saharan African countries with similar GDP per capita growth (Figure, Panel 3). Latest publicly available data suggest that the poverty headcount is high, with 62.6 percent of the population living below the poverty line (HNLSS 2010). Poverty rates reached above 80 percent in one quarter of states in 2010—in these states, rates were double the ones observed, e.g., in Osun, Iso and Lagos states.
- *Policies* have been less inclusive elsewhere. Nigeria ranks last among 152 countries assessed on Oxfam's 2017 *Commitment to Reducing Inequality Index* that captures governments' actions with respect to social spending, tax and labour rights.

Figure 1. Income Inequality and Poverty

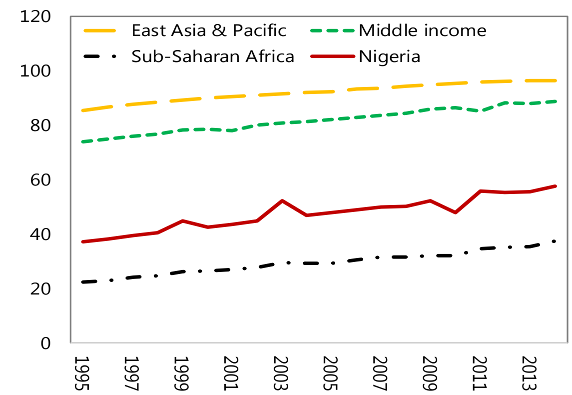


Sources: National Bureau of Statistics; IMF staff calculations; World Bank World Development Indicators, PovcalNet.

4. Nigeria also faces large development needs, including to meet the sustainable development goals. A large infrastructure gap impedes private sector activity and economic growth, and making progress towards achieving the sustainable development goals has been difficult:

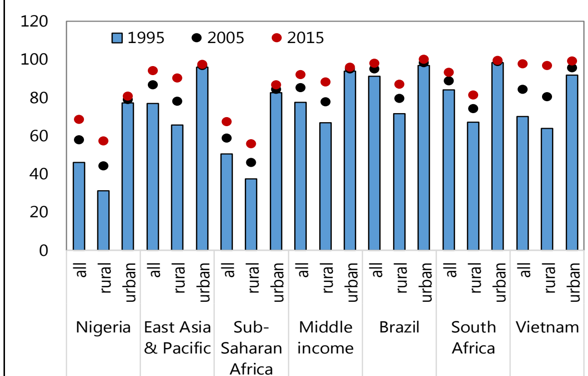
Figure 2. Infrastructure Gaps Access to Electricity

(Percent of the population)



Access to Improved Water Source

(Percent of population)



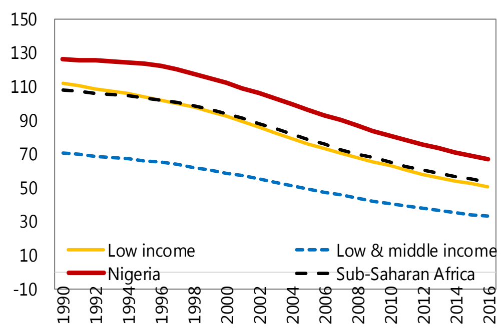
Source: World Bank: World Development Indicators.

- ***Infrastructure.*** Annex III of IMF (2018) highlights Nigeria's vast infrastructure gap and its implications for growth. In addition, these gaps are likely to impede opportunities for the more vulnerable parts of the population: Access to electricity has grown but is only reaching three out of five people (Figure 2, Panel 1); similar statistics apply to access to clean water (Figure 2, Panel 2). Richer households are more likely to be connected to the grid, and spend a larger share of their income on electricity, while less than two fifth of the population are connected to the grid in the North of Nigeria. Just about one third of Nigerians have access to improved sanitations facilities.
- ***Health.*** With infant mortality at almost 7 percent and 8 in 1000 mothers dying giving live birth, Nigeria's health statistics lag behind the outcomes observed in middle-income countries, and are significantly outperformed even by the average low-income country (Figure 3, Panel 1 and 2). Undernourishment remains above 25 percent, every sixth child under the age of 5 is malnourished, and more than 10 percent of children die before reaching this age. With only about every second child being vaccinated against major diseases, such as DPT and measles, immunization rates are far below the above 70 percent rates observed in the average sub-Saharan African country (Figure 3, Panel 3). Prevalence of anemia among children under 5, at almost 7 percent, exceeds the sub-Saharan Africa average. At the same time, expenditures on health, both in percent of GDP and per capita, are much lower than those observed in peer countries, and they have stagnated (Figure 3, Panel 4).
- ***Educational attainment*** remains particularly low in several geographical zones, with net enrollment rates suggesting that less than one in two children is enrolled in primary education in the North East (less than one third in secondary education)—while rates are much higher in the Southern geographical zones of the country (Figure 4). In addition, in the North East, only about one in two men, and one in four women, is literate.

Figure 3. Health Indicators

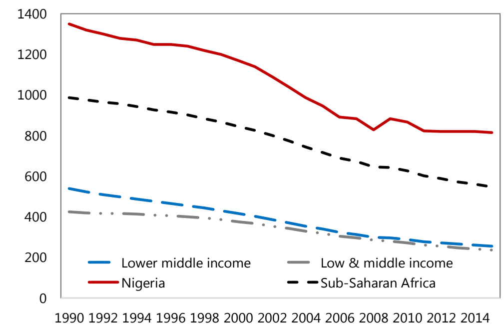
Infant Mortality Rate, 1990–2016

(Per 1000 live births)



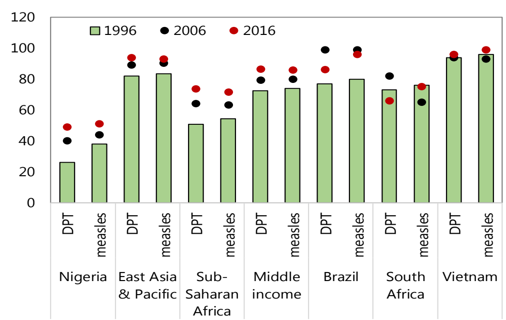
Maternal Death, 1990–2015

(Number of Deaths per 100,000 live births)



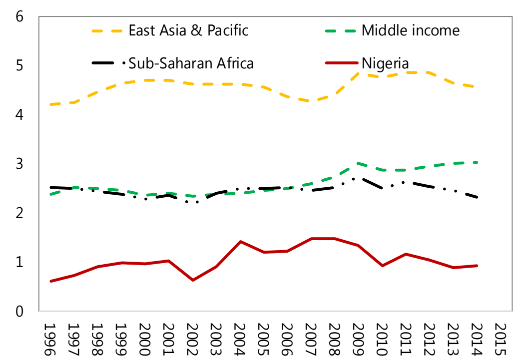
Immunization, DPT

(Percent of children ages 12–23 months)



Health Expenditure

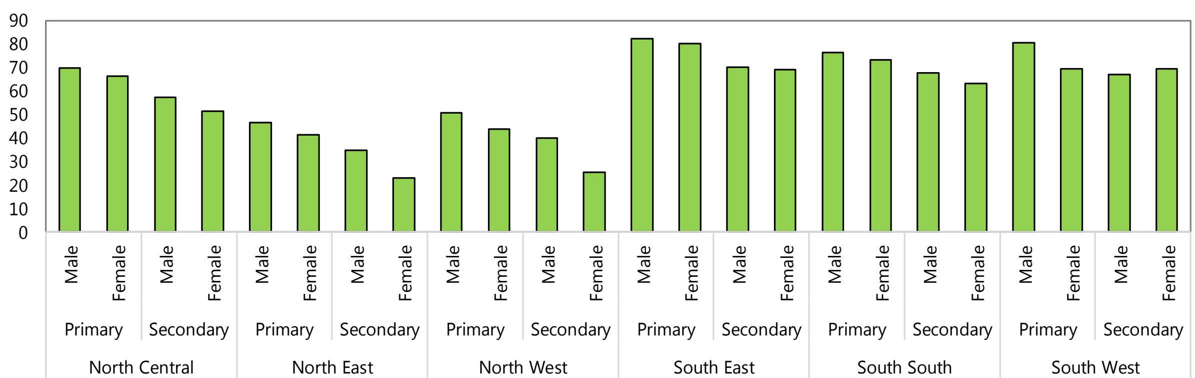
(Percent of GDP)



Source: World Bank World Development Indicators.

Figure 4. Net Enrollment Rates

(Percent)



C. Approach and Data

5. To assess the distributional impact on households, this section assesses who is directly impacted by a policy change and to what extent.

- To this end, it applies incidence analysis that measures the impact of reforms on each household's budget. This corresponds to an "accounting approach" that looks at the implications on households' available income, without assumptions on substitution effects to other products and other behavioral changes (Lustig and Higgins 2017). This approach starts from an income concept (e.g., consumable income) and allocates expenditures (e.g. amount of VAT and excises paid on products consumed; electricity tariff paid) and transfers (e.g., social safety net transfers) to each household. It then assumes that demand for different consumption items is inelastic, so that expenditures on these items increase proportionally when their prices change.
- However, changes in indirect taxes and in subsidies can also impact consumable income indirectly if price increases that apply to intermediate products are passed on to consumers (Jellema and Inchauste 2017). The incidence analysis takes into account the production structure of the economy to take into account these indirect effects where needed.
- The fiscal incidence analysis in this chapter is partial, i.e., for most simulations, analyzes the impact of revenue and transfer measures separately, while not taking into account the likely beneficial impact of development expenditures that are enabled through the creation of fiscal space.

6. Three main data sources help (i) identify who is affected by the proposed reforms, (ii) track transmissions of reforms through economic sectors, and (iii) scale revenues.

- The *Nigeria General Household Survey* (wave 3)—the third round of a nationally representative household survey, capturing 5,000 households across all states in 2015/16—provides the pattern of consumption at the household level.
- The production structure found in the 2010 *supply-and-use tables (SUT)* is used to estimate the effective rates for indirect taxes likely to be passed through the economy's production structure. Applying these rates to households' reported expenditures allows deriving their indirect tax burden and thus consumable income.
- Finally, information on the size of revenue items and subsidies from the 2015 *fiscal accounts* helps scale the revenues derived from the household survey to those actually collected at the time of the household survey.

7. Combining household-level data with the information from the supply and use tables and fiscal accounts, this chapter then focuses on answering three main questions:

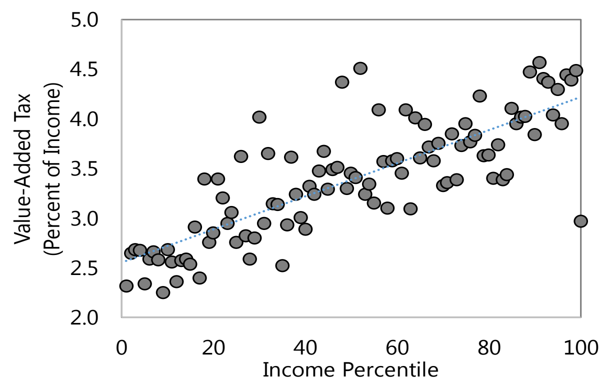
- *Efficiency*. How much revenue is likely generated?
- *Inclusiveness.* What are the implications of proposed changes on available household income? Which households are mainly impacted and what are therefore the implications in terms of changes in poverty rates and in the income distribution?

- *Mitigation*. To what extent would existing transfer schemes need to be expanded and scaled up to (i) for an adverse impact and (ii) reduce poverty rates from existing levels?

D. Scenario Analysis: Increasing Fiscal Space

Increasing Revenues from VAT

Figure 5. Value-Added Tax
(Percent of consumable income)



Source: GHS, wave 3, Nigeria National Bureau of Statistics.

8. The literature on the distributive impact of VAT is mixed. While studies have shown VAT to be generally regressive (IMF 2017a), i.e. to increase income inequality, in advanced economies, the results for developing countries are more ambiguous (Bastagli and others 2012). More generally, VAT exemptions or lower rates on consumption items that constitute a larger share of the poor's than the rich's consumption basket, tend to be progressive. In the case of Nigeria, first evidence from plotting estimated VAT payments against household's income percentiles, suggests that the share of VAT payments in higher-income households is larger—pointing towards a likely progressive impact from raising VAT revenue in Nigeria (Figure 5).

9. A VAT reform in Nigeria could generate significant fiscal revenue, reduce income inequality; but it would increase poverty. Figure 6 (panel1 and 2) describe the impact on revenues and different measures of poverty and inequality from 6 scenarios that combine increases in VAT rates and compliance rates. Without compensating measures, they show:

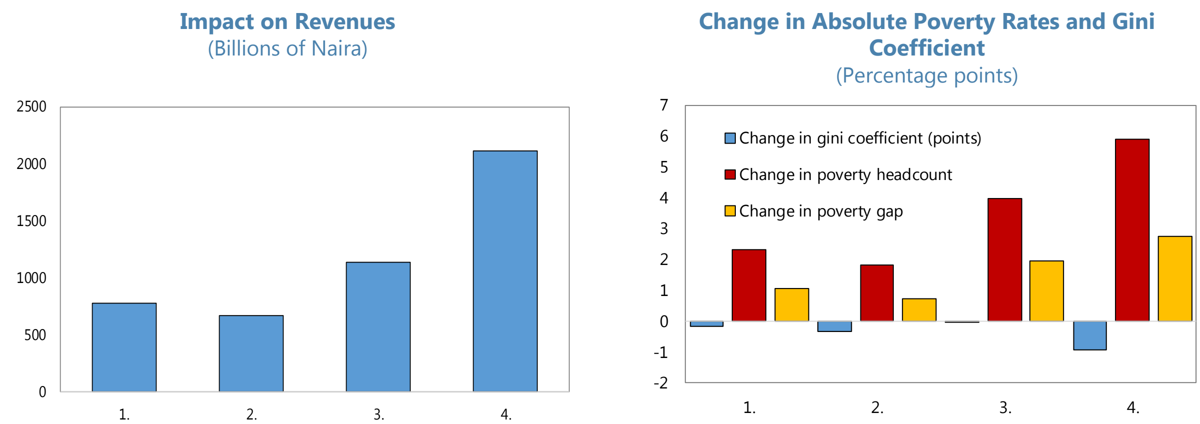
- Scenario 1*:* A ***doubling of the existing VAT rate to 10 percent***—that is an increase in "indirect taxes on activities and commodities" as implied by supply and use table—would double VAT revenue from its 2015 level, and slightly reduce income inequality. However, it would increase the poverty headcount rate by 2¼ percentage points, and the poverty gap by 1 percentage point.

- *Scenario 2:* With a low compliance rate on the payment of VAT (estimated previously at 25 percent), an increase in compliance should strongly impact revenue collection. Indeed, ***increasing VAT compliance to 70 percent*** is estimated to increase revenues by a similar order of magnitude as in the first scenario. However, this reform would be slightly more progressive and increase the poverty rate and poverty gap less strongly (by 1¾ and ¾ percentage points, respectively).

- *Scenario 3:* An alteration of scenario 2, in which the ***current exemption on basic food stuff is lifted*** and all food items are taxed, almost doubles the revenue impact from an increase in VAT compliance. However, this reform has also a substantial impact on vulnerable households, with the poverty headcount rate and poverty gap increasing by almost 4 and almost 2 percentage points, respectively. Meanwhile, income inequality would remain relatively unaffected. The high impact on poverty rates results from the relatively larger shares of income spent on food in low-income households compared to richer households, even if a large share of food consumed is self-produced in lower-income households (Figure 6, panels 3 and 4).

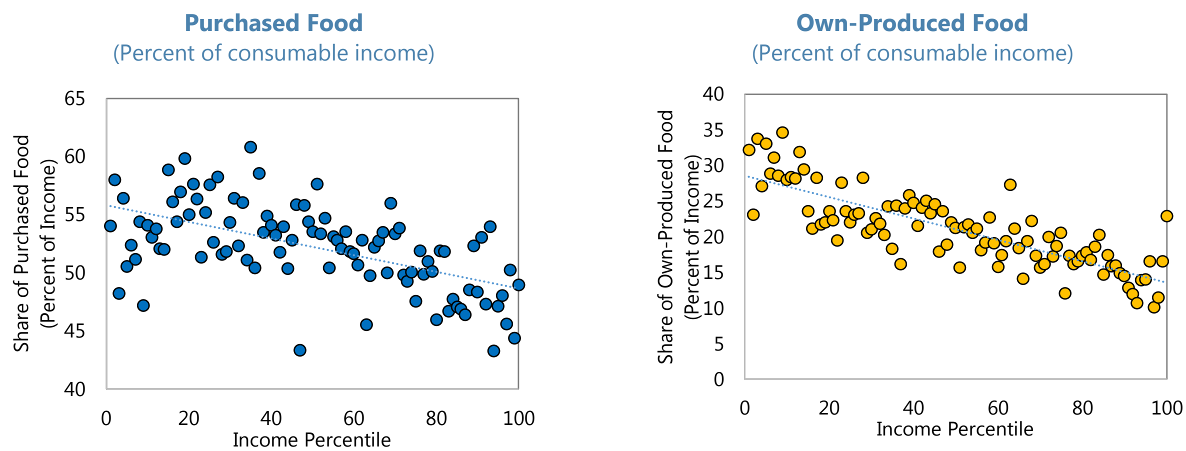
- *Scenario 4*: Even with food being exempt from taxation, ***increasing compliance and doubling the VAT rate*** could generate significant additional revenue (Naira 2.1 trillion). Such a measure would reduce income inequality by almost one point on the Gini scale. However, it could also imply an increase in the poverty headcount (+6 percentage points) and poverty gap (+2¾ percentage points).

Figure 6. Impact from Increased VAT Collection



Note:

1. Double existing VAT
2. 70 percent compliance at 5% of VAT rate, basic food exempt
3. As in 2. but food not exempt
4. 70 percent compliance at 10% of VAT rate, basic food exempt

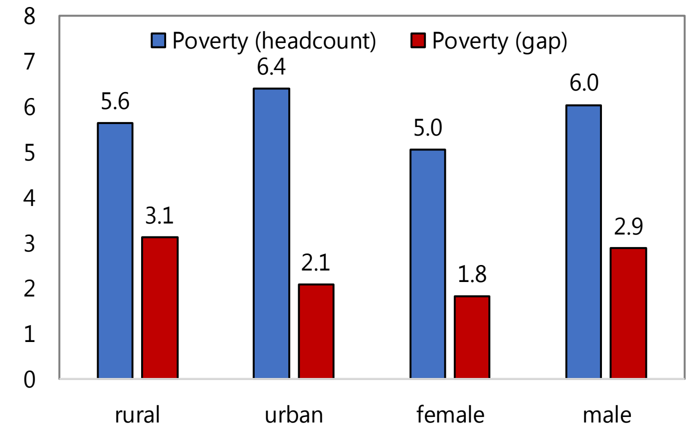


Source: NGHS, wave 3, NBS.

10. The large increase in poverty rates raises the question as to whether particular households are disproportionately impacted by the change in rates. Figure 7 shows for scenario 4 (doubling of both VAT and increasing compliance to 70 percent) that the impact on the poverty *rate* from the VAT increase would be higher for urban than for rural households, while, the poverty *gap* rises more strongly for rural households than for urban ones. This result is driven by the share of people living below the poverty line being larger in rural areas. The impact on the poverty rate and gap for female-headed household is less than half the size of that of male-headed households, possibly due to the relatively larger average household income for female-headed households in the sample.

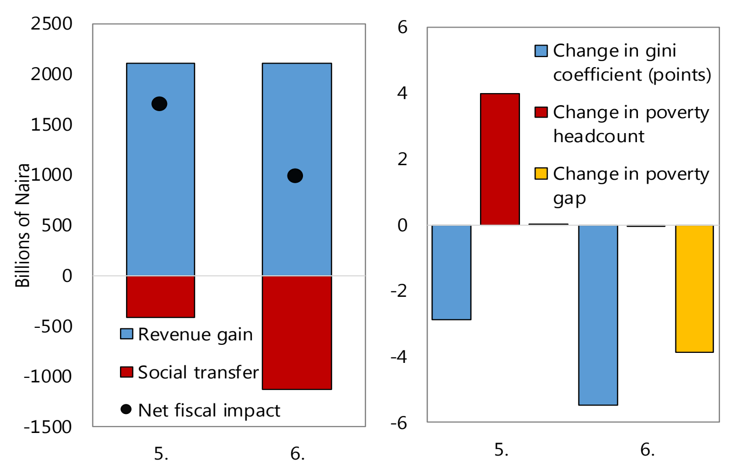
Figure 7. Change in Absolute Poverty Rates (Scenario 4)

(Percentage points)



11. Social safety transfers can help compensate for the adverse impact from the VAT increase on the poor.

Figure 8. Adding Social Transfers to VAT Reform



Note:
5. Same as 4., transfer to the extreme poor, constant poverty gap
6. Same as 4. but transfer to the poor, constant poverty headcount

- *Targeting mechanism.* Households to benefit from transfers in the simulation are chosen through proxy-means testing in the simulation. ***The proxy-means test (PMT)*** helps identify households for targeting purposes based on their predicted household expenditure according to a regression of the logarithm of household expenditure per capita on a range of variables that may be easily verifiable in practice—dummies capturing state, rural vs. urban location, ownership of a refrigerator, ownership of a car, and electricity expenditures.

- As an illustration, scenarios 5 and 6 in Figure 6 (Figure 8) highlight the results from (i) holding the ***poverty gap constant*** (scenario 5) by transferring a lump-sum payment to all households with a PMT score below the extreme poverty line and (ii) holding the ***poverty rate constant***, by transferring a lump-sum to households with a PMT score below the poverty line. Holding the poverty gap constant, would require scaling up social transfers by some Naira 400 billion (about one fifth of the revenue gain). Holding the poverty rate constant, would imply transfer expenditures of Naira 1,100 billion, about half the revenue generated by this measure—implying significant revenue gains even after ensuring that poverty rates do not rise.

Increasing Excises

12. The impact from doubling excises on both revenue and poverty incidence estimated in the simulations appears limited; but it likely understates the effect of revenue generation due to under-reporting of expenditures by households (Table 1).

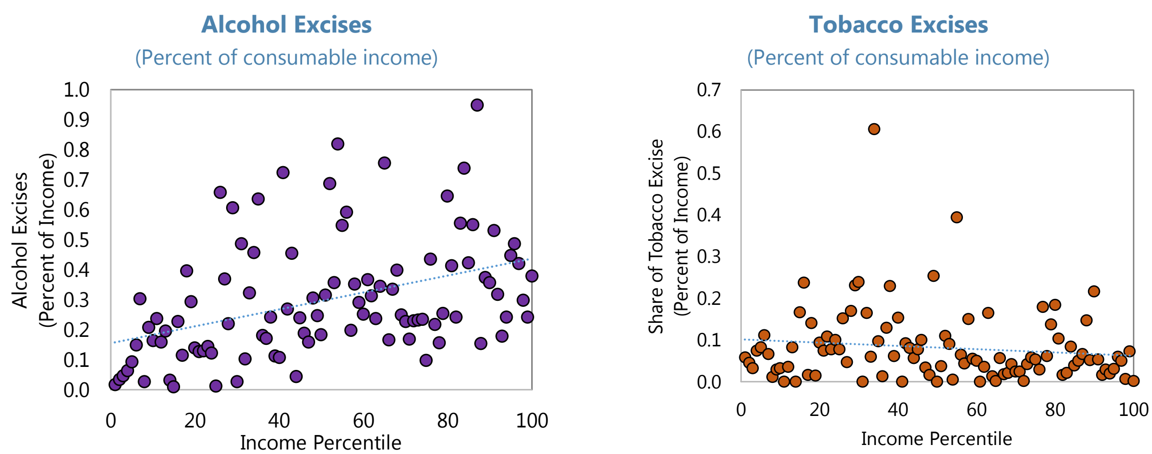
- According to previous studies, increasing excises on alcohol and tobacco tends be desirable for efficiency gains (taking into account negative externalities) and due to their progressivity in developing countries (IMF 2017 Bastagli and others 2012).
- Doubling existing excise rates on alcohol and tobacco appears to have only a minor impact on revenue generation in Nigeria. Income inequality is largely unaffected, and poverty rates increase only moderately. This result is not surprising given very low shares of excise payments in households' consumption, bases on reported consumption of these items. In particular, while the share of alcohol excises increases with households' relative income, it remains below 1 percent (Figure 9, Panel 1). The share of tobacco excises is small (Figure 9, Panel 2).
- However, these results may underestimate the true impact of an excise increase as households tend to under-report expenditures on alcohol and tobacco (see also section F on caveats). In particular, the estimated revenue impact is smaller than the one estimated in chapter 1.

Table 1. Nigeria: Impact of Increasing Excises

	(1)	(2)
Change in:		
Inequality (Gini coefficient, points)	-0.01	-0.03
Poverty headcount (percentage points)	0.07	0.25
Poverty gap (percentage points)	0.00	0.08
Revenues (Billions of Naira)	-71.8	-14.1

(1) Double excise on alcohol
(2) Double excise on tobacco

Figure 9. Expenditure on Excises by Income Percentile



Source: NGHS, wave 3, Nigeria National Bureau of Statistics.

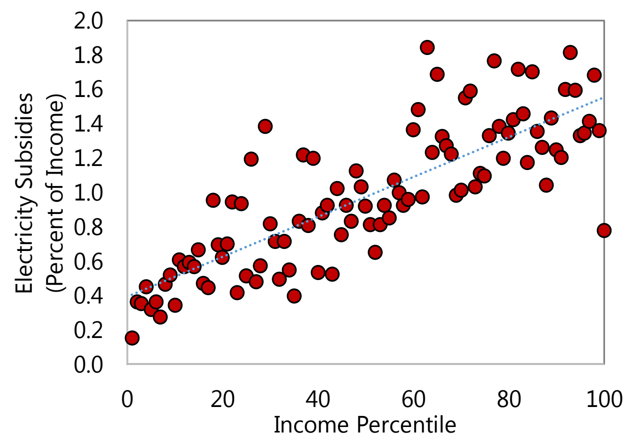
Increasing Electricity Tariffs

13. Progress has been made under the Power Sector Recovery Plan (PSRP); tariff adjustments over time—combined with improved electricity service—will be needed to bring the power sector to a level at which it can operate without a financial deficit. Power supply generation has increased and reached a record high of 5100MW in the grid at the end of 2017, on the back of a number of actions (appropriate budget provisions to ensure government agencies pay their electricity bills; enabling the Bulk Trader to pay for generated power). The tariff increase of 60 percent in 2016 has brought electricity prices closer to cost recovery. The Nigerian authorities expect further tariff increases to have very low public acceptance until service improves from the current very low levels and sector losses and leakages are reduced. The PSRP involves a package of measures to reduce sector inefficiencies and costs, improve payment discipline and adjust tariffs to restore financial viability and ensure power reliability going forward.

14. An increase in electricity tariffs would increase fiscal space significantly and reduce income inequality—but reduce households' purchasing power, thus increasing poverty rates. For illustration purposes, an increase of electricity tariffs by 30 and 69 percent for residential customers, which were some of the tariff adjustment scenarios initially considered by the Government during the preparation of the PSRP, is estimated. The results suggest that such changes would increase fiscal space (assuming government would be paying the implicit subsidy going forward) by about Naira 100 billion and 200 billion, respectively (Figure 11, Panel 1). With less than 10 percent of total expenditures on electricity made by households at the bottom 50 percent of the income distribution and households at the higher end disproportionately benefiting from the current implicit subsidy (Figure 10), an increase in electricity tariffs would reduce income inequality slightly. The lack of access to electricity for a large share of lower-income households explains the relatively mild impact on the poverty headcount by around ¼ and ½ percentage point in this static simulation (Figure 11, Panel 2).

Figure 10. Electricity Subsidies

(Percent of consumable income)



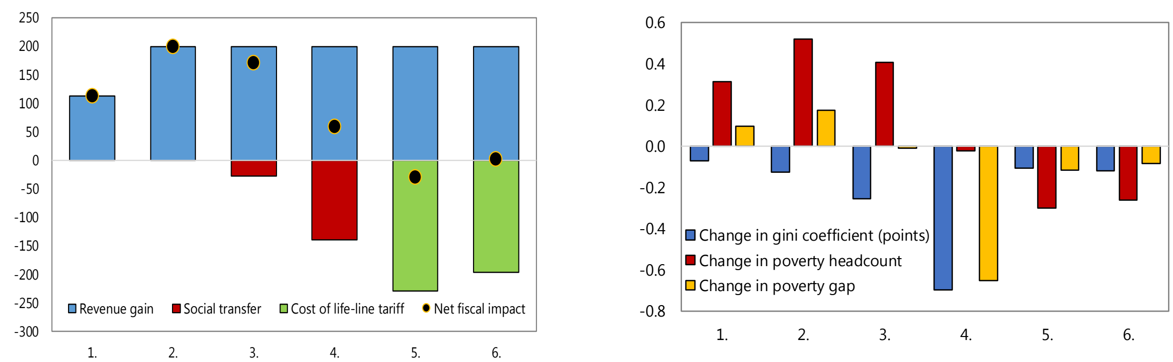
Source: NGHS, wave 3, Nigeria National Bureau of Statistics.

15. Both increased social transfers and the augmentation of the existing lifeline tariff could mitigate the impact on the poor. Scenarios 3 and 4 build on the 69 percent tariff increase to quantify the expenses needed to keep the poverty gap (scenario 3) or poverty rate (scenario 4) constant, with fiscal space staying positive in both scenarios despite the compensation package. Similarly, the lifeline tariff, which currently benefits only 2 percent of consumers, could be expanded as highlighted in scenarios 5 and 6 (Figure 11). The two scenarios provide this lifeline to all households at a rate of Naira 4/kWh up to 50 kWh/month (as currently the case; scenario 5) and up to 40 kWh/month, respectively, while they increase other prices by 69 percent. These scenarios are roughly budget neutral while decreasing the poverty headcount by ¼ percentage point.

Figure 11. Impacts from Tariff Increases

Impact on Revenues and Expenditures
(Billions of Naira)

Change in Absolute Poverty Rates and Gini Coefficient
(Percentage points)



Note:

1. Increase residential tariff by 30 percent
2. Increase residential tariff by 69 percent
3. Same as 2. but including a PMT-targeted transfer to keep the poverty gap constant.
4. Same as 2. but including a PMT-targeted transfer to keep the poverty headcount constant.
5. Same as 2. but replace existing electricity charges with a lifeline structure: N4/kWh up to 50 kWh/month, then current class 2 tariff raised by 69 percent for kWh>50/month
6. Same as 2. but replace existing electricity charges with a lifeline structure: N4/kWh up to 40 kWh/month, then current class 2 tariff raised by 69 percent for kWh>40/month

E. Increasing Social Transfers

Expanding the Social Safety Net

16. This section estimates the impact from expanding coverage under the currently set-up National Social Safety Nets Project (NASSP).

- A number of social transfer programs currently exist in Nigeria but they are relatively small and face limitations (Box 1).
- To create a more structural approach to social protection, the government, with support from the World Bank, is in the process of rolling out the NASSP, a program intended to provide a national platform for funding, coordinating, and monitoring national safety nets at the central level, with implementation at the state level. Under the NASSP, currently 100,000 households are listed in the registry of poor and vulnerable households, with envisioned expansion to 250,000 households in 2018, and 1 million households (approximately 10 percent of the poor) in 24 states in the medium term.
- The below simulations build on the transfer size to households under the NASSP (Naira 5000 per household per month) but examine the impact on poverty if the program was expanded to cover a larger share of households than currently envisioned.

Box 1. Social Safety Nets in Nigeria

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

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

The ERGP envisions expanding social programs. The government's ERGP aims at investing in social infrastructure, by implementing conditional cash transfers for the most vulnerable; advancing school feeding and public work programs; and improving the quality of health care and access to education, in particular (IMF 2017b):

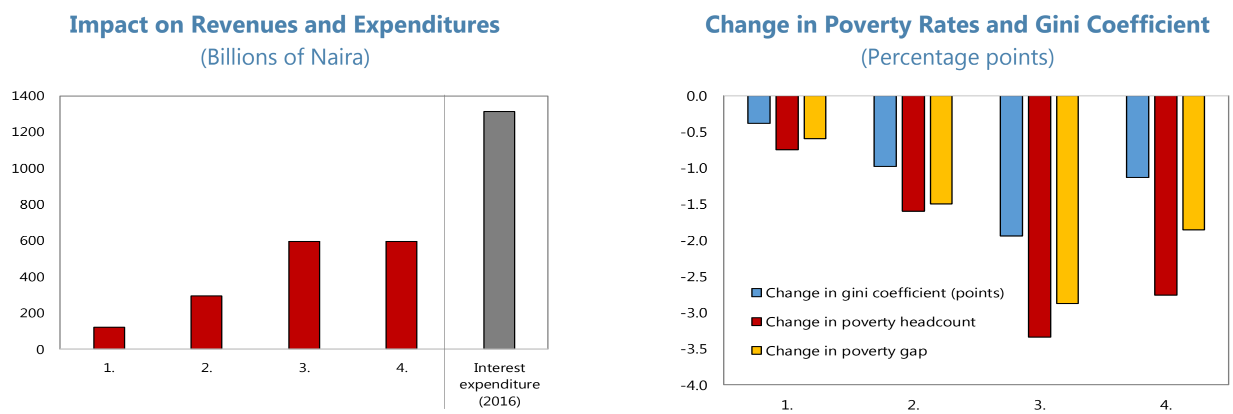
- The *N-Power Job Creation Scheme* is a job creation volunteer-service program that aims at mitigating specific problems in local communities through the deployment of unemployed Nigerian graduates.
- The *Homegrown School Feeding program* provided basic nutrition needs for children, while creating employment and supporting agricultural production in local communities.
- The *Conditional Cash Transfer program* is targeted at supporting the most vulnerable and poorest Nigerians.
- The *General Enterprise and Empowerment Program* (GEEP) is a zero-interest, 5 percent administrative fee loan scheme through the Bank of Industry, targeting Nigerian artisans, traders, market men and women, and women cooperatives.

17. Widening social safety nets could make a strong dent in poverty reduction (Figure 12).

- A final set of simulations estimates the cost, distributional and poverty implications from a stand-alone increase in social safety transfers. The assumed size of the transfer of Naira 60,000 per household per year is in line with the World Bank's National Social Safety Nets Project (NASSP) that supports the Nigerian government by expanding access for poor households to social safety nets—allocated through PMT as described earlier.
- The results highlight that expanding the current transfer to cover 20 percent (double the current medium-term target under the program), 50 percent and 100 percent of poor households, respectively, is feasible but would require significant resources (up to Naira 600 billion, excluding administrative cost). In the case where 100 percent of the poor (as identified by PMT) are covered, poverty headcount rates and the poverty gap could drop by 3¼ and almost 3 percent,

respectively—more than offsetting the increase in the poverty gap from the VAT, excise and electricity reforms shown above.

Figure 12. Impact from Social Transfer Increases



Note:

1. 20 percent of the poor get a transfer of N60,000 per year per household
2. 50 percent of the poor get a transfer of N60,000 per year per household
3. 100 percent of the poor get a transfer of N60,000 per year per household
4. Transfer budget implied by 3., transferred as universal income (lower transfers but to all households)

F. Caveats

18. A number of assumptions could impact and bias the above-described results:

- *No changes in behaviors* of individuals are assumed throughout the simulations. For example, increasing excises could (and is often intended to) induce a shift away from alcoholic beverages or tobacco. An increase in the cost of electricity, and subsequently (here not captured) more reliable energy as part of the energy reform, could make households change their consumption of energy outside the grid (generators etc.).
- The *impacts simulated in this chapter are static*, they therefore do not take into account second round impact of reforms—such as when higher public infrastructure investment financed through additional revenue mobilization raises growth, with positive implications on vulnerable households. As a result, the strong impacts on poverty discussed above could be overstating the actual impact.
- The PMT targeting identifies households through a regression that is bound to have *inclusion and exclusion errors*, i.e. some households that receive the transfer will not be poor, while some poor household will not be identified as poor and therefore not receive a transfer. In the above cases, the inclusion error is about one fourth.
- Scaling up and expanding social safety net to fully compensate for the adverse impact of proposed reforms on the poor is *likely unfeasible in the short-term*, calling for a carefully designed reform package that includes other measures to mitigate otherwise potentially undesirable short-term effects.

- The *administrative cost* of social transfers is relatively high (30 percent in Nigeria). The total cost to make the transfers could therefore be higher than shown in this chapter.
- *Underreporting of some expenditures* could result in lower than possible revenue estimations. In particular, as households tend to understate their expenditures on alcohol and tobacco, the revenue impact of increases in excises for these products could be higher, while the distributional consequences of the measure could be different.

G. Conclusion

19. The proposed fiscal measures yield substantial revenue gains and reduce income inequality. This chapter showed that fiscal space gained through proposed fiscal measures—VAT reform, an electricity tariff increase, and an increase in the excise rate on alcohol and tobacco, could be substantial. These measures by themselves are also expected to decrease income inequality.

20. However, poverty gaps and rates would likely rise significantly in response to these measures and call for compensating measures. In all scenarios, poverty rates would increase as consumable household income shrinks in response to larger expenses. Simulations of different degrees of social safety net expansions (increased transfer amount and increase in covered share of the population) show that social safety transfers, if efficiently run, could compensate for the negative impacts from the above-mentioned reforms. As social safety nets may not be immediately scalable to the desired extent in the short term, a package of other measures will be needed to compensate for the adverse impact on the most vulnerable. In particular, imposing a lifeline tariff for electricity will be needed. Using gained fiscal space to increase expenditures in education and health, not captured in the simulation, could improve the progressivity of the suggested measures and decrease the likely increase in poverty.

21. Indeed, estimated transfers and poverty gaps may overestimate the impact on the poor—provided that additional expenditures are efficiently used. Redistributing the generated tax revenues (and savings in subsidies) into public expenditures in itself would generate additional growth benefits, therefore increasing income, including for the poor. Since this chapter does not take into account these dynamic impacts, the sizes of estimated social measures to compensate for negative impacts could be overstated, so that "compensatory" transfers could actually deliver a reduction in poverty levels.

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GENDER INEQUALITY IN NIGERIA: MACROECONOMIC COSTS AND FUTURE OPPORTUNITIES[1]

Gender inequality in Nigeria is high and widespread across areas of economic opportunities (enforcement of legal rights; access to education, health, financial services) and outcomes (labor force participation, entrepreneurship, political representation, income). These inequalities have led to substantial macroeconomic losses in terms of growth, income equality, and economic diversification. Nigeria's real GDP per capita growth could, on average, be higher by 1¼ percentage points annually if gender inequality was reduced to that of peers in the region. Addressing challenges in health and education, such as by providing necessary infrastructure (sanitation facilities and electricity), equalizing legal rights, and combatting violence against women and girls, will be essential for Nigeria to reap the demographic dividend from its young and rapidly growing population.

A. Motivation

1. A large and growing literature has associated gender equality with better macroeconomic outcomes, higher productivity, and a more equal income distribution.

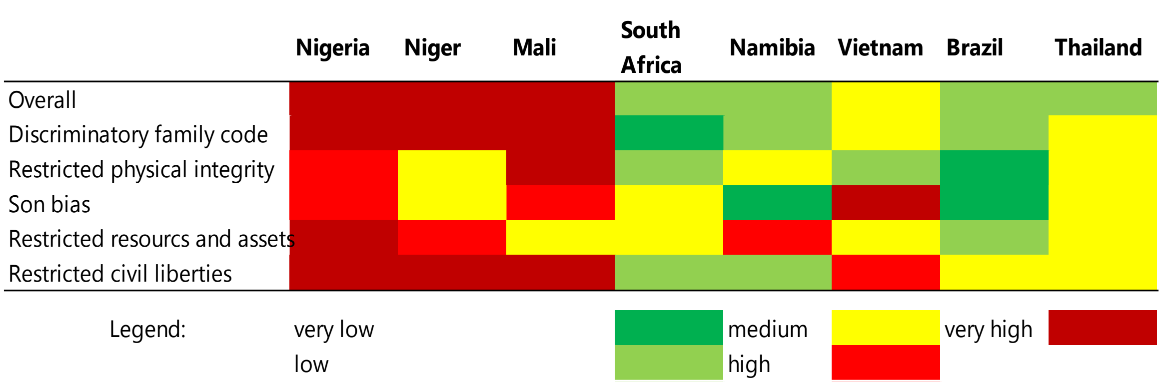
- Gender equality has been linked to better development outcomes, including higher GDP and productivity, and faster economic growth (World Bank 2012; Loko and Diouf 2009; Duflo 2012; IMF 2015; Gonzales and others 2015; Kochhar, Jain-Chandra and Newiak 2017; McKinsey 2016).
- Both equality in outcomes (labor force participation, employment, entrepreneurship, political representation) and opportunities (legal rights, access to education, health and finance) matter for current and future development outcomes. Gender gaps in economic participation restrict the talent pool in the labor market, they therefore yield a less efficient allocation of resources, lower total factor productivity, and reduce output growth (Cuberes and Teignier 2016; Esteve-Volart 2004). Women invest a large proportion of their household income in their children's education, so that higher earnings by women translate into higher expenditure on school enrollment for children (Aguirre and others 2012; Miller 2008; Rubalcava and others 2004; Thomas 1990). Lower fertility rates, in particular at the adolescent age, are linked with higher education levels for girls, higher female labor force participation, higher savings, and better health outcomes (Tertilt 2005; Bloom and others 2009). The economic and social costs of gender-based violence are large (UN 2005). For instance, domestic violence lowers productivity through increasing rates of absenteeism from the work place and raises the cost for the health sector.
- Gender equality has also been linked to a more equal income distribution (Gonzales and others 2015; Aslan and others 2017), higher diversification of output and export products and early

[1] Prepared by Monique Newiak. This chapter has benefited from comments and inputs from the Ministry of Women Affairs and Social Development, the World Bank, the Gesellschaft für Internationale Zusammenarbeit, the Canadian High Commission to Nigeria, and several IMF colleagues.

stages of development (IMF 2016; Kazandjian and others 2016), higher profitability of firms (Christiansen and others 2016), and healthier financial assets (Olusegun 2017).

2. **With high and wide-spread gender inequality, Nigeria has therefore likely been missing out on a key ingredient to economic success.** Global rankings have consistently placed Nigeria within groups of low performers in terms of gender equality, with opportunities for improvement in a wide range of areas.[2] Among 144 countries, Nigeria ranks 122 on the World Economic Forum's Gender Gap Index, with particularly low relative scores on educational attainment and political representation (both ranked 135). Nigeria is among the 10 percent of countries worldwide that exhibit the highest levels of gender discrimination according to the OECD's Social Institutions and Gender Index, with an assessment of "high" or "very high" in all of the evaluated categories (discriminatory family code, restricted physical integrity, son bias, restricted resources and assets, restricted civil liberties). It also falls into the group of countries with highest gender inequality in human development outcomes (UNDP 2016).

Figure 1. Degree of Gender Inequality according to the Social Institutions and Gender Index



3. **Building human capital to boost the work force's productivity will be essential to reap Nigeria's demographic dividend.**

- Nigeria's population is growing at close to 3 percent annually, and the youth (0 to 19 years of age) accounting for more than 54 percent of the population. Simulations by the United Nation's Population Fund's show that—under the strong assumption of constant fertility rates—Nigeria's population could almost triple by 2050 and reach three billion people by 2100 (Figure 2, Panel 1).
- A growing workforce presents tremendous opportunities. In many developing countries, the period during which the number of workers has been growing more rapidly than the number of dependents provided a substantial boost to economic growth, as the declining dependency ratio provided a "demographic dividend"—explaining 40 to 50 percent of per capita growth for India

[2] Ratings used in this chapter provide point estimates that are subject to some uncertainty, they are indicative of Nigeria's performance relative to other countries, rather than an absolute rating.

since the 1970s (Aiyar and Mody 2011), and one-fourth to two-fifths for East Asia between 1965 and 1990 (Bloom and others 2003).

- Declining dependency ratios, a prerequisite for the demographic dividend, are contingent on declining fertility rates. Under constant fertility, dependency ratios in Nigeria would exceed 90 percent (Figure 2, Panel 2), and the rapid increase in population would pose enormous pressure on public services and infrastructure—that face gaps even at current population levels. More moderate fertility could bring the dependency ratio down to 50 percent in the long term, while the population would still grow to a billion people (Figure 2, Panel 3).
- However, even with falling dependency ratios, the demographic dividend is not automatic. The shift in demographics needs to be complemented by scaling up in human capital—education and health—to ensure the entrance of workers into the labor market at higher wages and higher productivity employment (IMF 2013).

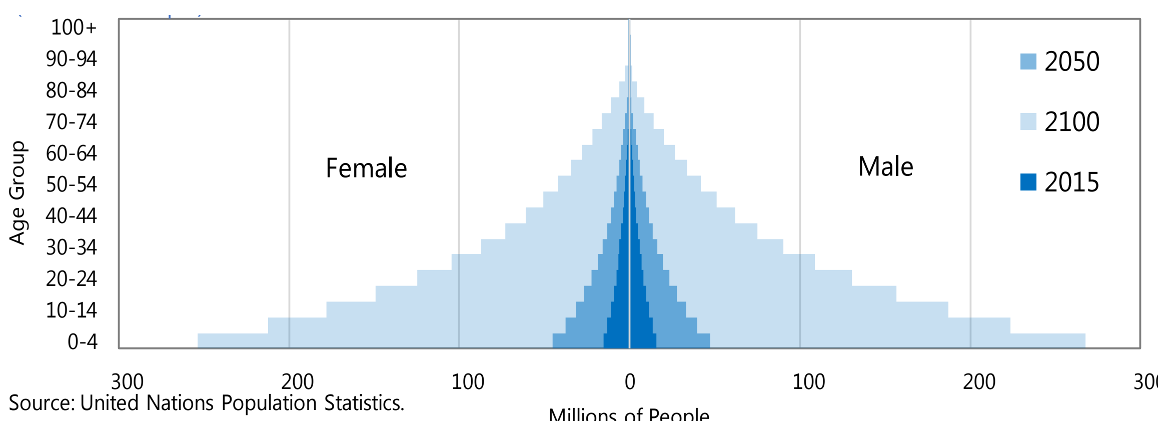
4. **Gender-responsive policies can help narrow gender gaps in health and education that would, in turn, decrease fertility rates.** Gender responsive health policies, boosting education levels for girls, providing broader coverage of women by legal rights, and protecting them from violence will improve women's health outcomes, and empower them economically and increase their productivity. Economic empowerment, in addition to fully meeting the demand for contraception and increasing the age of first child bearing by introducing and enforcing a national minimum age of marriage, can help decrease fertility rates. These policies could open up a virtuous cycle, since lower fertility rates, in turn, have been associated with higher education levels for girls, increased female labor force participation, and higher savings (Tertilt 2005; Bloom and others 2009).

5. **This chapter** argues for a level playing field, and does not take a normative stance on Nigeria's social, cultural, or religious norms. It benchmarks Nigeria's gender indicators against other countries, provides estimates of past economic losses attributable to gender inequality, and suggests policies that would address gender inequality while advancing the development agenda.

Figure 2. Demographics

Population by Age Group, 2015 vs. 2100

(Millions of People)



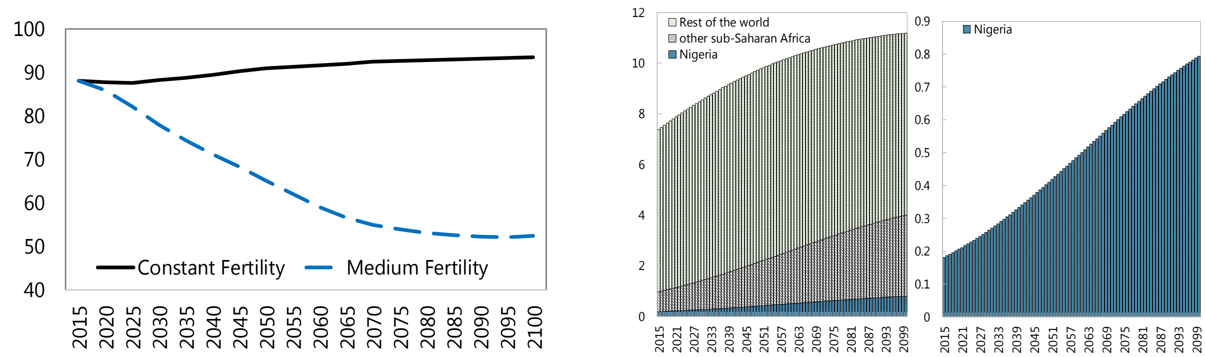
Source: United Nations Population Statistics.

Note: Constant Fertility Assumption

Figure 2. Demographics (concluded)

Dependency Ratio, 2015–2100
(Population age 0–14 and 65+ in percent of population age 15–64)

Storyline Population, 2015–2100
(Billions of People)



Source: United Nations Population Division

Source: United Nations Population Statistics

B. Benchmarking Gender Equality

Outcomes

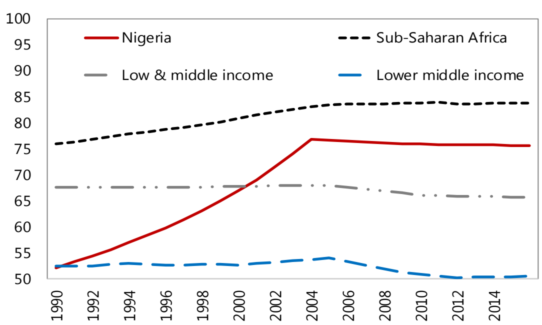
6. Economic participation by women in Nigeria does not significantly differ from that of peer countries; participation in politics and in higher-value activities does (Figure 3).

- The ratio of female-to-male labor force participation has been rising, with now almost three women participating in the labor force for every four men (ILO estimate; ratio higher according to National Bureau of Statistics), up from just about 50 percent in the 1990s (Figure 3, Panel 1). However, women are more often employed in lower-productivity and more informal jobs, and are constrained by lower access to productive resources. For example, while women constitute the main share of the rural labor force, only 15 percent of them own land alone or jointly (compared to 34 percent of men); in civil service, only about one-third of positions are held by women (NBS 2016).
- Unemployment rates are higher for women than for men (Figure 3, Panel 2), and female incomes are lower, with the median gender income gap at about 37 percent for the post-1999 period (British Council Nigeria 2012). Female employment rates and their gaps with respect to male rates vary strongly across geographic zones, with less than 47 percent of women employed in the North East but almost three out of four in the South West according to the latest national demographic and health survey (Figure 3, Panel 3). While the conflict in the North East may have shifted some gender-related outcomes, with woman emerging as household heads, other outcomes have deteriorated with internal displacement of families.
- Female representation in economic and political leadership positions is also low (Bala-Keffi 2015), with less than every sixth firm having female participation in its ownership and top management (Figure 3, Panel 5). Less than six percent of seats in parliament and only about one in ten ministerial positions is currently held by women (Figure 3, Panel 6).

- As female economic participation and earnings are lower for women than for men, in particular in the North-East, female-headed households are also disproportionately affected by food insecurity (more than 44 percent, compared to 33 percent for male-headed households) (WFP 2017).

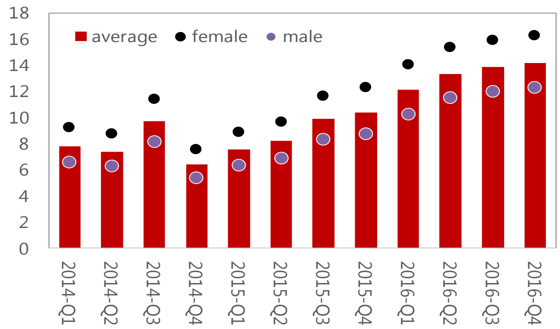
Figure 3. Inequality in the Labor Market

Ratio of Female-to-Male Labor Force Participation, 1990 vs. 2014
(Percent)



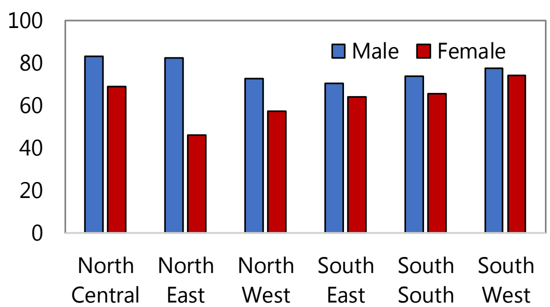
Source: World Bank World Development Indicators.

Unemployment Rate, 2014 vs. 2016
(Percent)



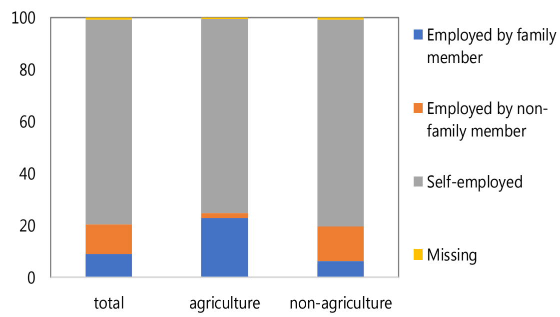
Source: Nigeria National Bureau of Statistics.

Employment by Gender and States
(Percent of group, age 15–49)



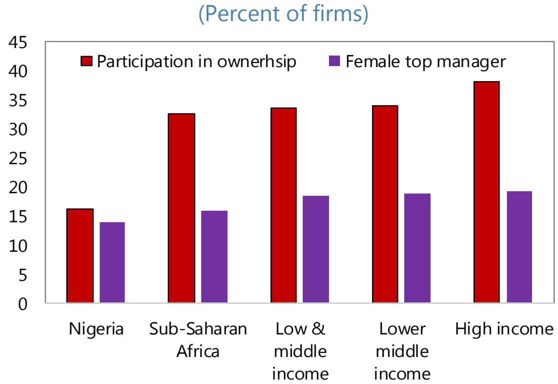
Source: National Demographic and Health Survey.

Female Employment by Sector and Type
(Percent)



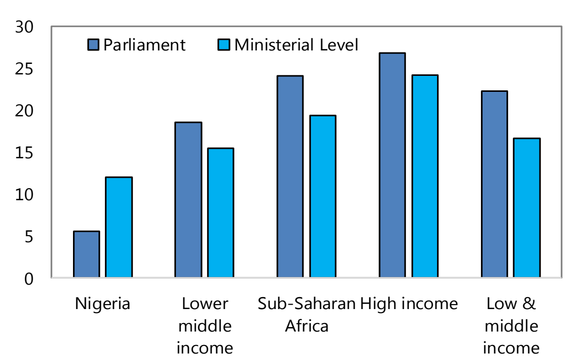
Source: National Demographic and Health Survey (2013).

Firms with Female Participation in Ownership or Female Top Manager, 2016 or latest
(Percent of firms)



Source: World Bank World Development Indicators.

Proportion of Seats in National Parliament and Ministerial Level Positions held by Women
(Percent)



Source: World Bank World Development Indicators.

Opportunities

While some of the decisions by women not to participate in the economy may be preference-based, a range of obstacles prevent them to enter the economy to begin with, e.g. through constraints to human capital development (health, education), limits to access to productive resources (inheritance, financial access, legal rights, technology), and restrictions due to social attitudes and norms.

7. Nigeria has ratified major conventions on gender equality but related bills need still to be passed, and customary law impedes application of constitutional rights (World Bank 2015; OECD 2014; British Council Nigeria 2012).

- Nigeria ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) (1985), its Optional Protocol (2004), and the Protocol to the African Charter on Human and Peoples' Rights on the Rights of Women in Africa (2005). Nigeria's 1999 constitution prohibits discrimination based on gender.
- However, major steps to enshrine the ideas of these conventions are yet to follow. For example, the *Gender and Equal Opportunities Bill*—among other things, reaffirming principles of equality in education, granting inheritance rights to widows, equalizing these rights for sons and daughters, and taking a more concrete stance against gender-based violence—was not passed by the Senate in March 2016 (National Assembly 2016). In addition, even with a passage of the bill, implementation of the laws may be difficult, as federal states are not under obligation to domesticate laws passed at the national level, and often face capacity constraints. For example, while the Child Rights Act (2003) introduced a minimum age of marriage of 18 for both men and women, not all states have adopted the act—the legal age of marriages is between 12 and 15 years in some northern states, and the constitution stipulates that a married woman is deemed an adult for legal purposes.
- In addition, customary law continues to follow practices that are discriminatory (OECD 2014). In particular, inheritance rights under customary law vary across states, with generally unequal rights between men and women.

8. Gender gaps in education have narrowed but remain at higher levels and have increased at the tertiary level; infrastructure gaps appear to be an obstacle (Figure 4).

- Enrollment rates at all levels of education have increased, and gender gaps have shrunk in primary and secondary education (Figure 4, panels 1 and 2). Gross enrollment rates in primary education are at almost 100 percent, and secondary enrollment rates have more than doubled for both boys and girls. However, in contrast to other lower middle-income countries, still only nine girls are enrolled in school for every ten boys at the secondary level, and gender gaps have increased at the tertiary level, with now seven women enrolled for ten men (vs. eight in 1999; Figure 4, Panel 3).
- These average numbers mask large variations across the country's six geographical zones. In particular, the share of the population without education is high for both men and women in the three northern zones. In the North East and North West, about two-thirds of women are without education. Large challenges remain in terms of literacy even for young women (15–24 years): in

seven states, less than one third of women in this age group are able to read (National Demographic and Health Survey 2013; NBS 2016; Figure 4 Panel 5).

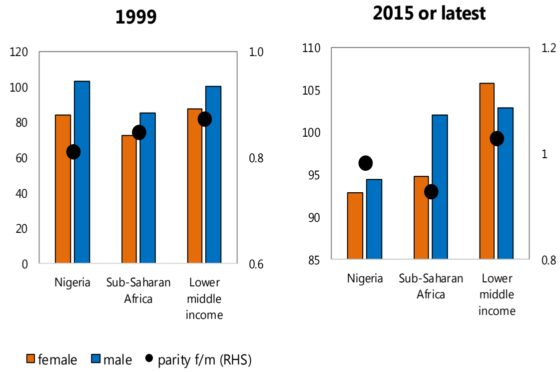
- Infrastructure and facility gaps could explain part of the remaining challenges. In particular, insufficient access to electricity and water puts an over-proportional burden on women's time as they spend more time on household activities. In almost 12 percent of households, one trip to access clean water takes longer than 30 minutes (Figure 4, Panel 4), which implies less time to engage in more productive activities, including going to school. A lack of sanitation facilities at school exposes girls disproportionately to risks. Reported corporal punishment of especially poorer girls for non-payment of levies and charges represents another obstacle (British Council Nigeria 2012), with more than 70 percent of girls age 10–14 having experienced corporal punishment in the past month (UNICEF 2014).

9. Health indicators have been improving more slowly than in the rest of sub-Saharan Africa (Figure 5).

- With 5.6 children per women—ranging from 4.3 in the South-South to 6.7 in the North-West—and about 110 births per 1000 girls aged 15 to 19, overall and *adolescent* fertility rates are higher than the sub-Saharan African averages and in countries at similar levels of development. They have been decreasing more slowly (Figure 5, panels 1 and 2). Child marriage remains practiced and poses significant health risks. Teenage motherhood is more likely at lower levels of education, with 48 percent of girls without education being mothers or pregnant by the age of 19, but only 9 percent with post-secondary education. In turn, early childbirth poses risks for the health of the mother and the child. In addition, the risk of developing Vesico Vaginal Fistulae rises, and iron deficiency anemia occurs more frequently in young girls during pregnancy and results in malnourished and low birth weight babies, who tend to have cognitive gaps as adults. About one in six women reports an unmet need for family planning (Figure 5, Panel 3).
- With more than *800 maternal deaths per hundred thousand live births*, Nigeria's maternal mortality rate is among the highest in the world, and progress to decrease it has stalled over the past decade (Figure 5, Panel 4). Average mortality rates are higher in rural areas and for the poorer segments of the population. Low access to health care helps explain these numbers, with only about every third child birth attended by skilled staff in Nigeria, compared to more than 50 percent in sub-Saharan Africa, and more than two-thirds in low-and middle-income countries (Figure 5, Panel 5). Relatedly, at almost seven percent, infant mortality rates are significantly higher than in low-income countries or sub-Saharan Africa (Figure 4, Panel 6).
- *Social norms* add to detrimental health outcomes. Almost two-fifths of women do not participate in household decisions regarding their own health care, with only every sixth woman participating in that decision in the North-West, but about three out of four women in the South-West (National Demographic and Health Survey 2013).

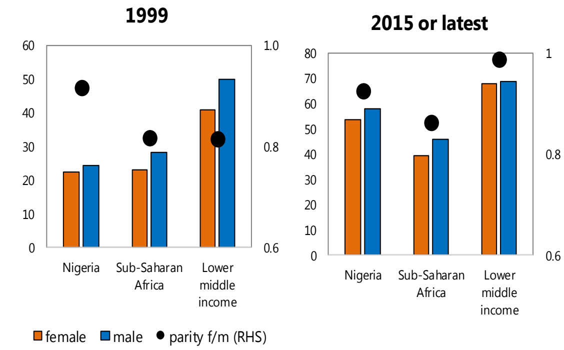
Figure 4. Education

Primary Gross Enrollment Rates
(Percent)



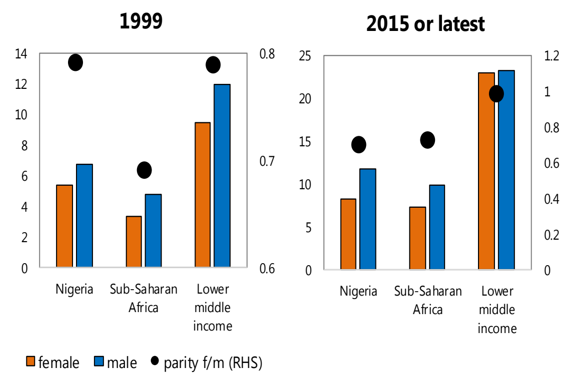
Source: World Bank World Development Indicators.

Secondary Gross Enrollment Rates
(Percent)



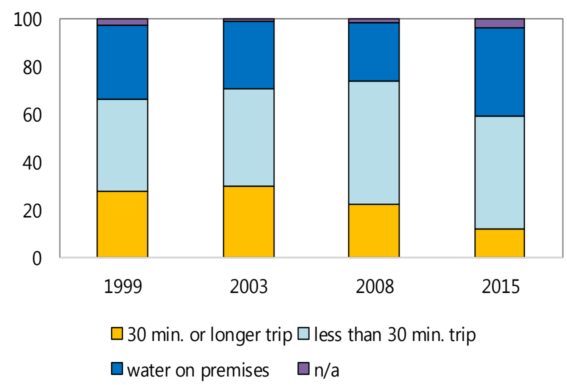
Source: World Bank World Development Indicators.

Tertiary Gross Enrollment Rates
(Percent)



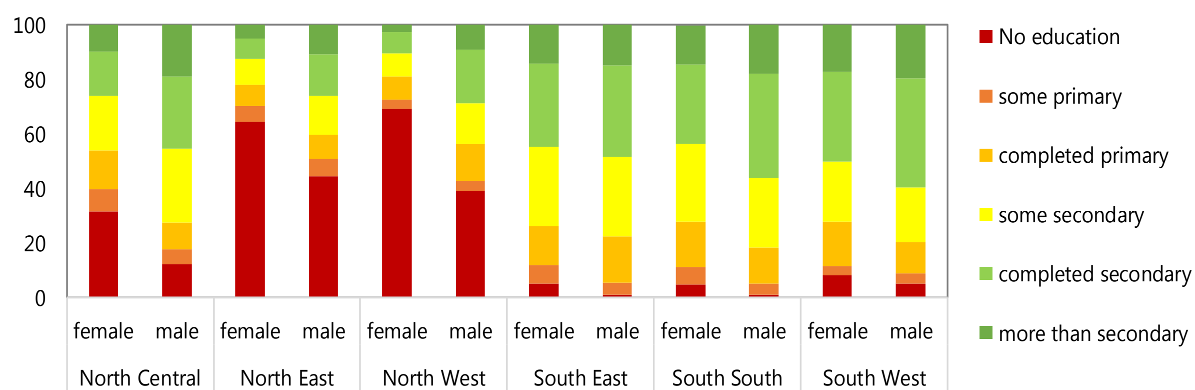
Source: World Bank World Development Indicators.

Length of Trip to Access Water
(Percent of Households)



Source: World Bank World Development Indicators.

Educational Attainment by Gender and Region
(Percent of total population in each group)



Source: National Demographic and Health Suvey (2013)

10. Physical health is further impeded by a high prevalence of gender-based violence, that is rarely reported, reinforced by incomplete legal protection and attitudes towards violence (2013 Demographic and Health Survey).

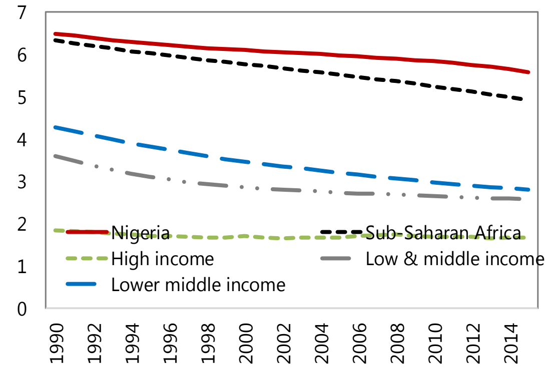
- One in four women with ages between 15–49 and about every sixth girl with ages between 0–14 has undergone *female genital mutilation or cutting*, increasing the likelihood of complications during childbirth and adding to the risk of maternal or child death at birth. Less than one-fourth of women who have heard about the procedure think that the practice should continue.
- 28 percent of Nigerian women have experienced *physical violence* since the age of 15, with experiences varying widely by geographic regions (as high as 52 percent in the very South of the country). More than one in ten women has experienced physical violence in the past 12 months, and five percent experienced it during pregnancy. Seven percent of women have been subjected to *sexual violence*.
- *Lacking institutional protection*, i.e. the absence of legal protection and enforcement of existing legal provisions, contributes to actions only rarely being criminally pursued. For example, only a fraction of Nigerian states enacted laws against domestic violence or genital mutilation (British Council Nigeria 2012). Evidence from selected states (Adamawa, Plateau, and Gombe) shows that the response of law enforcement and security agencies at local and state levels is insufficient and ineffective (UN Women 2016). As a result, most women do not seek formal or informal help after experiencing violence, and only two percent seek help from the police.
- *Attitudes towards domestic violence* reinforce the issue. Thirty-five percent of female survey respondents (almost 50 percent in the North East) agreed that there were reasons that justify a husband beating his wife, such as going out without telling the husband (25 percent) and burning food (14 percent).
- In search of better economic opportunities, some women and girls engage the services of illegal smugglers. In 2015, more than 700 women have been trafficked—about half of them for sexual exploitation.

11. Finally, there is a significant gender gap in financial access, although with some variation across demographic groups.

- Women are less likely to have an account and to save or borrow at a financial institution than men, with larger gaps than in sub-Saharan African on average (Figure 6, Panel 1). Gender gaps in borrowing even persist at higher levels of education (Figure 6, Panel 2), while rates for informal borrowing are roughly equal for women and men (Figure 6, Panel 3). Women being more likely to work in the informal sector explains part of this gap, with women and men equally likely to save once they are in the formal economy (Figure 6, Panel 4).
- Women assign more relevance to most factors inhibiting their access to formal financial services to men, and cite the cost of services as the main impediment (Figure 6, Panel 5). More generally, varying application of legal rights (inheritance, property) poses a constraint as it limits women's access to collateral. When in the possession of collateral, discriminatory practices, such as a requirement of the husband's signature for the acceptance of collateral, impede financial access.

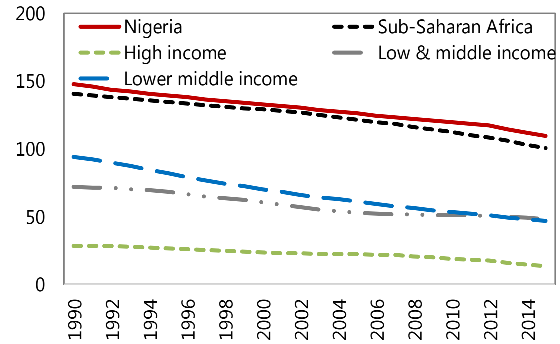
Figure 5. Health Outcomes

Fertility Rate
(Birth per women)



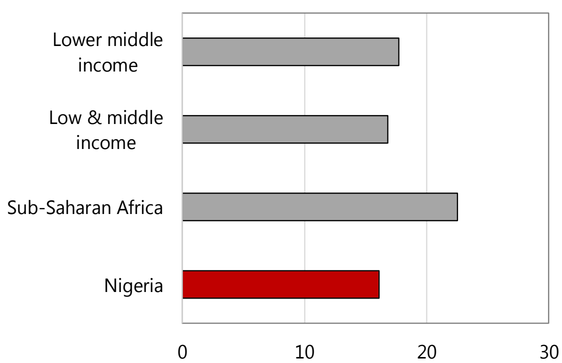
Source: World Bank World Development Indicators.

Adolescent Fertility Rate
(Birth per 1000 women ages 15–19)



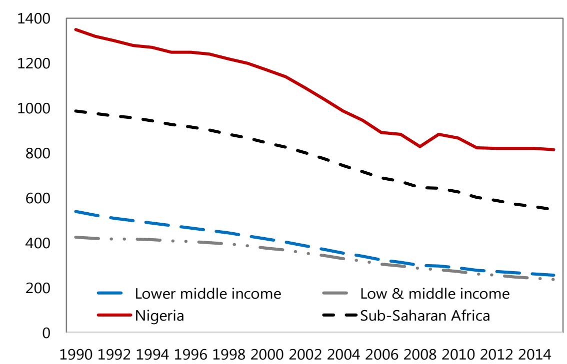
Source: World Bank World Development Indicators.

Unmet Need for Contraception
(Percent of Married Women, ages 15–49)



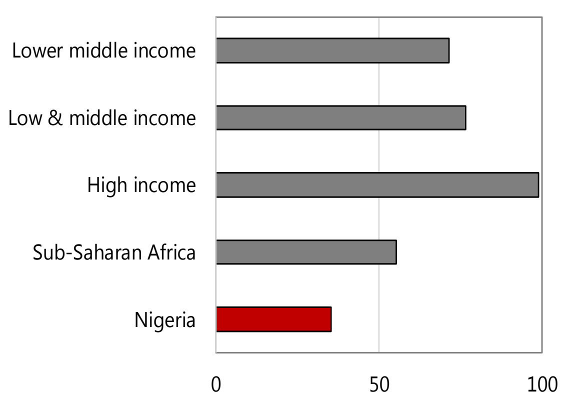
Source: World Bank World Development Indicators.

Maternal Death, 1990–2015
(Number of Deaths per 100,000 live births)



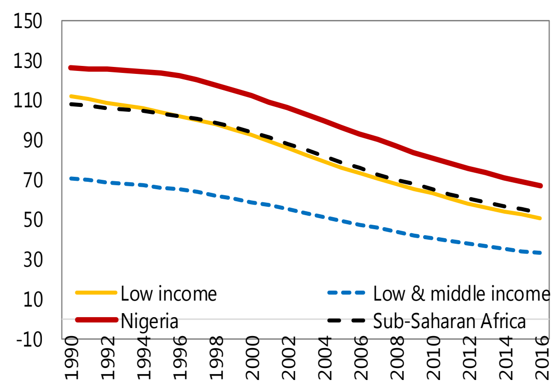
Source: World Bank World Development Indicators.

Births Attended by Skilled Staff
(Percent)



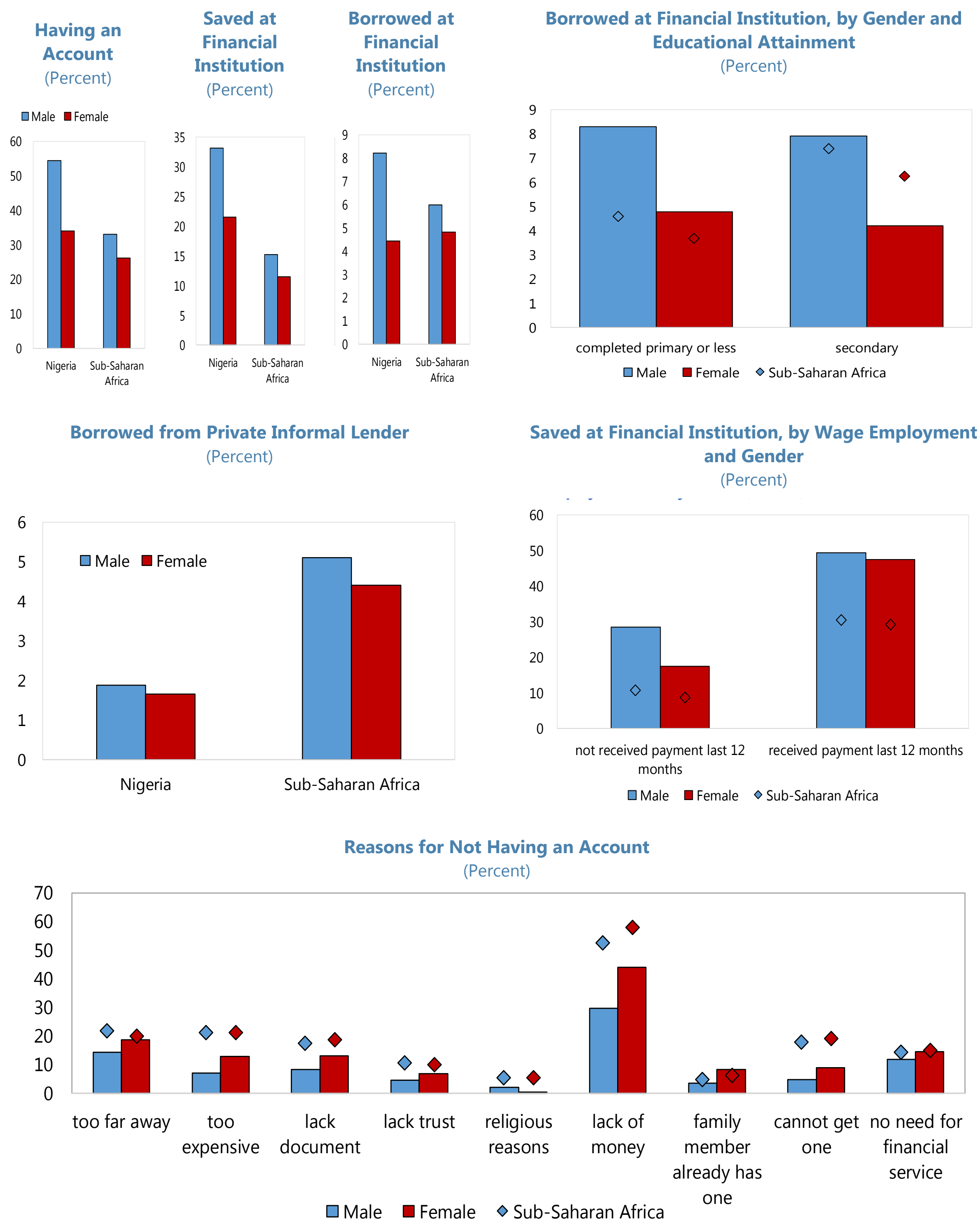
Source: World Bank World Development Indicators.

Infant Mortality Rate, 1990–2016
(Per 1000 live births)



Source: World Bank World Development Indicators.

Figure 6. Financial Access



Source: Findex 2014; African Department Financial Inclusion Toolkit.

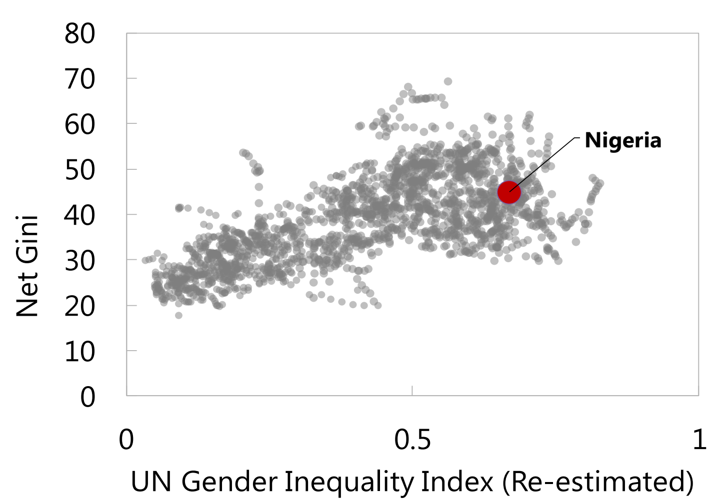
C. Macroeconomic Losses and Future Potential

12. The above-mentioned trends raise the question to the extent of which gender inequality has harmed growth outcomes in Nigeria in the past.

- A decomposition exercise using the estimates of the determinants of growth in a Panel of 115 economies over the period of 1990 to 2014 (IMF 2015), helps relate Nigeria's differences in average real GDP per capita growth rates compared to other countries to differences in gender inequality.[3] Using these empirical results suggests that gender inequality in the labor market, political representation, educational attainment, poorer female health outcomes (high adolescent fertility and maternal death rates)—jointly measured by the United Nations Gender Inequality Index (GII)—and restrictions to women's legal rights have taken a strong toll on growth.
- In particular, based on this approach, growth in Nigeria could be higher by more than 1¼ percentage points annually, on average, if gender inequality was decreased to levels of countries at similar levels of development in the region. With varying labor force participation rates, education and health outcomes, and legal rights across states, lowering gender inequality to the same benchmark will likely boost growth by more than 1¼ percent in states with high gender inequality but less so in states that are more developed and more gender equal.

13. Decreasing gender inequality could also help mitigate income inequality and help boost economic diversification. A similar exercise using the estimates by Gonzales and others (2015) on the relationship between income inequality and gender inequality, shows that removing gender inequality (as measured by the GII) could reduce the Gini coefficient of income inequality by 6½ points (Figure 7). Finally, reducing gender inequality could also yield significant gains in economic diversification (Kazandjian and others 2016), therefore contributing to the sustainability of growth and Nigeria's Economic Recovery and Growth Plan's main goals.

Figure 7. Gender Inequality vs. Income Inequality, 1990–2010



Sources: SWIID; United Nations; and authors estimates.
Note: HIC = High-income countries; LIC = Low-income countries; MIC = Middle-income countries.

[3] As the required index was not available from UNDP, this chapter reconstructed United Nation's Gender Inequality Index line with UNDP (2014).

D. Ongoing Initiatives to Address Gender Inequality

14. The government and civil society organizations have initiated a number of programs to address the obstacles outlined above:

- As part of a *program on the eradication of female genital mutilation and cutting* in states, jointly with UNICEF/UNFPA, more than one hundred female genital mutilation and cutting eradication champions were trained to carry out house-to-house visitation in the prevalent communities, while health workers were trained on prevention and management.
- *A program for promoting women's engagement in peace and security in Northern Nigeria* engaged in capacity building workshop for MDAs on implementation of the revised National Action Plan (NAP). As part of the NAP, a specific gender policy for the Nigeria Police sector has been created, and gender desks in designated police stations have been set up in the six geo-political zones.
- The *HeForShe Campaign* was launched nationally in Nigeria in March 2017, as part of the global initiative by UN Women to change discriminatory behaviors against women through male champions. Over 150 men in higher-level positions, led by then Acting President Osinbanjo, declared their active support for the campaign that recognizes the crucial role men play in transforming the norms. The campaign is expected to be launched in all the States over the next couple of years.
- *Medical and Financial Assistance to Women and Girls on Obstetric Fistula* is being implemented in partnership with the ECOWAS Gender Development Center.
- The Central Bank of Nigeria's *Financial Inclusion Strategy* targets reducing the proportion of women who are financially excluded to 20 percent by 2020. For example, the *Micro, Small and Medium Enterprises Development Fund* targets 60 percent of loans from microfinance banks and institutions for women and women-owned enterprises. The introduction of a registry for movable property this year can help increase financial inclusion by women, as they are likely to possess immovable property that is often required as collateral. The National Women Empowerment Fund (NAWEF) and the Government Enterprise and Empowerment Program (GEEP) aim at providing funds to young men and women.
- A *range of programs are implemented by civil society organizations*, often in collaboration with development partners and at the state level. For example, the Women Advocates Research and Documentation Center published a minimum standard guideline on safety and security of schools to be used in the engagement in pilot schools, such as in Bauchi State.

E. Policy Recommendations

15. A necessary first step is to strengthen and enforce legal rights and national strategies to grant women the same economic opportunities, and raise awareness on existing rights. While laws and strategies will not be sufficient to decrease gender inequality—as underlying norms and behaviors shift more slowly—they are a necessary first step. Policy recommendations in this area are to:

- *Equalize legal rights and implement existing rights and strategies by* implementing the 2006 national gender strategy and 2015 gender policy, and accelerating the update of the former. This should include the revision of laws and penal codes at the national and state level to include key principles to protect women's and children's rights. It is also important to re-submit a revised "Gender and Equal Opportunities Law" to the Senate to place the CEDAW and African Union Protocol of women's rights into national law.
- *Enforce institutionally granted non-discrimination rights based on gender* by enforcing civil law when customary law is in contradiction with non-discriminatory policies. This applies particularly to property and inheritance rights, which are essential for greater financial inclusion and access to productive resources. Working with traditional leaders and local governance systems will be essential for legal rights to translate to a wider share of the population.
- *Raise awareness of legal rights.* While legal provisions are important for the realization of rights and equalities, sensitizing the public on the provisions of existing polices and laws and educating the population on how to seek redress in the event of rights' infringement is crucial.

16. Boosting infrastructure and human capital investment is essential to open a virtuous circle between increasing gender equality, higher productivity, and development. Measures in area include:

- *Increasing education levels, including by investing in security and infrastructure.* Investment into electricity and sanitation facilities for schools will not only advance general development goals but help close gender gaps in the labor force and education.
- *Improving health outcomes, including by allocating more funds to the health sector.* Investments into reproductive health services, improved access to affordable family planning (addressing the unmet demand in contraception) to reduce maternal death ratios and address high adolescent fertility rates should be priorities. To operationalize the 2001 Abuja declaration on public health expenditures, it would also be important to allocate at least 1 percent of the consolidated revenue fund to health.
- *Improving awareness and protection against gender-based violence*. Ongoing initiatives and outreach to end harmful traditional practices (child marriage, female genital mutilation and cutting) and initiatives to address violence against women are welcome and should be expanded. In particular, the number of and access to "safe spaces" and gender desks at the national police that have been established as part of the NAP to report incidences of domestic and other violence should be increased. Programs should also strengthen the established gender units and desks at the various police stations across the country, provide training to improve the capacity of designated police officers in investigation, documentation of complaints and reporting, and knowledge with respect to legal rights. Women health workers such as Traditional Birth Attendants which operate at the community level should be trained in provision of medical and other support to respond to gender-based violence. In order to prevent these practices from happening in the first place, sensitization programs, such as the Voices4Change Program, and programs that improve women's access to information should be implemented, and should involve traditional and religious institutions.

17. Reinvigorating previous efforts at gender-responsive budgeting would help prioritize actions towards more gender equality. In 2012, the Nigerian government, in partnership with the U.K.'s department for International Development, introduced "Growing Girls and Women in Nigeria" (G-WIN) as a gender budgeting initiative in 2012 (Stotsky and others 2016). This initiative that comprised the Ministries of Agriculture, Public Works, Health, Water Resources, and Communication and technology, should be restarted and expanded. Introducing a committee within the Ministry of Finance which monitors budget allocations and public expenditures from a gender standpoint and evaluates the impact of policies on women and men would be a welcome step, as would be additional training and empowering gender focal persons at relevant MDAs.

18. In line with the sustainable development goals, strengthening the provision of gender-disaggregated data is important to design actions and monitor progress in gender inclusion. For example, as noted in NBS (2016), limited information to women's and men's employment in the federal and state civil service inhibits an analysis of trends in public employment. More generally, gender disaggregated data should go beyond the disaggregation of male vs. female in main indicators but should offer information on opportunities, rights and resources. For example, the Ministry of Women and Child Protection could publish an overview of the current state of legal rights across federal states.

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STRENGTHENING TRANSPARENCY AND GOVERNANCE IN NIGERIA[1]

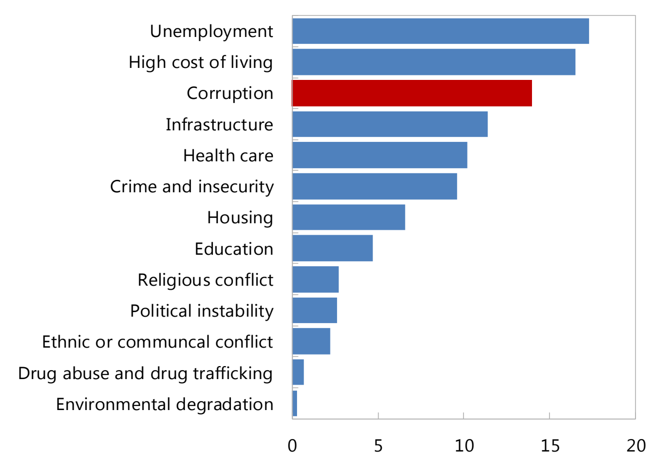
Nigeria's rankings with respect to governance and corruption—globally and regionally—are concerning. Cross-country estimates suggest that real GDP growth could be higher by ½ to 1½ percentage points if corruption in Nigeria was lowered to the level of sub-Saharan African or other peers; its tax revenue-to-GDP ratio could be 1½ percentage points higher, and the return from each dollar spent on public investment could rise by 12 percent. Cognizant of these weaknesses, the Nigerian Government newly elected in 2015 campaigned on anti-corruption, a key part of its agenda and Economic Recovery and Growth Plan. This chapter builds on recent progress—the new anti-corruption strategy and compliance measures—and focuses on additional reform priorities needed to strengthen the legal and institutional framework and prosecuting corruption cases.

A. Motivation and Overview

1. Corruption in Nigeria is higher than in other countries and perceived as one of the most important problems facing the country.

- Corruption ranks third among issues that Nigeria's population considers the most important problems in 2016, outranked only by high unemployment and the elevated cost of living, in line with current macroeconomic challenges that have kept inflation high and unemployment rising (Figure 1; Staff Report).
- Indeed, various indicators highlight that perceptions of transparency, governance and corruption in Nigeria compare unfavorably with the majority of other countries, globally and regionally. In particular, Nigeria ranks 136, i.e. in the lower quartile, on Transparency International's corruption perception index; its ranking is at the bottom of the Worldwide Governance Indicators' control of corruption and rule of law indices—where it has moved little in the past two decades; the country only scores 1.5 points (out of 6) on the International Country Risk Guide's corruption index (Figure 2, panels 1 to 4).[2] More than one fourth of firms indicate having received at least one request to bribe (Figure 2, Panel 5), and every third

Figure 1. Share of Population Considering Selected Issues to be the Most Important Problem Affecting Nigeria, 2016
(Percent)



Source: National Bureau of Statistics; UNODC (2017).

[1] Prepared by Ke Chen (LEG) and Monique Newiak (AFR). This chapter benefited from helpful comments from the World Bank.

[2] The rankings used in this chapter are subject to uncertainty around the point estimate. Rankings reflect the relative, not the absolute, performance of the country.

individual that had contact with a public official has paid or was asked to pay a bribe (National Bureau of Statistics; UNODC 2017). According to the Afro Barometer (2018), more than 90 percent of Nigerians still report that they perceive public officials as corrupt. *Section B provides more details on the incidence, distribution, awareness and reporting of bribes.*

2. High corruption levels are bound to distort the playing field for private agents and government operations. Corruption is likely impeding Nigeria's macroeconomic performance by introducing a range of inefficiencies and disincentives into the economy and lowering the ability of the government to deliver on its inclusive growth objective. This is done through: (i) lowering the trust of the population in government effectiveness, therefore incentivizing firms to stay out of the formal economy, hence lowering tax revenues that are urgently needed to address Nigeria's vast development needs; (ii) distorting project selection and the assignment of government contracts, therefore lowering public investment efficiency; and (iii) disincentivizing private sector activity by making firms' operations costlier. *Section C provides a quantification of the impact of corruption on growth, revenue collection, and public investment efficiency in Nigeria.*

3. The approval of the National Anti-Corruption Strategy and other recent measures signal the government's commitment to fight corruption.

- **However,** The ***National Anti-Corruption Strategy (NACS)*** for 2017–20, approved by the Federal Executive Council on July 5, 2017, identifies priorities at the national level, including enhancing asset recovery and management, improving adjudication of corruption cases by the court system, strengthening investigation and prosecution of corruption, and enhancing coordination and collaboration among competent authorities. It also makes recommendations for the various anti-corruption agencies and sets out an implementation plan.
- ***Pursuit of corruption cases.*** Since President Buhari took office, several senior officials, including recently the Secretary General of the Federation and the Director General of Nigeria's Foreign Intelligence Agency, have been dismissed for alleged corruption. Around 20 "high profile" corruption cases prosecuted by the Economic and Financial Crimes Commission (EFCC) between 2007 and 2015 are currently awaiting court ruling.[3]
- Initial efforts to establish requirements to ***disclose beneficial owners of companies*** involved in the extractive sector and publishing a monthly financial and operational report of the Nigeria National Petroleum Company (NNPC) are good first steps toward enhancing the transparency and integrity of the sector. The approval of the Petroleum Industry Governance Bill could also improve governance in the sector by allowing the national oil company to run on a commercial basis and creating independent regulatory bodies.
- On the ***public financial management*** side, the establishment of a treasury single account (TSA), with 17,000 commercial bank accounts transferred under the Central Bank of Nigeria's (CBN) control, helped increase the transparency of Ministries, Departments and Agencies (MDAs) cash management. The use of zero-based budgeting and of Government Integrated Financial Management Information System (GIFMIS) modules also helped strengthen the budget

[3] See: https://efccnigeria.org/efcc/public-notices.

preparation and execution system while introduction of the Integrated Personnel and Payroll System (IPPIS) helped remove ghost workers from the payroll. Revenue generating agencies are audited, with updates to the National Economic Council.

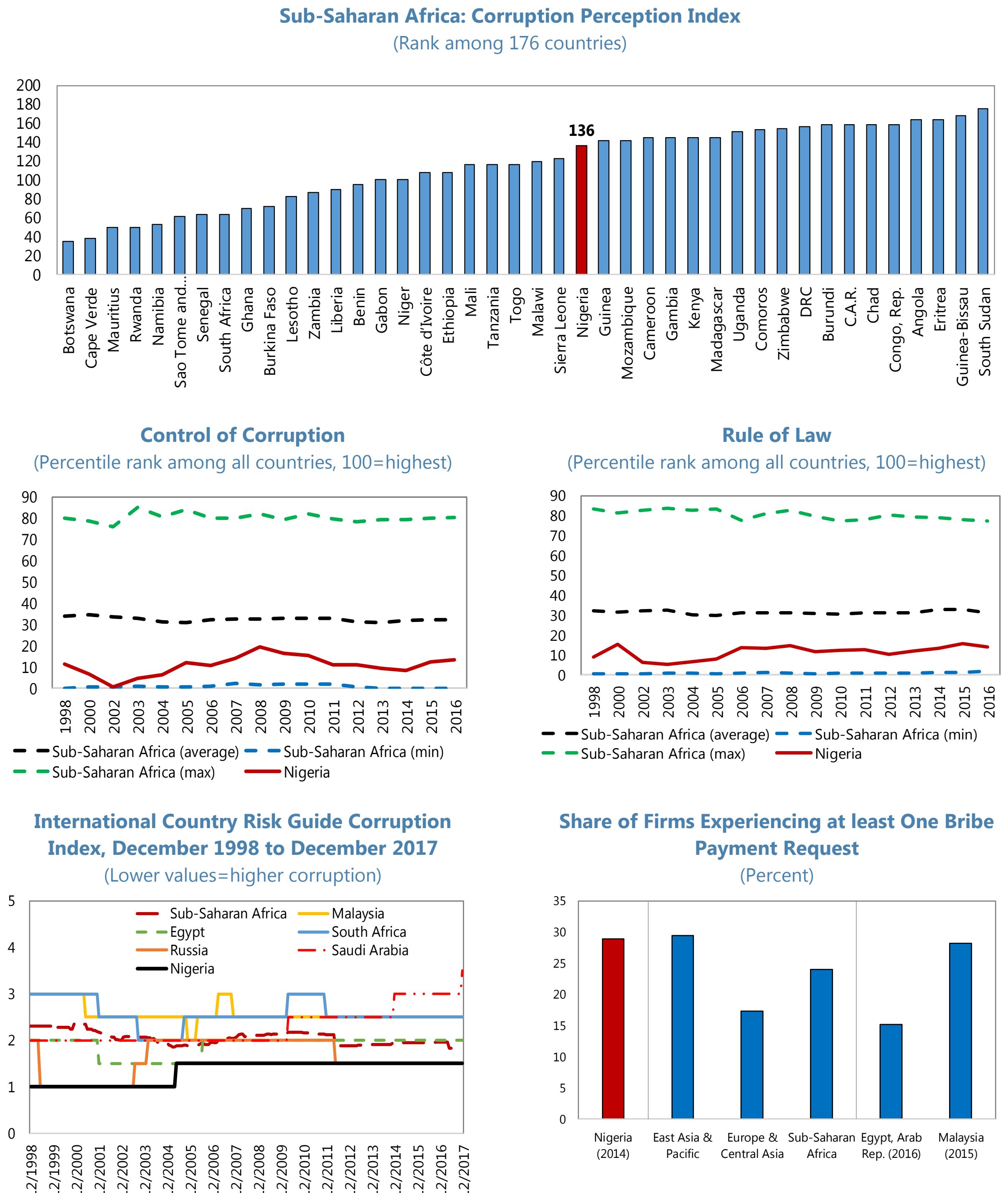
- Building up on existing efforts, the government's ***Economic Recovery and Growth Plan (ERGP)*** also includes a range of additional measures to enhance anti-corruption efforts and improve transparency in the management of public reforms (Box 1). In particular, the Ministry of Finance approved a ***whistle blowing program*** in December 2015 and launched an online portal[4] to allow for submission of tips and the establishment of a reward for "information that directly leads to the voluntary return of stolen or concealed public funds or assets".
- The Technical Unit on Governance and Anti-Corruption Reforms (TUGAR), with assistance of the United Nations Development Program, conducted pilot ***corruption risk assessments*** of selected government agencies[5] to help target efforts to prevent and detect corruption at higher-risk agencies.
- Finally, to further shed light on this issue, the National Bureau of statistics conducted a ***survey on corruption***, laying out the incidence of bribery across different institutions.

4. Further reforms remain urgent, and actions in a number of aspects of the anti-corruption framework should be pursued as a priority. In particular, legal reforms are needed to ensure corruption is criminalized in line with the United Nations Convention against Corruption (UNCAC). A solid legal basis that will allow and facilitate effective coordination among investigative agencies is still missing. Initial efforts to establish requirements to disclose beneficial owners of companies in the extractive sector should be broadened by establishing a central register of beneficial owners of all legal persons, which will support a number of anti-corruption measures. The asset declaration regime and its enforcement need to be improved. The anti-money laundering (AML) framework should be further mobilized to help detect and trace the proceeds of corruption. *Section D discusses these issues, and section E summarizes the main policy recommendations.*

[4] See: http://whistle.finance.gov.ng/Pages/default.aspx

[5] See: http://tugar.org.ng/?smd_process_download=1&download_id=530, http://tugar.org.ng/?smd_process_download=1&download_id=534

Figure 2. Indicators of Governance Compared to other Countries



Note: Year of Survey in Parenthesis.

Sources: Transparency International, Worldwide Governance Indicators 2017, International Country Risk Guide (ICRG), World Bank Enterprise Surveys.

Box 1. Measures Under the ERGP

The ERGP lays out a range of measures to increase transparency and governance, with the involvement of the Ministry of Justice, the Economic and Financial Crimes Commission, the Independent Corrupt Practices Commission, the Ministries of Interior, Finance, Budget and National Planning, Information and Culture, and the Central Bank of Nigeria (CBN).

To ***enhance anti-corruption efforts,*** it envisions: (i) a continuation of the anti-corruption campaign incorporating structured programs to encourage the use of hotlines, report incentives and offer whistle-blower protection; (ii) the more effective prosecution of corruption and other crimes; (iii) a strengthening of the capacity of anti-corruption agencies; and (iv) an enactment of the Special Crimes Act.

To ***improve transparency in the management of public resources***, it targets: (i) the fulfillment of commitments to improve transparency under the Open Government Initiative; (ii) the continued publication of allocations to federal, state and local governments after each Federal Account Allocation Committee (FAAC) meeting; (iii) the publication of monthly state and local government receipts on states websites; and (iv) the CBN to verify the accuracy/authenticity of foreign exchange sales to end users by all deposit money banks and making them available to customs and the Federal Inland Revenue Service (FIRS).

B. Zooming in on Bribery: Public Experience and Perception

5. A detailed survey on corruption in Nigeria helps examine the incidence of bribery, and the population's perceptions about the government's effectiveness to cope with it. The 2016 Corruption Survey undertaken by Nigeria's National Bureau of Statistics, the first nationwide household survey on corruption in Nigeria, is a representative household survey, based on almost 33 thousand completed interviews in all states. This section provides an overview of its main findings.

6. Experience with bribery in Nigeria is frequent, has many purposes, and is spread across most government operations.

- ***Incidence.*** One third of people that had contact with a public official (which is about half of the population) has paid or been asked to pay a bribe. The prevalence of bribery varies somewhat across geographic zones, and is lowest in the South-East. Men, more highly educated persons, and better-earning individuals are more likely to be in contact with bribery (Figure 3, Panel 1). Most bribes are paid in cash.
- ***Purpose.*** When bribes are paid, they often aim at speeding up (32 percent) or making it possible to finalize (10 percent) a procedure, avoiding the payment of a fine (18 percent) or averting the cancellation of public utilities (13 percent) (Figure 3, Panel 2). Services sought in relationship with the bribe include, among others, public utility services (every fifth case), services related to the issuance of an administrative certificate, document, license or permit (more than 13 percent), or medical services (almost 7 percent). While bribes related to the application to a position or promotion in the public sector constitute a small fraction of bribery experiences, the average amount paid for such services is relatively higher (almost 22 thousand Naira) (Figure 3, Panel 3).

- ***Government function.*** The likelihood of contact with bribes varies by type of government officials and is particularly high in law enforcement, with almost every second contact with policy officers resulting in a bribery incident (average bribe of a bit more than four thousand Naira). About every third contact with a prosecutor (average bribe a bit more than 10 thousand Naira), judge, or magistrate (average bribe almost 19 thousand Naira) results in such an incident. Bribery of a customs officer is both likely (about one in four cases) and costly (almost 89 thousand Naira) (Figure 3, Panel 4).

7. Bribery is rejected in only few cases and remains mostly unreported as raising the issue is—rightly—perceived to likely have little or no consequences. One in five Nigerians that are confronted with bribery, refuses to pay the bribe (Figure 3, Panel 5). This refusal is often associated with negative consequences, in particular when facing the police, public utilities officers, or teachers and lecturers (Figure 3, Panel 6). Less than 4 percent of bribery cases get reported, with 43 percent of these cases being reported exclusively to official institutions (Figure 3, Panel 7). The perception that reporting would not make a difference or that bribery is common practice are the main reasons for not reporting the bribe (Figure 3, Panel 8). Indeed, in one third of reported cases, there is no follow-up and in one out of five cases the reporter receives advice to not go ahead with the report. In contrast, a formal procedure against the officer is initiated in only about one in six cases. In one in seven cases, the problem is solved informally (Figure 3, Panel 9).

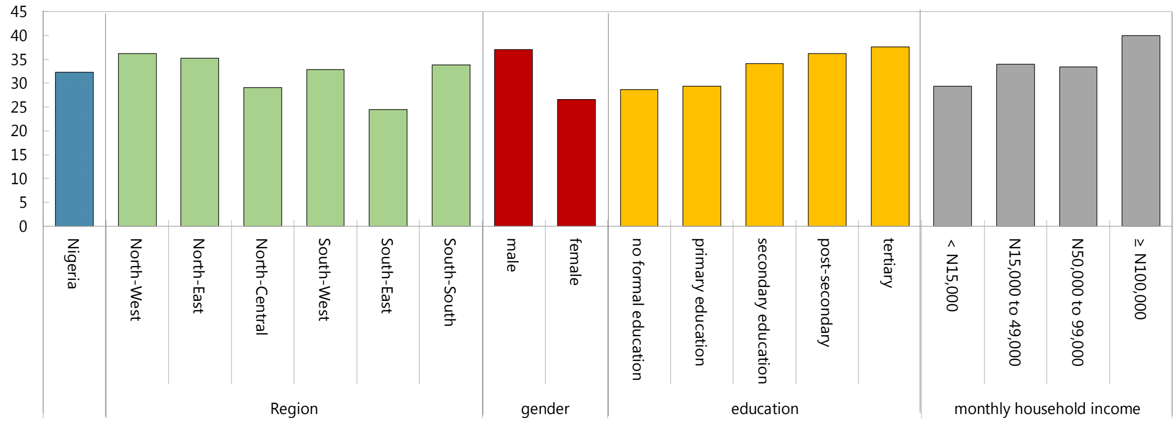
8. The majority of the population considers corruption as not acceptable. Three out of five to two out of three people find that corruption is not acceptable, in particular when the bribe is related to a job application in a private company, with only 13 percent of the population classifying such a transaction as "always acceptable". Acceptance rates, however, are generally higher in the area of transactions with the public sector, with every sixth to every fifth person reporting to find bribes in law enforcement or the use of family and other ties to be recruited into the public sector as "always acceptable" (Figure 4, Panel 1).

9. Perceptions about government effectiveness and awareness of anti-corruption agencies to tackle the issue vary.

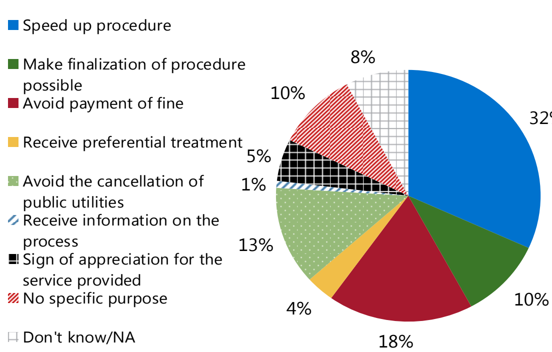
- While the majority of the population considers the government to be committed and effective in dealing with corruption, less than half of the population thinks so within the South-East and South-South regional zones, where business activity is higher and more than three thirds of the population also perceive corruption to have increased compared to two years ahead of the survey (Figure 4, panels 3 and 4).
- With the exception of the National Police Force (NPF), the Economic and Financial Crimes Commission (EFCC) and the Federal High Court (FHC), the population is generally not aware of anti-corruption institutions. And, except for the EFCC (perceived as effective in fighting corruption by almost four in five persons) and the NPF (perceived as effective in fighting corruption by only less than two in five persons), institutions are considered to be effective in fighting corruption by only about three out of five persons that are aware of these institutions' existence (Figure 4, Panel 5).

Figure 3. Prevalence of Bribery, Services Sought, and Reporting

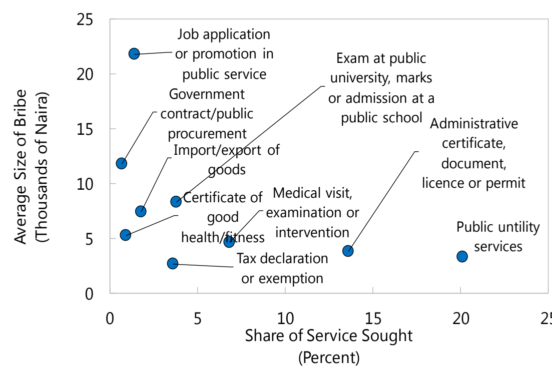
Experience with Bribery by Geographic Zone and Demographic Characteristics, 2016
(Percent)



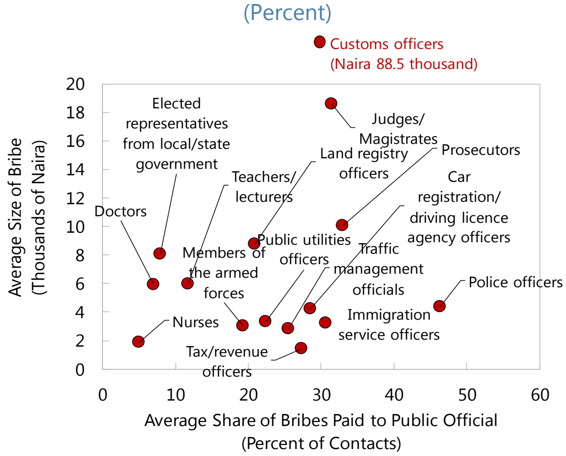
Reasons for Paying the Bribe, 2016
(Percent)



Services Sought and Amounts Paid, 2016
(Percent)



Experience with Bribes and Amounts Paid, by Public Official, 2016
(Percent)



Refusals to Pay the Bribe, 2016
(Percent)

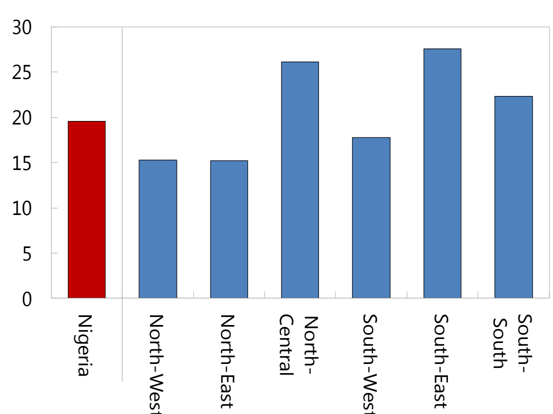
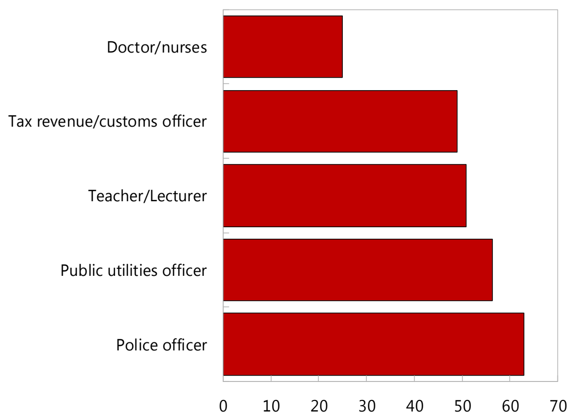
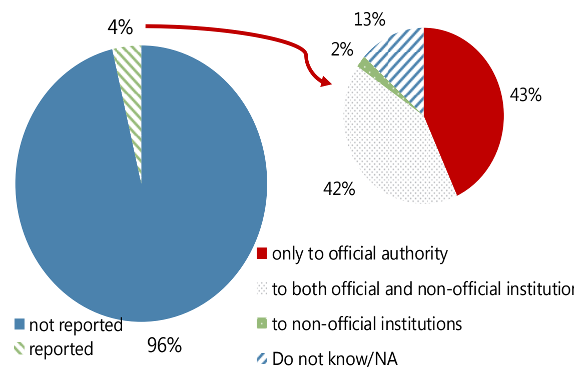


Figure 3. Prevalence of Bribery, Services Sought, and Reporting (concluded)

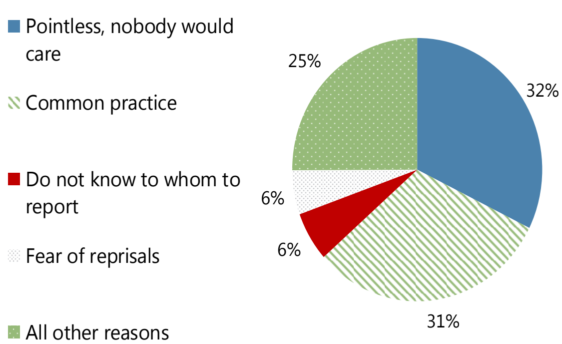
Negative Consequences after Refusing to Bribe Group of Officials, 2016
(Percent)



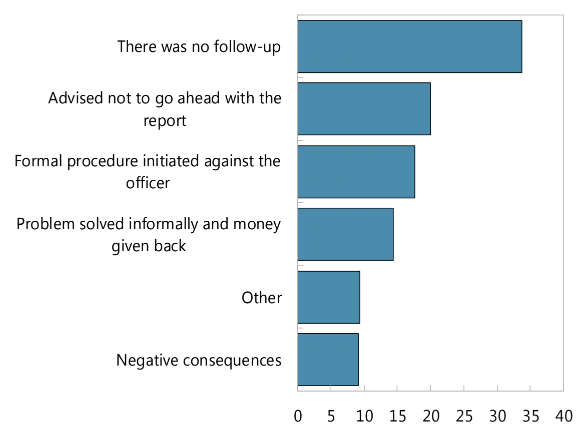
Share of Reported Bribery Cases, 2016
(Percent)



Reasons for Not Reporting Bribe, 2016
(Percent)



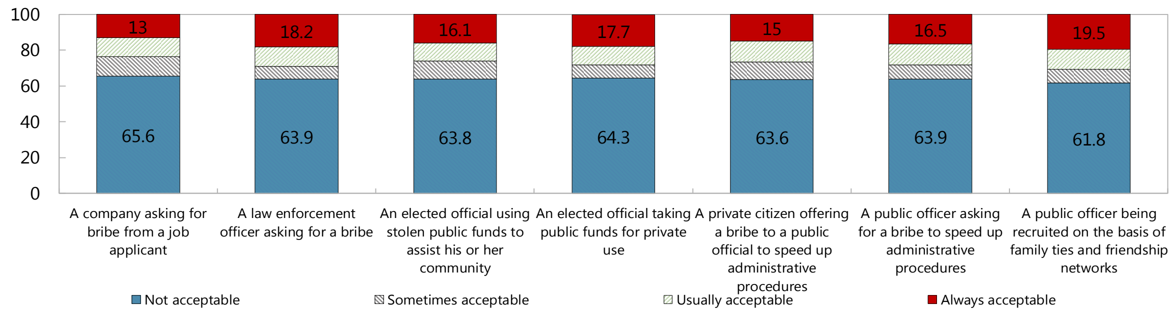
Share of Consequences after Reporting a Bribery Incident, 2016
(Percent)



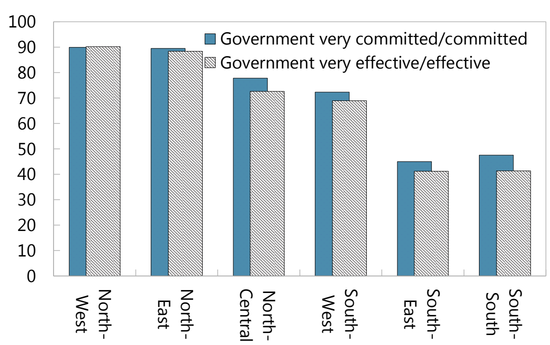
Source: Nigeria National Bureau of Statistics; UNODC (2017).

Figure 4. Acceptance, Perceptions and Awareness of Government Institutions

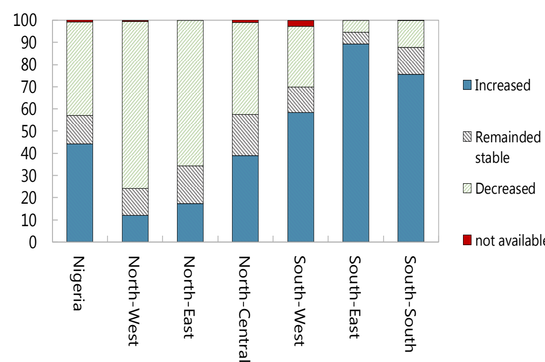
Acceptance of Different Practices, 2016
(Percent)



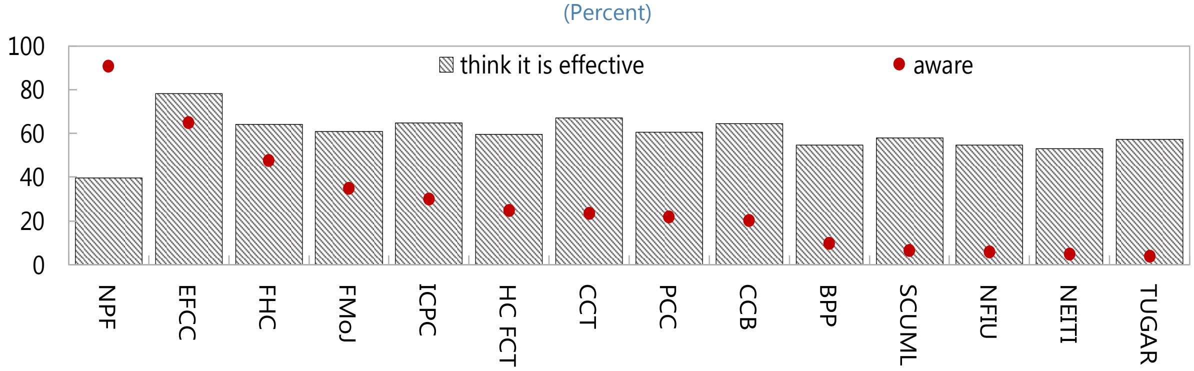
Perception of Government Commitment and Effectiveness
(Percent)



Share of Adult Population's Perception of Trends in Corruption Compared with two Years prior to the Survey, 2016
(Percent)



Share of People Aware of Existence of Different Institutions and Perception of their Effectiveness in Fighting Corruption, 2016
(Percent)



BPP = Bureau of Public Procurement, CCB = Code of Conduct Bureau, CCT = Code of Conduct Tribunal, EFCC = Economic and Financial Crimes Commission, FHC = Federal High Court, FMoJ = Federal Ministry of Justice, HC FCT = High Court of the Federal Capital Territory, ICPC = Independent Corrupt Practices Commission, NEITI = Nigeria Extractive Industries Transparency Initiative, NFIU = Nigeria Financial Intelligence Unit, NPF = Nigeria Police Force, PCC = Public Complaints Commission, SCUML = Special Control Unit Against Money Laundering, TUGAR = Technical Unit on Governance and Anti-Corruption Reform.

Source: National Bureau of Statistics; UNODC (2017).

C. Quantifying the Cost of Corruption

10. A large body of literature has highlighted the adverse consequence of corruption and low governance and transparency on macroeconomic outcomes. Studies have shown that corruption impacts economic growth and therefore development through multiple channels, including through its impact on macro-financial stability, investment, human capital accumulation, productivity and its impact on the efficiency of government operations (IMF 2016, Figure 3, Panel 1). Corruption is also likely to undermine the inclusiveness of growth, increasing income inequality and poverty (Gupta and others 1998; Figure 3, Panel 2)—with negative feedback loops to the sustainability of growth (Ostry and others 2014). Indeed, participants in a qualitative survey on Nigeria consented that corruption in Nigeria is likely to impact the poor more than the rich (Ipadeola 2016).

11. One main channel through which corruption introduces inefficiencies into the economy is through its negative impact on government operations.

- Most components of ***tax revenues*** relate negatively to higher levels of corruption, as they particularly undermine compliance (Baum and others 2017) because taxpayers escape tax or customs payments through payment of a bribe or other unofficial compensation, or companies do not join the formal economy when tax exemptions are perceived as the result of a bribe (IMF 2016, Dreher and Herzfeld 2005). In Nigeria, with about 5 percent of GDP in public revenues, low tax revenue mobilization is the main constraint to fiscal space for development financing. At the same time, the share of firms that are expected to pay a bribe when meeting with tax officials is higher than in peer countries (Figure 3 Panel 4).
- Corruption can diminish the ***efficiency of public spending and investment.*** In countries with weak institutional quality, governments may use capital spending as a vehicle for rent-seeking leading to inefficient public investment (Albino-War and others 2014; Grigoli and Mills 2014; Gelb and Grassman 2010). Investment efficiency is likely to be lower as a result, because project and contractor selection is less likely to be merit-based, and the cost of projects are inflated based on improper procurement processes. In Nigeria, about one fourth of firms are expected to pay a bribe to secure a government contract, compared to one third in sub-Saharan Africa and even higher numbers in some emerging and developing countries (Figure 3, Panel 5). At the same time, Nigeria's public investment efficiency, taking into account the quality and quantity of infrastructure, is 77 percent below the "efficiency frontier"—the level of infrastructure countries with similar characteristics can achieve for a certain level of inputs (Staff Report, Annex III).
- Lower revenue mobilization and spending efficiency, in turn, shrink fiscal space and can therefore lead to ***fiscal dominance***, that limits the independence of the central bank. Higher levels of corruption have therefore also been related to higher levels of ***inflation*** (Ben and others 2016; Figure 3, Panel 6).

12. In the case of Nigeria, reducing corruption to the level observed in peer countries could boost growth by ½ to 1½ percentage points annually. The cross-country evidence presented in IMF (2017b) suggests that an increase in the International Country Risk Guide's (ICRG) corruption index (scale 0 to 6) by one unit may raise per capita GDP growth by about 1 percent. At a level of 1.5, the ICRG corruption index implies that corruption in Nigeria is higher than in the sub-Saharan African average, and other peers. A calculation based on these estimates therefore suggests that, other things equal, real GDP growth in Nigeria could be higher by ½ percentage points if set to the level of Mongolia, by 1 percentage point if set to the level of Malaysia or South Africa, and as much as 1½ percentage points if lowered to the level of Morocco.

13. **With lower corruption, the tax revenue-to-GDP ratio could increase by as much as 1.4 percentage points.** Results from a Panel of 149 countries over the period of 1995–2015 in IMF (2016) suggest a 0.4 percentage points increase in the tax-to-GDP ratio if a country's transparency increases (corruption decreases) by 10 points, as measured by Transparency International's Corruption Perception Index (scale 0 to 100). Using these estimates suggests, that Nigeria's tax revenue-to-GDP ratio could be higher by 0.4 percentage points if corruption was lowered to levels perceived in Morocco or Mongolia, by 0.9 percentage points if set to Malaysia's level, and 1.4 percentage points if lowered to the best performer by this measure in sub-Saharan Africa (Botswana).

14. **Finally, lowering corruption could decrease the inefficiency gap of public investment by 12 percentage points.** A quantification based on Panel regressions for a sample of sub-Saharan African countries (Barhoumi and others, forthcoming), implies that lowering Nigeria's level of corruption, as measured by the Worldwide Governance Indicators' control of corruption score, to that observed in South Africa, could reduce Nigeria's public investment efficiency gap by 12 percentage points, therefore increasing the amount of infrastructure obtained from each dollar invested in public capital by 12 percent.

D. Strategies to Tackle Corruption: Recent Initiatives and Policy Recommendations

The previous sections motivated the policy actions to fight corruption by showing that the issue remains wide-spread in Nigeria and is impeding the country's development outcomes. This section highlights main areas of legal and institutional reforms that need to be pursued as a priority: (i) criminalization of corruption and enforcement; (ii) asset declaration by public Officials; (iii) transparency of beneficial owners; and (iv) AML tools to detect and confiscate proceeds of corruption.

Criminalization of Corruption and Enforcement

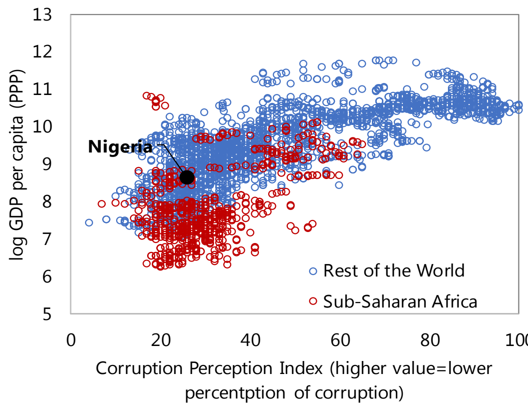
15. **Some acts of corruption are criminalized but improvements are needed to ensure comprehensive criminalization of corruption remain in line with the United Nations Convention against Corruption (UNCAC).** In the absence of a unified criminal law at the national level,[6] the offences of corruption are defined primarily in the Corrupt Practices and Other Related Offences Act 2000. Although the Act criminalizes certain acts of corruption such as bribe taking and bribery, some offences as defined in the UNCAC are not adequately criminalized, including embezzlement and illicit enrichment. The absence of the latter has contributed to difficulties in securing conviction in cases where the source of wealth cannot be established.[7]

[6] Two different criminal laws—the Penal Code and the Criminal Code – apply to the northern and southern parts of the Nigeria respectively, reflecting the different cultural and religious traditions.

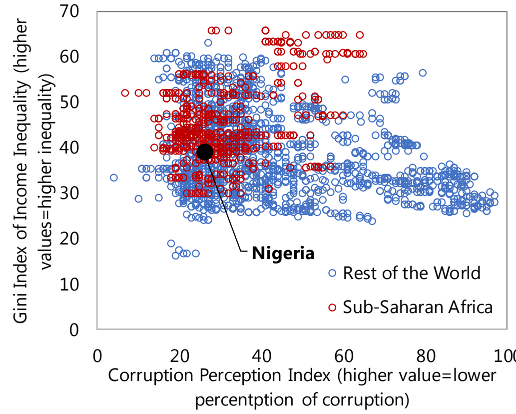
[7] PACAC Report, August 2016 - July 2017, see: http://pacac.gov.ng/pac/wp-content/uploads/august_2016%E2%80%93July_2017.pdf

Figure 5. Corruption and other Macroeconomic Indicators, 1990–2016

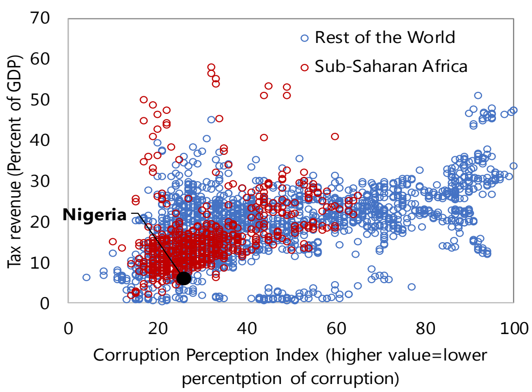
Corruption vs. GDP per Capita



Corruption vs. Income Inequality

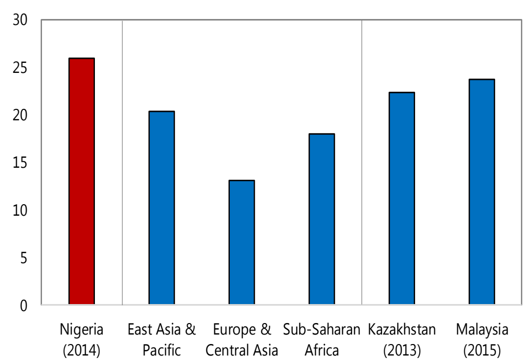


Corruption vs. Tax Revenue-to-GDP



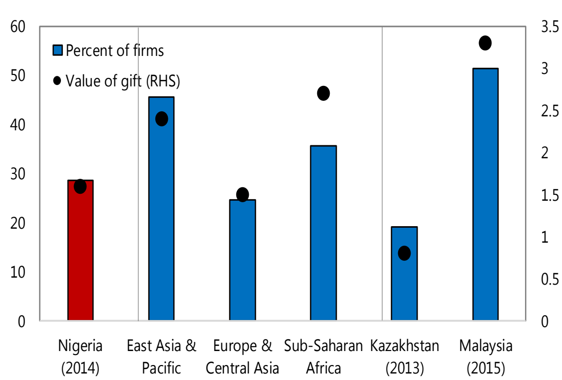
Number of Firms Expected to give gifts in Meetings with Tax Officials

(Percent)

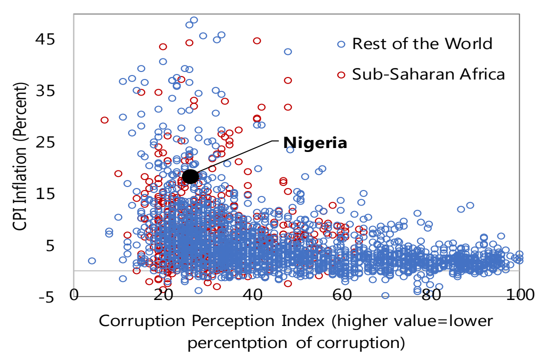


Number of Firms Expected to Give Gifts to secure Government Contract and Gift Value

(Percent of Firms and percent of Contract Value)



Corruption vs. Inflation



Sources: Transparency International, World Bank World Development Indicators, National Bureau of Statistics, World Bank Enterprise Surveys, and IMF staff estimates

16. Some measures have been taken in the judicial system to expedite trial of corruption cases, but significant challenges remain. According to prosecutors, it generally takes a few years for courts to hear corruption cases due to significant backlog across the federal court, which has contributed to the low number of convictions of corruption in recent years. The lack of capacity and integrity concerns regarding judges pose significant challenges in handling corruption cases effectively. Mechanisms were recently adopted in the court system to give trial of corruption cases greater priority. It, however, remains unclear how effective these will be over time. In addition, a bill to establish a special court for corruption has been submitted to parliament. An independent and sufficiently-resourced court with high integrity should help promote specialization and expertise, and facilitate the trial of corruption cases.

17. Asset recovery is high on the authorities' anti-corruption agenda and should be vigorously pursued. A draft crime bill is currently being considered by the Senate to help provide an effective legal and institutional framework for the recovery and management of proceeds derived from unlawful activities. It also seeks to harmonize existing legal provisions regarding seizure and confiscation of proceeds of crime in various statutes. For non-conviction-based forfeiture, the authorities have, with the assistance of the Commonwealth, developed a Guidance Note and are training prosecutors and judges to facilitate its application. This mechanism, if applied judiciously, could potentially be a useful complementary tool to help deprive corrupt officials of their ill-gotten assets when a criminal conviction cannot be secured. The authorities are also actively engaging with foreign authorities to facilitate recovery of looted funds located abroad. A memorandum was signed in December 2017 that will, under the supervision of the World Bank, enable repatriation of $321 million illicitly acquired by the family of the late former President of Nigeria Sani Abacha from Switzerland.[8]

18. Overlaps in the mandates of investigative agencies have created duplication in investigating and prosecuting corruption cases. The Attorney General of Justice is the prosecutorial agency at the national level, which can delegate prosecutorial powers to investigative agencies, including the Independent Corruption Practices and Other Related Offences Commission (ICPC) and the Economic and Financial Crimes Commission (EFCC). The Corrupt Practices and Other Related Offences Act of 2000 establishes the ICPC and empowers it to investigate and prosecute (as delegated by the Attorney General) offences defined in the law, including certain acts of corruption. The mandate of the EFCC, as established in the EFCC establishment Act of 2004, includes investigation and prosecution of all economic and financial crimes, which is broadly defined to include, among others, corruption. This has created duplication and inefficiency in the investigation and prosecution of corruption.

19. Reforms are needed to prevent duplication and provide a solid legal basis that will allow and facilitate effective coordination among investigative agencies. The authorities identified the lack of effective coordination among anti-corruption agencies as a key weakness in the framework. Steps to improve the situation included developing a protocol for information sharing in corruption cases and a manual on corruption case management but legal reforms are needed to facilitate coordination. In line with international best practices, the authorities should designate one

[8] See: http://www.worldbank.org/en/news/factsheet/2017/12/04/world-bank-monitoring-of-repatriated-abacha-funds

independent, capable and credible agency responsible for investigation and prosecution of clearly-defined high-level corruption cases. To this end, the authorities should—taking into account the level of capacity, integrity and resources of existing institutions—designate one agency to be responsible for investigation and prosecution of high-level corruption and define which cases will fall within this category. This could be done by amending the EFCC establishment Act of 2004 and Corrupt Practices and Other Related Offences Act to clearly set out each agency's mandate and ensure their independence, integrity and resources. The legal framework should allow for joint investigations when needed.

20. Investigations of corruption have been mostly triggered by petitions and very rarely by financial intelligence. Petition is a common mechanism used by various anti-corruption agencies to receive complaints from citizens. In practice, most of the investigations carried out by the EFCC, and ICPC are triggered by petitions, and sometimes in duplication when petitions on the same matter are filed with multiple agencies.[9] In comparison, few investigations were triggered by Nigeria's Financial Intelligence Unit (NFIU)'s dissemination of financial intelligence to investigative authorities. This may in part be due to the relatively low number and quality of disseminations from the NFIU (also see under Section D below).

Asset Declaration by Public Officials

21. Nigeria has had a framework for asset declaration by public officials since 2004 but important improvements are needed. The Code of Conduct Bureau (CCB) and Tribunal Act requires a wide range of public officials to submit their asset declarations when taking office, every four years thereafter, and at the end of their terms. False declaration is subject to sanctions imposed by the Code of Conduct Tribunal (CCT). The sanctions include dismissal, disqualification from holding any public office for up to ten years, and forfeiture of "any property acquired in breach of the Act". It is, however, unclear what constitutes "any property acquired in breach of the Act" in the context of asset declaration and this provision has been used very rarely.[10] Moreover, declarations are shared with other anti-corruption agencies but cannot be accessed by the general public. To address these gaps, it is important to strengthen the legal framework by: (i) requiring that beneficially owned assets be declared, the implementation of which can be supported by the measures discussed below; (ii) prescribing proportionate and dissuasive sanctions for all types of breaches; and (iii) mandatorily publishing the declarations of senior officials online.

22. Enhancing implementation and enforcement of the asset declaration requirements, including among senior officials, should be pursued as a priority. The framework is not being implemented effectively and enforcement has been very weak. To date, the declaration forms have been submitted and handled by the CCB manually, which makes the system vulnerable to manipulation. Moreover, very few sanctions (e.g., only one in 2016) have been imposed even though

[9] The authorities recently launched a consolidated online platform administered by the Presidential Enabling Business Environment Council (PEBEC), in which petitions to various agencies are brought together to avoid duplication of actions.

[10] There is only one case in which the CCT ordered an undeclared parcel of land be forfeited.

the CCB reported that the compliance rate in 2016 was only 77 percent, which may be attributed to capacity and resource constraints of the CCT.[11] With the assistance of the United Nations Office on Drugs and Crime, the CCB has started digitizing the submission and management of the declarations—an effort to be taken forward to enhance the integrity and efficiency. To reduce non-compliance through sanctions, the CCB should focus its investigations on senior officials and those vulnerable to corruption (e.g., senior officials and executives of state corporations in the extractive sector).

Transparency of Beneficial Owners

23. The authorities have made ambitious commitments to enhance transparency of the extractive sector and, more broadly, of legal persons. The lack of transparency in the extractive industry has had implications for government resources. Diversion of government funds in the case of NNPC reaches several billions of dollars a year, and NEITI (2017) highlights that NNPC and the Nigerian Petroleum Development Company (NPDC) owe the Federation Account more than $20 billion. Nigeria has committed under the Open Government Partnership (OGP) to enhance transparency of the extractive sector including with respect to the government's earnings, the bidding process and companies involved in the industry.

24. All key stakeholders should work together to design a harmonized legal framework on beneficial owner register and to ensure effective implementation. The authorities are committed to establishing a public register of beneficial owners of companies involved in the exploration, production and exportation of extractive sectors by January 2019, in line with the Extractive Industries Transparency Initiative 2016 standard. To this end, NEITI has launched consultations with various stakeholders including the Department of Petroleum Resources and Corporate Affairs Commission (CAC). The authorities are also considering extending such requirements to companies that participate in public procurement. Moreover, the authorities are committed to establishing by December 2019 a central beneficial owner register for all legal persons created in Nigeria (beyond the extractive industry), which would facilitate financial institutions' and law enforcement agencies' (including tax authorities) access to information when carrying out their respective responsibilities, and assist the CCB in verifying declarations of beneficially owned assets. This work will be coordinated by the CAC and should be taken forward taking into account the lessons learned in the establishment of the beneficial owner register for the extractive sector.

AML Tools to Detect and Confiscate Proceeds of Corruption

25. Targeted AML measures can be powerful tools to combat corruption and should be further pursued. Corruption proceeds are laundered to avoid detection so that the corrupt can benefit from their criminal activities. Effective AML measures when targeted at corruption can help detect corruption and trace its proceeds. The NACS emphasizes the important role that the NFIU plays in the fight against corruption through "gathering, analysis, processing and management of financial data and other intelligence sources". In this context, asset declarations by public officials are an

[11] The CCT currently comprises of only one chairman and a handful of staff members.

important source of intelligence for the NFIU. In addition to the transparency of beneficial ownership, other AML measures that should be pursued include: (i) requirements for the identification and enhanced due diligence of customers that are politically exposed persons (PEPs), and heightened scrutiny of their transactions; (ii) the supervisors' focused attention on financial institutions' control of money laundering risks associated with corruption; and (iii) other agencies, including the financial intelligence unit, giving priority to corruption in carrying out their respective AML mandates.

26. Policies need to be developed and implemented to address the identified money laundering and terrorist financing (ML/TF) risks. Nigeria concluded its first national ML/TF risk assessment (NRA) in 2017.[12] According to this assessment, corruption poses a high threat in terms of generating proceeds of crime to be laundered, and the main channels for laundering include the bureaux de change (BDC), banks and the real estate sector. An action plan to mitigate the risks identified is being developed. The authorities should finalize the action plan as a high priority and ensure its prompt implementation to allow prioritized policies and measures to address the risks including with respect to corruption.

27. The NFIU and its role in anti-corruption should be strengthened. A draft bill on the establishment of a financial intelligence agency is currently being considered by the National Assembly, and the authorities are pursuing its enactment in the near future. If enacted, this bill is supposed to transform the NFIU, which is now affiliated with the EFCC, into an independent agency. This would help restore NFIU's membership in the Egmont Group, which was suspended in July 2017, and facilitate Nigeria's pursuance of full membership of the Financial Action Task Force. Moreover, the NFIU's own efforts should be more focused on the risks identified in the NRA, including by conducting the long-delayed strategic analysis on corruption, which aims to identify trends and typologies associated with laundering of proceeds from corruption, and focusing on corruption-related transactions in its operational analysis to improve dissemination of corruption cases for investigation (see also above).

28. The CBN's AML supervision of banks should be sharpened to better support the government's anti-corruption efforts. The CBN does not have an adequate legal basis for imposing sanctions on non-compliance with AML rules, which hinders its ability to promote effective controls by financial institutions of ML risks associated with corruption. The CBN believes that a regulation expected to take effect in the first quarter of 2018 would solve the issue. It carries out on-site AML inspections of all banks on a yearly basis, but needs to step up its efforts to implement risk-based supervision so as to target banks which are most at risk of being misused to laundering proceeds of crime. The CBN should also carry out thematic inspections on banks' controls over politically exposed persons. This would help improve the quality of suspicious transactions related to corruption that are submitted to the NFIU.

29. An urgent policy response is needed to tackle the risks posed by the possible laundering of proceeds of corruption through BDCs. The CBN's oversight of the BDC sector as well as the sector's compliance with AML requirements should be further strengthened and provided with more

[12] See: http://www.nfiu.gov.ng/images/Downloads/downloads/nrareport.pdf

resources. Currently, a unit that comprises 10 staff members is responsible for AML supervision of more than 4500 non-bank financial institutions, including 3432 BDCs. With the current level of resources, CBN staff can only carry out basic inspections on less than 10 percent of all BDCs per year. As BDCs have been identified as a high-risk sector in the NRA, an urgent policy response is needed to tackle risks associated with corruption.

E. Conclusion and Key Policy Recommendations

30. Building on recent initiatives implemented by the government to combat wide-spread corruption, more measures are needed on various fronts to reap the macroeconomic dividends from improved transparency. These include:

- ***Modifying the existing legislation and institutional framework by:*** (i) clearly designating a single agency responsible for investigation and prosecution of clearly defined high-level corruption; (ii) improving coordination; (iii) reviewing/amending the legislation on corruption-related offences with a view to aligning it with the UNCAC, including with respect to illicit enrichment; and (iv) streamlining and strengthening the legal framework to facilitate asset recovery.
- ***Strengthening the asset declaration framework and enforcement*** by: (i) requiring that beneficially owned assets are declared; (ii) prescribing proportionate and dissuasive sanctions for all types of breaches; and (iii) mandatorily publishing the declarations of senior officials online. The CCB should enhance enforcement of the asset declaration framework among senior officials and those vulnerable to corruption, such as senior officials and executives of state corporations in the extractive sector.
- ***Transparency of beneficial ownership.*** Disclosing beneficial owners of companies involved in the extractive industry in line with the EITI standard will enhance transparency in the sector. Consideration should also be given to extend such measures to companies participating in public procurement. The authorities should push forward their plan to establish a beneficial owner register of all legal persons created in Nigeria that is accessible by law enforcement agencies (including tax authorities) and financial institutions.
- ***Pursuing targeted AML/CFT measures.*** Finalizing the action plan to mitigate the ML/TF risks identified in the NRA and implementing it promptly is essential. Legislation to ensure NFIU's operational independence should be enacted. The NFIU should conduct strategic analysis and increase disseminations on corruption. The CBN should strengthen AML/CFT risk-based supervision of banks paying closer attention to the risks associated with corruption and to tackle the ML risks in BDCs.

31. This chapter's recommendations focus on areas of improvement in the legal framework to focus on corruption that should be complemented by ongoing initiatives aimed at strengthening:

- ***Tax administration.*** In addition to the increased use of e-filing and data matching to close tax loopholes, measures to address transparency issues, such as increasing the number of risk-based tax audits with strengthened focus on large taxpayers, should be intensified (see chapter 1 on Revenue Mobilization).

- **Transparency in public financial management,** which would require raising public investment efficiency through a better project identification and appraisal phase, comprehensive asset registers, a formal project evaluation process, and an efficient procurement process that would include a full roll-out of GIFMIs at the Federal level (see also Annex III on public investment efficiency in the report of the 2018 Article IV consultation with Nigeria).
- ***Corporate governance, fiscal transparency and accountability*** of revenue generating agencies and state-owned enterprises, should be strengthened, including for NNPC. It will also be important to improve revenue accruing to the Federation account, including through reconciling the auditor general's and NEITI findings on oil revenue.

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FACTORS THAT DETERMINE THE NIGERIAN TERM STRUCTURE OF INTEREST RATES[1]

This chapter examines factors that determine the Nigerian term structure of interest rates by applying the yield and the yield-macro Nelson-Siegel models—the latter incorporating macroeconomic factors—for the period 2012 to 2017 Q2. Results suggest that the models fit the term structure for the period analyzed and indicate presence of a relationship between the chosen macroeconomic variables and the short-end of the yield curve. For maturities of less than a year, the slope and curvature of the yield curve are particularly sensitive to macroeconomic shocks.

A. Introduction

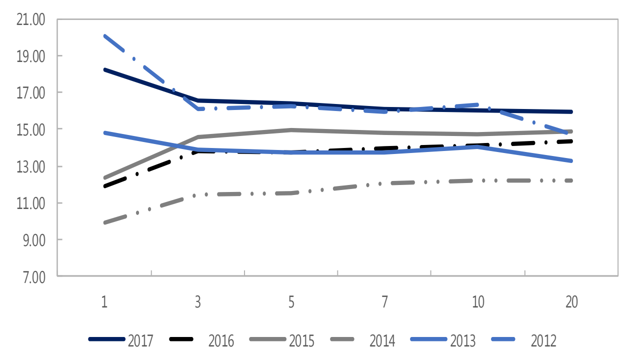
1. **Nigeria's yield curve (and term structure of interest rates) has taken different shapes and levels over the past few years (Figure 1).[2]** During the period examined (2012 to 2017Q2), the term structure declined (2012 to 2013), increased (2014 to 2015), and changed shape becoming slightly inverted (2016–17).

2. **Economic and market developments explain some of the yield curve dynamics.** These include:

- A sharp decline in oil prices that began in late 2014, carried into 2015 before stabilizing in 2016. Highly dependent on oil revenue, as oil price collapsed and production fell (due to infrastructure sabotage), one would have expected yields in Nigeria to increase during this period on the expectation that Nigeria's financing needs would increasingly be met through domestic bond issuance;
- Capital flight following the delisting of the Nigeria government bond from the JP Morgan index in October 2015, should have contributed to higher yields observed that year; and
- Large swings in inflation, from double digits in 2012 to single digits in 2013, and reverting to double digits in 2016, would have increased the yield curve movements.

Figure 1. Federal Government Domestic Yield Curves

(Yield rates, percent)



Source: Fund staff estimate

3. **However, a deeper look at the behavior of Nigeria's yield curve against some of these developments may suggest some counter-intuitive movements.** For example,

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[1] Prepared by Miriam Tamene and Marwa Ibrahim, who provided excellent input with chart preparation.

[2] The term structure of interest rates is the zero-coupon yield curve, which can be derived from gross redemption yield curve or par yield curve (¶10 – ¶11).

- Higher revenue (from elevated oil prices) and lower expenditure, say in 2012 relative to one for 2015, would imply less reliance on borrowing to meet the budget remit, and hence reduced pressure on the yield curve. Still, despite the small difference in the volume of domestic financing, and favorable market sentiment in 2012 when oil price was at its peak, the yield curve in 2012 was above the 2015 one, even though macroeconomic conditions would have implied lower premium for investors holding government securities.[3]
- The announcement by JP Morgan in September 2015 to de-list the Nigerian government securities from its index would normally trigger a sell-off as both JP Morgan index investors and index trackers divest their holdings, thus putting upward pressure on yields. Nevertheless, the yield curve shifted down in 2016 compared to 2015; and
- With respect to inflation, the yield curve movement between 2012 and 2013 was in line with expectation. The decline in inflation lowered the premium at the long-end of the yield curve in 2013. However, the yield curve dynamics was less pronounced between 2015 and 2017, when inflation doubled. Between these periods, though the yield curve shifted upwards, the level of increase was only important at the short end of the curve.

4. **Consequently, a further examination into the relationship between the relevant macroeconomic variables and the yield curve is warranted.** Investigating the relationship between oil price, liquidity and inflation, and the yield curve, may help to identify underpinning factors that influence the evolution of the yield curve, and hence the government's borrowing cost.[4] This chapter attempts to examine the interaction between the yield curve and macroeconomic factors, by utilizing term structure models. It is structured as follows: it first describes the model, theory and data utilized, then discusses model performance and concludes with policy implications.

B. Models, Theory, and Data

Models

5. **The term structure models used in this chapter are those based on Nelson-Siegel models (NSMs).** Two types of term structure models are widely discussed in the academic literature, the Nelson-Siegel and the Affine-Term Structure models.[5] Fund staff have developed a software that allows modeling the term structure based on either of these models. Readers interested in the details of these models are referred to Gasha et al (2010). For the purpose of this chapter, the Nelson-Siegel models were selected since they capture macroeconomic factors. A brief description of the NSMs can be found in Appendix A.

6. **Shifts and changes of the yield curve can be explained by the level, slope (steepness) and curvature (humpness).** The factors' sensitivities to shocks are described by the loading factors. The loading factor of the level is equal to one, meaning it affects yields across maturities equally. For instance, an increase in this factor, "the level", is symbolized by an upward parallel shift of the yield

[3] External financing was higher by $570 million in 2015 relative to 2012.

[4] Liquidity captures the exit of foreign investors as local investors step-in to purchase their government bond holdings, thus keeping yields stable.

[5] While such models are widely used (BIS 2005), most published analytical work use US Treasuries (bonds and bills).

curve. The slope of the yield curve, is the spread between the long and short maturity yields, as a result the loading factor decays as maturity increase. A shock to the slope would make the yield less steep, as it affects the short-term rates more than long maturities. Hence, a contractionary (accommodative) monetary policy reduces (amplifies) the slope of the curve. The curvature of the yield curve is the sum of spreads between long and medium-term maturity yields and the medium and short-term maturity yields. The loading factor is maximized at medium maturities and is zero at the shortest and longest maturities. An increase in this factor would increase the humpness of the curve.

Theory

7. **The slope, and the short end-of the yield curve, is closely associated with monetary policy.** The degree of influence would depend on the effectiveness, soundness and credibility of the monetary policy framework (see chapter 6). Policy makers may use monetary policy instruments to anchor inflation, manage liquidity and/or stabilize money market conditions.

8. **The curvature is mainly affected by interest rate volatility**. Studies based on the US Treasury yield curve, have found the curvature to be influenced by short-term interest rate volatility (Christiansen et al, 2002).

9. **The level, and yield rates at the longer maturities are influenced by macroeconomic factors.** These tend to be long-run macroeconomic variables, including business cycle drivers and government policies (monetary, fiscal, structural) that may impact the supply of government securities, whereas investors' demand is motivated by:

- *Inflation risk premia* – the more volatile inflation is, the higher the premium to account for inflation uncertainty in the future;
- *Credit risk premia* – investors may demand higher compensation as sovereign risk heightens;
- *Term premia* – investors may require compensation for tying up their money for longer maturities as opposed to reinvesting in short-term securities;
- *Illiquidity premia* – investors prefer instruments that can be easily traded in any size without influencing the market price; the less liquid an asset, the higher the yield.
- *Preferred habitat* – some investors demand bonds of a certain maturity for exogenous reasons, for example, pension funds and insurers have preference for securities with longer tenors to match their long-term liabilities.

Data

10. **Term structure models utilize zero-coupon yield curves**. Observed market yield curves exhibit the relationship between yield to maturity rates (gross redemption yields) against time to maturity. Zero coupon market yield rates are not readily available, apart from those securities at the short end of the yield curve (with maturities less than a year). For this reason, coupon bonds are often used to derive zero coupon bonds.

11. In this analysis, zero coupon yield curves were constructed from par yield curves.[6] Par yield curves based on rates from primary bond auctions were used because: (a) the absence of sufficient secondary market data and the possibility of liquidity segmentation in parts of the yield curve meant the use of observed market yield curves was not ideal nor an option, and (b) they directly capture the government's cost of borrowing, as opposed to secondary market rates which often trade away from issuance rates, reflecting other factors such as market conditions and liquidity. That said, primary auction rates are not free of influence—in particular, the issuer can influence rates by rejecting and accepting certain offers. However, in the case of Nigeria, such practice is not common, issuances are transparent and predictable. The few times where issuances have differed from plan, the actions were taken to exclude outlier bids as opposed to the issuer acting opportunistically.

12. Monthly data covering the period 2012 to 2017 Q2 were used. The period provides for 66-time series observations, across 7 maturities, 3-months (3M), 6-months (6M), 1-year (1Y), 3-year (3Y), 5-year (5Y), 7-year (7Y) and 10-year (10Y).

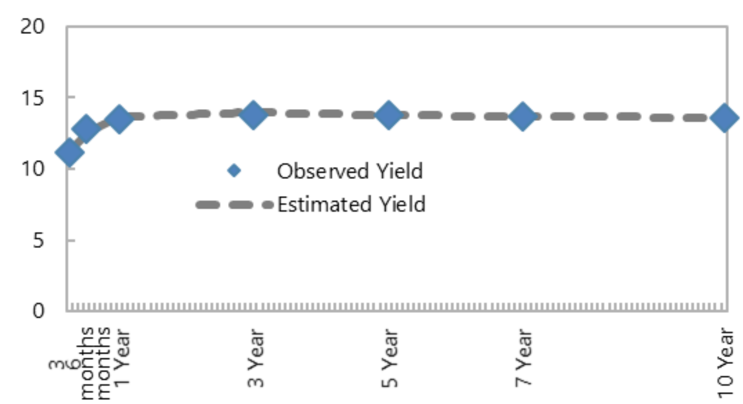
13. Macroeconomic factors that are common in influencing the yield curve and real economic activity were chosen. These comprise: monetary policy rate (MPR), inflation rate, liquidity (using Broad Money as a proxy) and oil price.[7]

C. Findings: Performance of the Yield-Only NSM

14. The NSM yield-only model fits the term structure of Nigerian yields (Appendix Figure 1).[8] The mean and standard deviation of the residuals of the measurement equations are negligible across maturities, and the goodness of fit test measured by Chi-square test statistic indicate the zero-coupon yield curve and the estimated term structure differ by a small amount (Table 1).

15. The average yield curve has been relatively flat. The estimated average yield curve is only slightly upward sloping at the

Figure 2. Observed Yields and Estimated Average Yield Curve
(Percent)



Source: Fund staff estimate

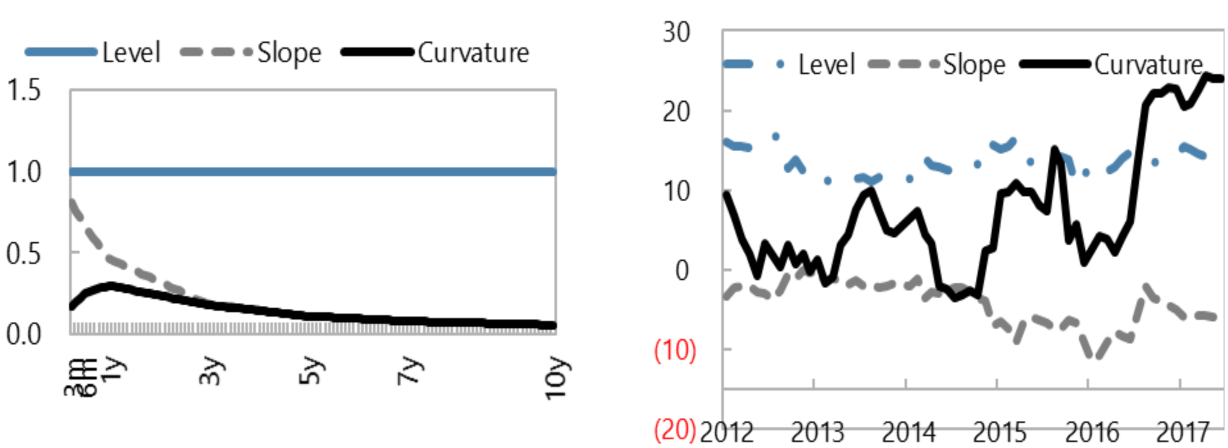
[6] Par yield rates were obtained from the Nigerian Debt Management Office for various maturities. These were used to construct par yield curves, by applying straight line interpolation between maturities. The choice for straight line interpolation was made after testing a sample data for 2012 that utilized the best polynomial fit. Because of small observation points the benefit between polynomial fit and straight-line interpolation was negligible. From the par yield curve, the discount factor for each maturity period was derived which were then used to derive the zero-coupon yield curves.

[7] Analysis using money market rates, instead of monetary policy rate, found similar result. In fact, the contribution of money market (call) rates to the variance composition was less than MPR.

[8] Appendix Figure 1 illustrates the performance of the model for each maturity.

short end of the curve but displays a flat shape for longer maturities (Figure 2). This characteristic prevails through time (Appendix Figure 2).[9] Of the three factors that depicts the yield curve, the level of the estimated term structure is the most stable, showing minor variation relative to its mean, whereas the curvature is highly volatile (Figure 3).[10]

Figure 3. Estimates of the Yield Curve Loading Factors and Yield Factors



Source: Fund staff estimates

Table 1. Nigeria: Yield-Only NSM, Yield Curve Fitting Residuals, 2012–17

Maturity	Mean	Standard Deviation	Minimum	Maximum	Chi-Square Test of Fit	
3 Months	(0.081)	0.111	(0.382)	0.132	SSE	92.0764
6 Months	0.361	0.348	(0.462)	1.287	Chi-Square	5.3905
1 Year	(0.123)	0.166	(0.474)	0.381	DF	459
3 Years	(0.172)	0.513	(1.107)	1.204	P-Value	0.000
5 Years	(0.014)	0.505	(0.989)	1.426		
7 Years	0.020	0.041	(0.106)	0.139		
10 Years	(0.055)	0.740	(2.080)	1.096		

Source: Fund staff estimates

[9] Appendix Figure 2 shows the term structure of interest rates through time, from 2012 to 2017. It is worth noting that the consistent display of relatively flat yield curve is unusual, often the term structure of interest rates exhibits an upward sloping curve.

[10] Please note that the slope of term structure is actually $-\beta_{2,t}$ that is, the software estimates it as the negative of the slope.

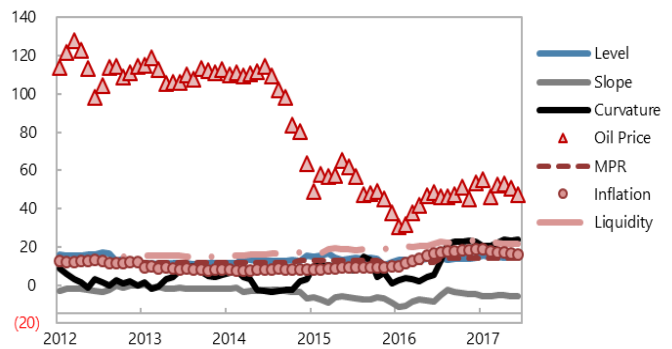
D. Findings: Performance of the Yield-Macro NSM

16. The relationship between macroeconomic variables and the yield curve is captured through the yield-macro model. The yield macro model exhibits fitness to the yield curve; the estimated means and standard deviations of the residuals of measurement equations are small for all maturities, and the chi-square statistics result confirm goodness of fit (Table 2).

17. The dynamics of the yield curve factors (level, slope and curvature) do not exhibit similar behavior to the macroeconomic variables. There are tenuous similarities between the level and the curvature with that of MPR and liquidity, respectively, (Figure 4). The trend of inflation and oil prices correspond to the curvature of the yield curve over 2016–17.

Figure 4. Estimates of Factors from Yield-Macro NSM

(Percent)



Source: Fund staff estimate

Table 2. Nigeria: Yield-Macro NSM Yield Curve Fitting Residuals, 2012–17

Maturity	Mean	Standard Deviation	Minimum	Maximum	Chi-Square Test of Fit	
3 Months	(0.096)	0.123	(0.437)	0.200	SSE	92.3807
6 Months	0.359	0.350	(0.489)	1.299	Chi-Square	1.034
1 Year	(0.114)	0.169	(0.470)	0.389	DF	455
3 Years	(0.164)	0.512	(1.080)	1.237	P-Value	0.000
5 Years	(0.011)	0.506	(1.003)	1.425		
7 Years	0.021	0.042	(0.117)	0.137		
10 Years	(0.056)	0.742	(2.083)	1.097		

Source: Fund staff estimates

18. The findings can be summarized as follows:

- **Short-term rates react significantly and quickly to macroeconomic variables, whereas long-term rates are explained by non-macroeconomic variables**. Indeed, for maturities of less and equal than one year, around 50 percent of the variance of the yield curve is explained by macroeconomic factors (mostly inflation and oil price fluctuations), whereas they explain 30 percent of the variance at longer maturities (Table 3). The impulse response functions indicate that the slope and curvature react to macroeconomic shocks; the level on the other hand, appears to be unresponsive, apart from liquidity shock which affects it in the short-term but dissipates through time (Figure 5).

- **The dynamics of the yield curve are driven by the level factor, which is closely associated with long-term rates**. The level explains 30 percent (at 3-year maturity) to 60 percent (at 10-year maturity) of the variance in the yield curve (Table 3).

Table 3. Nigeria: Yield-Macro NSM Variance Decomposition for 60 Months Period

Maturity	Level	Slope	Curvature	MPR	Inflation	Liquidity	Oil Price
3 Months	0.1076	0.1037	0.2714	0.0649	0.2759	0.0149	0.1616
6 Months	0.1088	0.0624	0.3370	0.0642	0.2329	0.0304	0.1641
1 Year	0.1230	0.0433	0.3563	0.0708	0.1945	0.0503	0.1618
3 Years	0.2808	0.0355	0.2683	0.0655	0.1513	0.0547	0.1439
5 Years	0.4372	0.0324	0.1838	0.0515	0.1215	0.0518	0.1218
7 Years	0.5295	0.0305	0.1366	0.0425	0.1019	0.0518	0.1071
10 Years	0.6033	0.0289	0.1004	0.0350	0.0850	0.0529	0.0944

Source: Fund staff estimates

19. The analysis presented offers partial explanations to the counterintuitive movements of the yield curve. Oil price, liquidity and inflation were discussed as factors with potential links to the yield curve, though the movement of the yield was counterintuitive to recent movements in oil prices and liquidity. These observations resonated with the findings of the analysis which demonstrated non-macroeconomic factors to be the main drivers for the dynamics of the yield curve. Of the three, inflation was found to be the most relevant, in line with the ex-ante observation, accounting for up to 28 and 10 percent of the yield's variance at shorter and longer maturities, respectively (Table 3 and Figure 5).

20. There could be a stronger link between other macroeconomic variables and the yield curve. For example, growth rates and primary balances may offer stronger linkages, particularly with the level of the yield curve. Such macroeconomic variables could not be included in this chapter as high frequency data was not available.[11]

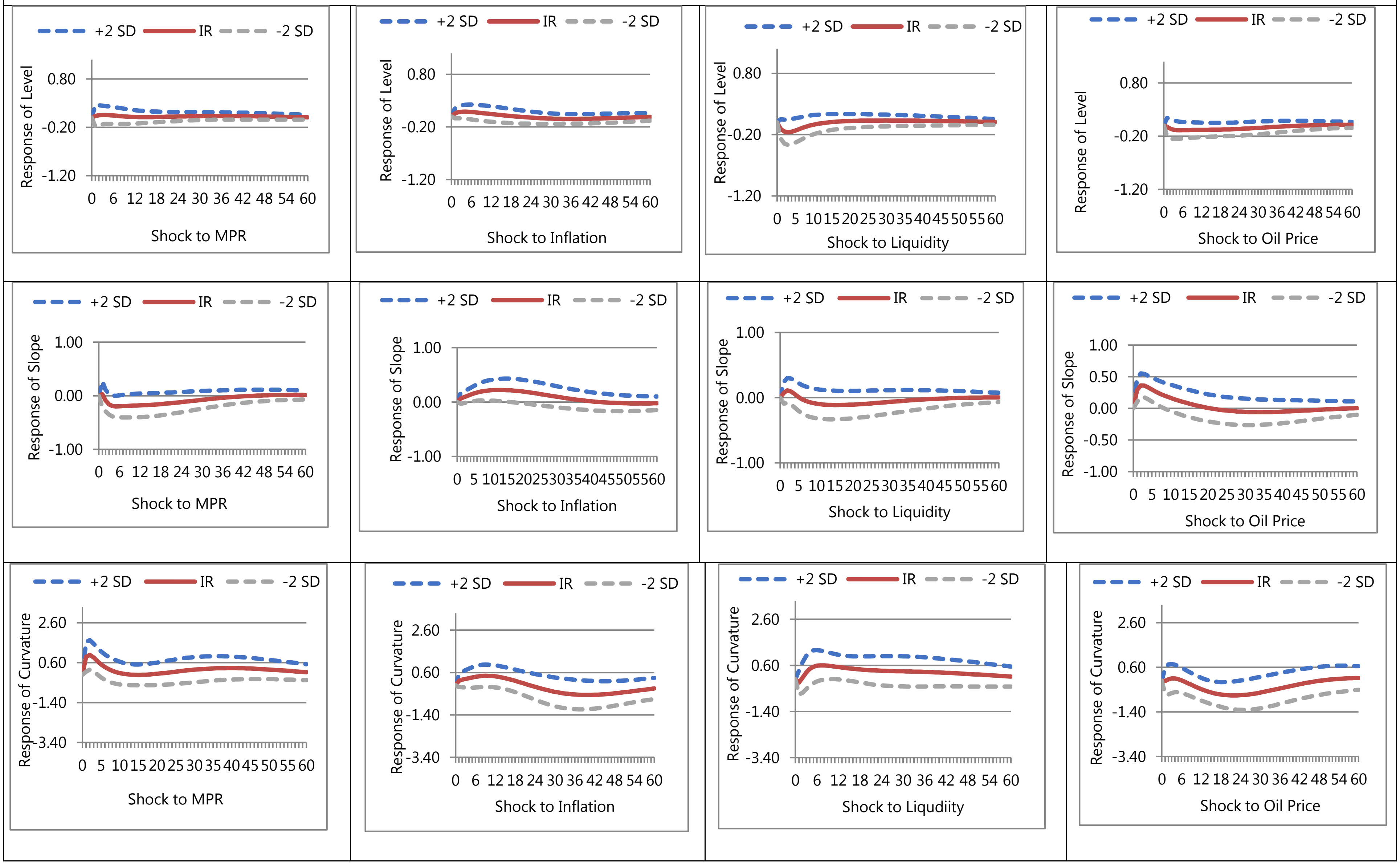
E. Policy Implications

21. The results of the analysis suggest that short-term rates are prone to shocks; reducing government's exposure to them may reduce costs and risks over the long-term. To manage the risks imposed by short-term securities, the Debt Management Office (DMO) has publicly announced its intention to gradually reduce the size of T-bills, which it began to do from December 2017 onwards. The strategy is to issue Eurobonds (worth $3bn) and use their proceeds to retire T-bills as they mature. In addition, the DMO could skew its issuance program towards medium to -long tenor securities, but deepening liquidity along the curve would be important before doing so.[12]

[11] In addition, the Nigerian government securities market is relatively nascent compared to countries that employ these types of models to analyze the yield curve; Nigeria's 10 years versus 30 years or more in many cases (the first Nigerian ten-year bond was issued in 2007). As a result, the period analyzed (and available data) could be relatively short to establish a strong link with macroeconomic factors.

[12] FGN bonds' liquidity is relatively poor, a rule of thumb liquidity indicator used by debt management practitioners suggest the ratio of turnover to outstanding amount should be in the range of 10X, versus, 1.17X for FGN bonds (and 16X for T-bills).

Figure 5. Results of Yield Macro NSM Impulse Response Functions



Appendix I. The Nelson-Siegel Models[1]

Term structure models capture the change in the level and shape of the term structure over time. They describe the shape of the yield of the curve across maturity, as well its dynamics over time.

Nelson and Siegel (1987) proposed to fit the forward curve using a flexible, smooth parametric function given by:

$$(1) \qquad f\,(\tau) = \beta_1 + \beta_2\, e^{(-\lambda\tau)} + \beta_3 \frac{e^{(-\lambda\tau)}}{(\lambda\tau)}$$

Where given the forward rate of this form they show that a static yield curve is:

$$(2) \qquad y\,(\tau) = \beta_1 + \beta_2 \left[\frac{1-e^{(-\lambda\tau)}}{(\lambda\tau)}\right] + \beta_3 \left[\frac{1-e^{(-\lambda\tau)}}{(\lambda\tau)} - e^{(-\lambda\tau)}\right]$$

A dynamic version of this model was introduced by Diebold and Li (2006) who proposed that the coefficients β_1, β_2 and β_3 should be treated as time-varying structure factors, namely: level, slope and curvature factors, respectively. The dynamic version with time-varying coefficients is given by:

$$(3) \qquad y_t\,(\tau) = \beta_{1,t} + \beta_{2,t} \left[\frac{1-e^{(-\lambda\tau)}}{(\lambda\tau)}\right] + \beta_{3,t} \left[\frac{1-e^{(-\lambda\tau)}}{(\lambda\tau)} - e^{(-\lambda\tau)}\right]$$

Here, t is the time period, τ is time to maturity and λ is the decay parameter. $\beta_{1,t}$, $\beta_{2,t}$ and $\beta_{3,t}$ are time-varying term structure factors. Their coefficients are usually referred to as factor loadings. $\beta_{1,t}$ is related to the level because its factor loading is 1 and therefore its effect is the same for all maturities. The loading of $\beta_{2,t}$ is 1 for an instantaneous maturity and decays to zero at an exponential rate as maturity increase, and conceptually captures the slope of the yield curve, which also decreases with maturity; the rate of decay is determined by the parameter λ. The loading on $\beta_{3,t}$ starts at zero, increases for medium maturities and then decays to zero, thereby creating a hump-shape and linking it to the curvature of the yield curve; the decay parameter λ determines at which maturity this component reaches its maximum.

In the context of state space representation, Equation 3, can be specified as:

$$(4) \qquad \beta_t = \mu + \Phi\, \beta_{t-1} + v_t$$

Equation 4, called the transition equation, governs the dynamics of the state vector, which is given by the unobservable vector, $\beta_t = [\beta_{1,t}, \beta_{2,t}, \beta_{3,t}]$

As in Diebold and Li (2006), it is assumed that these time-varying factors follow a vector autoregressive of order one, VAR(1), where the mean state vector μ is a 3 X 1 vector of coefficients.

[1] This section is mainly an extract from an internal Fund technical paper prepared by Ying He, Richard Munclinger and Jiangbo Yi. The paper describes the term structure models available in the Fund staff developed software. Seven models are available, of which five are based on Nelson -Siegel (which include versions that incorporate macroeconomic variables). In this chapter, the three factor Nelson-Siegel Model was applied, along with its yield-macro version.

The transition matrix Φ is a 3 X 3 matrix of coefficients, and ν_t is a white noise transition disturbance with a 3 X 3 non-diagonal covariance matrix *Q*.

(5) $$Y_t = X\,\beta_t + \varepsilon_t$$

Equation 5, referred to as the measurement equation, is the specification of the yield curve itself, and relates *N* observable yields to three unobservable factors. The vector of yields Y_t, contains *N* different maturities $Y_t = [y_1(\tau_1) \ldots y(\tau_N)]'$. The measurement matrix *X* is a *N* X 3 matrix whose columns are the loadings associated with the respective factors, and ε_t is the white noise measurement disturbance with *N* X *N* diagonal covariance matrix *H*. The system can be written as follows:

6) $$\begin{bmatrix}\beta_{1,t}\\ \beta_{2,t}\\ \beta_{3,t}\end{bmatrix} = \begin{bmatrix}\mu_1\\ \mu_2\\ \mu_3\end{bmatrix} + \begin{bmatrix}\phi_{11} & \phi_{12} & \phi_{13}\\ \phi_{21} & \phi_{22} & \phi_{23}\\ \phi_{31} & \phi_{32} & \phi_{33}\end{bmatrix}\begin{bmatrix}\beta_{1,t-1}\\ \beta_{2,t-1}\\ \beta_{3,t-1}\end{bmatrix} + \begin{bmatrix}\upsilon_{1,t}\\ \upsilon_{2,t}\\ \upsilon_{3,t}\end{bmatrix}$$

(7) $$\begin{bmatrix}y_1(\tau_1)\\ \vdots\\ y_t(\tau_N)\end{bmatrix} = \begin{bmatrix}1 & \frac{1-e^{-\lambda\tau_1}}{\lambda\tau_1} & \frac{1-e^{-\lambda\tau_1}}{\lambda\tau_1}\ e^{-\lambda\tau_1}\\ \vdots & \vdots & \vdots\\ 1 & \frac{1-e^{-\lambda\tau_N}}{\lambda\tau_N} & \frac{1-e^{-\lambda\tau_N}}{\lambda\tau_N}\ e^{-\lambda\tau_N}\end{bmatrix}\begin{bmatrix}\beta_{1,t}\\ \beta_{2,t}\\ \beta_{3,t}\end{bmatrix} + \begin{bmatrix}\varepsilon_{1,t}\\ \vdots\\ \varepsilon_{N,t}\end{bmatrix}$$

(8) $$\begin{pmatrix}\upsilon_t\\ \varepsilon_t\end{pmatrix} = N\left[\begin{pmatrix}0\\ 0\end{pmatrix}, \begin{pmatrix}Q & 0\\ 0 & H\end{pmatrix}\right]$$

(9) $$E\left(\beta_0 \bullet \upsilon_t'\right) = 0 \qquad E\left(\beta_0 \bullet \varepsilon_t'\right) = 0$$

In order to facilitate estimation, it is assumed that both disturbances are orthogonal to each other and to the initial state β_0.

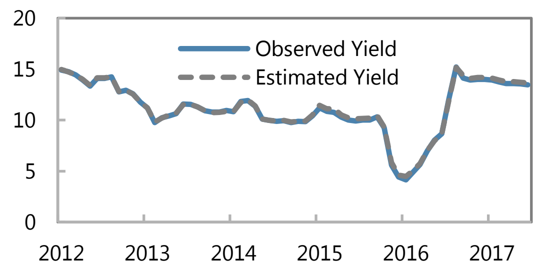
In the Nelson-Siegel yield-macro model, the state-space model is expanded to include macroeconomic variables. Diebold, Rudebusch and Auroba (2006) expanded the state vector to include monetary policy, inflation and manufacturing capacity utilization. The inclusion of macroeconomic variables does not change the state space specifications Equation 4 and 5, but $\cdot_t$ is redefined to include the new variables, so for example, $\beta_t = [\beta_{1,t}\ \beta_{2,t}\ \beta_{3,t}\ \alpha_{1,t}\ \alpha_{2,t}, \alpha_{3,t}]$, where $\alpha_{j,t.}$, represent macroeconomic variables.

Appendix II. Performance Evaluation of Nelson-Siegel Models

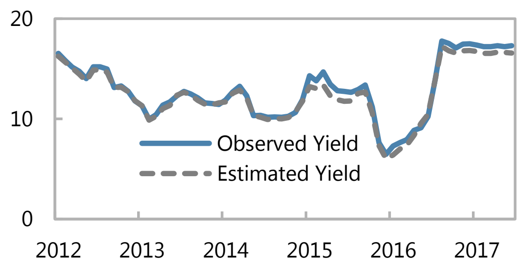
Appendix Figure 1. Performance Evaluation of the Yield Only NSM, 2012–17

(Percent)

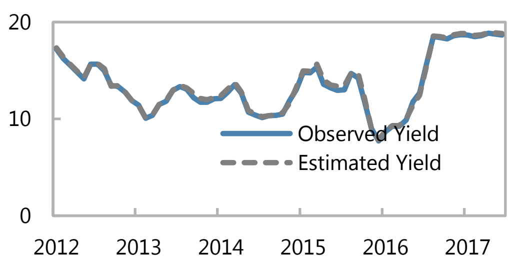
Fit of the 3-month Yield Curve, 2012–17



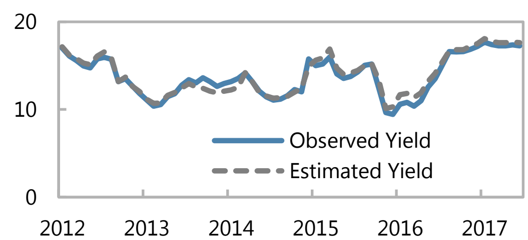
Fit of the 6-month Yield Curve, 2012–17



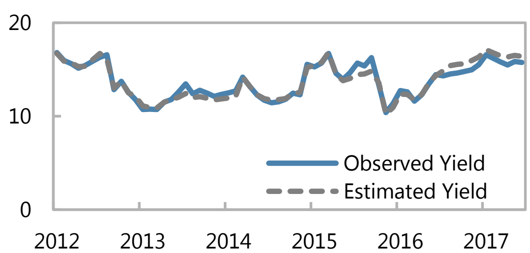
Fit of the 1-year Yield Curve, 2012–17



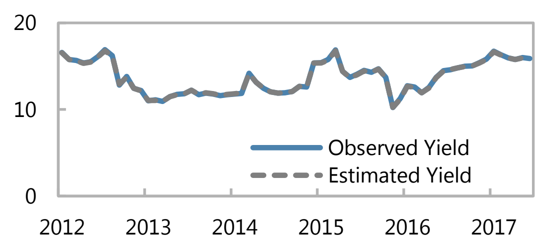
Fit of the 3-year Yield Curve, 2012–17



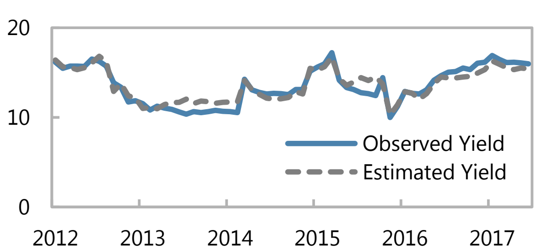
Fit of the 5-year Yield Curve, 2012–17



Fit of the 7-year Yield Curve, 2012–17



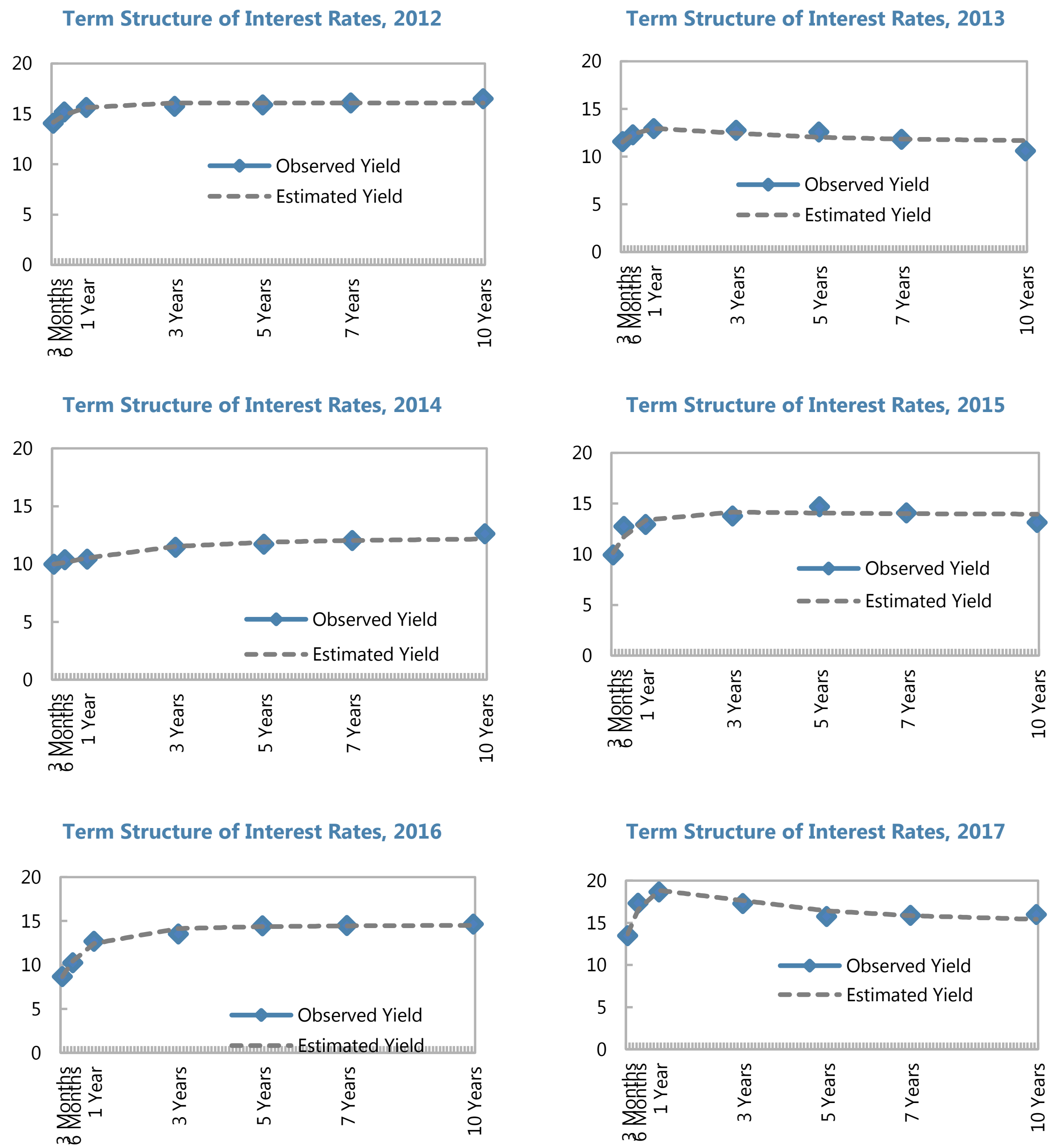
Fit of the 10-year Yield Curve, 2012–17



Source: Fund staff estimates

Appendix Figure 2. Term Structure of Interest Rates, 2012–17

(Percent)



Source: Fund staff estimates

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UNDERSTANDING MONETARY POLICY IN NIGERIA[1]

Monetary policy in Nigeria is confronted with multiple objectives. Empirical results in this chapter suggest that interest rates have mainly reacted to exchange rate pressures as an indirect way of controlling inflation; the stated primary objective of the CBN. This, in addition to conflicting market signals from sometimes different de facto and de jure approaches to monetary policy conduct, complicates policymaking. Experience from other countries targeting inflation suggests successful conduct of monetary policy hinges critically on the extent to which the central bank is equipped with a clear mandate that assigns primacy to price stability, with a main short-term instrument to manage inflation and sufficient exchange rate flexibility and operational independence.

A. Introduction

1. **In Nigeria, monetary policy is confronted with multiple objectives.** Article 2 of the CBN act of 2007 entrusts the CBN with the formulation and implementation of monetary policy, with price stability being a principal objective, among other objectives such as safeguarding the financial system and value of the currency as well as other developmental functions.

2. **In part due to the weakness of transmission mechanisms, the CBN's de facto monetary policy mandate could potentially be different from its de jure one, and may give rise to conflicting market signals.** Specifically, de jure, the monetary policy rate (MPR) is the main policy instrument to manage inflation in the short run (see Modeling the Monetary Sector of the Nigerian Economy, CBN, 2012). However, de facto, the CBN has recently depended on OMOs to mop up excess liquidity in the banking system to tighten monetary policy without changing the MPR. Although not formally an Inflation Targeting (IT) regime, the CBN communicates an explicit medium-term inflation target of 6-9 percent. To achieve this, the MPR in principle acts as an instrument for guiding money market rates towards operating targets while monetary growth is an intermediate target. The pursuit of multiple objectives and the seemingly conflicting use of monetary policy instruments complicate policy design and is often a source of policy slippages.

3. **A comprehensive study to investigate the importance of the CBN objectives and the implications for the monetary policy conduct is thus warranted.** The research question addressed in this chapter is which of the CBN objectives explain recent interest rate movements and what are the implications for the monetary policy framework. Using a Taylor rule, we examine whether movements in inflation, exchange rate or output gap determine changes in CBN interest rates.

4. **Empirical results suggest that monetary policy mainly reacts to pressure on the exchange rate despite persistently high inflation.** Using a simple Taylor rule, results show that the CBN implements its strategy in a flexible manner where the main goal over the sample period was exchange rate stability; an indirect way of controlling inflation (through imported inflation). As inflation is persistently high, a natural question to ask whether the implemented approach is indeed achieving the

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stated primary objective of monetary policy and if not, how the overall framework could be improved. The combination of a monetary targeting regime with a tightly managed exchange rate and an open capital account gives rise to a complex monetary policy environment. Successful cross-country experience suggests the importance of clearly signaling in the CBN's communication strategy that inflation reduction is its primary objective, strengthen the use of the MPR as the nominal anchor for monetary policy and consider greater exchange rate flexibility among other elements required to move toward a full-fledged inflation targeting regime.

5. **The rest of the chapter is structured as follows.** The next section discusses the empirical methodology and results of the Taylor rule. Section C discusses the implications for monetary policy while section D suggests ways in which the operation of the monetary policy framework can be improved.

B. A Simple Taylor Rule Application to Nigeria

6. **Taylor rules explain how central banks set their interest rates in response to inflation and macroeconomic developments**. A review of the characteristics of Taylor rules as compared to alternative monetary policy guides can be found in Orphanides (2007). The basic structure of the Taylor rule is as follows:

$$i_t = r^n + \pi^*_t + 1.5\,(\pi_t - \pi^*_t) + 0.5\ \tilde{y}_t \qquad (1)$$

where i_t is the central bank's key monetary policy instrument, expressed as a function of r^n the natural rate of interest, π^*_t the inflation target, π_t the inflation rate, and $\tilde{y}_t$ the output gap[2]. Taylor (1993) showed that the above parameters hold for the case of the USA. Numerous studies have ever since tested the simple model described above under different specifications, samples and countries, and econometric techniques.

7. **Recent studies augment the Taylor rule to include interest rate smoothing and exchange rates.** We augment the basic Taylor rule using equations (2) and (3) to include additional factors affecting interest rates (see Hammond, Kanbur and Prasad 2009 and Mohanty and Klau 2004), as follows:

$$i_t = (1-\rho)\, i^*_t + \rho\, i_{t-1} + \varepsilon_t \qquad (2)$$

$$i^*_t = r^n + \beta\,(\pi_{t-1} - \pi^*_t) + \gamma\ \tilde{y}_{t-1} + \eta\, \Delta x_t \qquad (3)$$

where i^*_t is the target interest rate, i_{t-1} is lagged interest rate to capture smoothing effects, and Δxt is the change in the real exchange rate. We use the interbank rate as the CBN's key rate and year-on-year (y-o-y) changes in the CPI to calculate the inflation rate. The ρ coefficient in the above equation

[2] The output gap variable is calculated as the difference between actual nominal GDP and its long-run trend estimated using the Hodrick-Prescott filter.

reflects the interest rate smoothing parameter (see Moura and Carvalho (2010)). Putting equation (3) into (2), we adopt the following specification for the augmented Taylor rule.[3]

$$i_t = (1\text{-}\rho)\ \alpha + (1\text{-}\rho)\ \beta\ \pi_{t+k} + (1\text{-}\rho)\ \gamma\ \tilde{y}_{t+k} + (1\text{-}\rho)\ \eta\ \Delta x_t + \rho\ i_{t-1} + \varepsilon_t \qquad (4)$$

8. Simple OLS is used to examine the determinants of interest rate changes. The equation above is expressed in regression form in Table 1 below. We use data for the period 2000Q1–2017Q1, and seasonally adjust all variables which are checked for stationarity.

9. The results suggest that monetary policy mainly responds to changes in the exchange rate, with a significant interest rate smoothing effect (Table 1). Column (1) estimates the basic Taylor rule specification, and finds weak evidence of a backward-looking monetary policy as shown by a positive and statistically significant coefficient on the lagged inflation variable. Using the augmented Taylor rule specification in column 2) results in a significant improvement in model fit, as shown by the higher r-squared compared to the basic Taylor specification. Importantly, results suggest that the CBN interbank rate does not respond to changes in lagged inflation or output gap, while depreciation is associated with tighter interest rates. There is also a significant interest rate smoothing effect as evident from the statistically significant coefficient on the lagged interest rate variable. This implies that the CBN tightens monetary policy only when there are depreciation pressures on the naira, while inflation and output are not associated with movements in the interest rate.

Table 1. Nigeria: Taylor Rule OLS Results

VARIABLES	(1) interbank rate	(2) interbank rate
lagged interbank rate		0.471*
		(0.242)
lagged inflation	0.692*	-0.188
	(0.404)	(0.292)
Δ real exchange rate		0.499**
		(0.232)
lagged output gap (GDP)	-0.266	-0.135
	(0.215)	(0.137)
constant	0.053	0.081*
	(0.038)	(0.045)
Observations	29	24
R-squared	0.186	0.511
Sample	2010Q1-17Q2	2010Q1-17Q2

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

10. Robustness checks confirm monetary policy tightening mainly in response to exchange rate pressures (Tables 2 and 3). Specifically, we use (i) the nominal exchange rate, the BDC rate, and the BDC spread (instead of real exchange rate); (ii) industrial production index (instead of GDP);[4] and (iii) the monetary policy rate (instead of the interbank rate). Results hold regardless of the measure of the exchange rate used, even when using the spread with the parallel market as an independent variable (Tables 2 and 3). This confirms that "fear of naira depreciation" is what drove a tightening in monetary policy. Using the index of industrial production in some instances as a measure of the output gap instead of GDP suggests that the CBN tightens monetary policy when the economy is overheating while relaxing it when the economy is operating below potential (Table 2). Using the MPR as the dependent variable results in a slightly stronger interest rate smoothing effect, as expected, since the

[3] Hosny (2014; 2016) performs a similar analysis for the case of the Central Bank of Egypt.

[4] The correlation between quarterly production index and GDP is 0.79 over the 2011Q1–2014Q1 period.

MPR has been relatively stable as the CBN uses other instruments to tighten monetary policy when needed (Table 3).

Table 2. Nigeria: Robustness Check – Exchange Rate and Production Index

VARIABLES	(3) interbank rate	(4) interbank rate	(5) interbank rate
lagged interbank rate	0.535**	0.530***	0.570***
	(0.190)	(0.167)	(0.156)
lagged inflation	-0.073	-0.099	0.006
	(0.266)	(0.235)	(0.204)
Δ nominal exchange rate	0.203**		
	(0.089)		
Δ BDC rate		0.165**	
		(0.061)	
Δ BDC spread			0.017**
			(0.008)
lagged output gap (IPI)	0.582*	0.594**	0.628**
	(0.291)	(0.275)	(0.263)
constant	0.055	0.059*	0.044
	(0.040)	(0.034)	(0.029)
Observations	25	25	25
R-squared	0.669	0.687	0.707
Sample	2008Q1-14Q1	2008Q1-14Q1	2008Q1-14Q1

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 3. Nigeria: Robustness Check - MPR

VARIABLES	(6) MPR	(7) MPR
lagged MPR	0.876***	0.885***
	(0.052)	(0.053)
lagged inflation	0.045	-0.007
	(0.040)	(0.023)
Δ BDC spread	0.003**	
	(0.001)	
Δ nominal exchange rate		0.053***
		(0.004)
lagged output gap (GDP)	-0.021	-0.007
	(0.019)	(0.016)
constant	0.010	0.015*
	(0.008)	(0.008)
Observations	29	29
R-squared	0.921	0.934
Sample	2010Q1-16Q4	2010Q1-16Q4

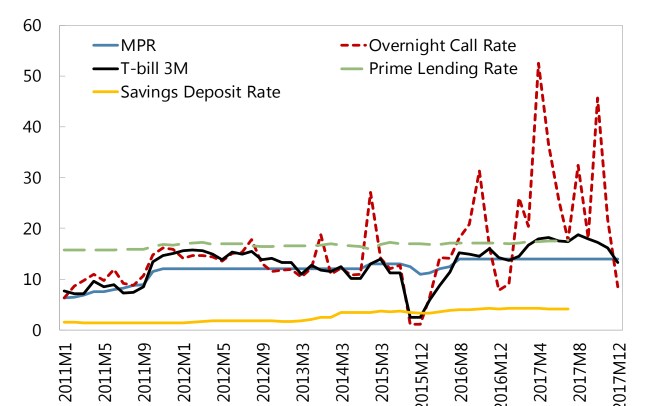
Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

C. Implications for Monetary Policy

11. **The CBN's monetary policy framework consists of a monetary targeting regime supported by a range of standard policy instruments.** The principal instruments available to the authorities for policy implementation are the monetary policy rate (MPR), open market operations (OMOs) and the cash reserves ratio (CRR). In principle, the MPR is the nominal anchor for monetary policy: its role is to signal the CBN's monetary policy stance and transmit changes in policy to the other lending rates forming the banking system. However, the transmission mechanism is weak and the MPR has not been deployed as a policy instrument since July 2016 with the result that the interest rate corridor has featured money market rates at wide variance with the policy rate (chart). At the same time, the CBN has a stated target range of 6-9 percent for inflation and publishes an annual benchmark for broad money growth (10 percent in 2017).

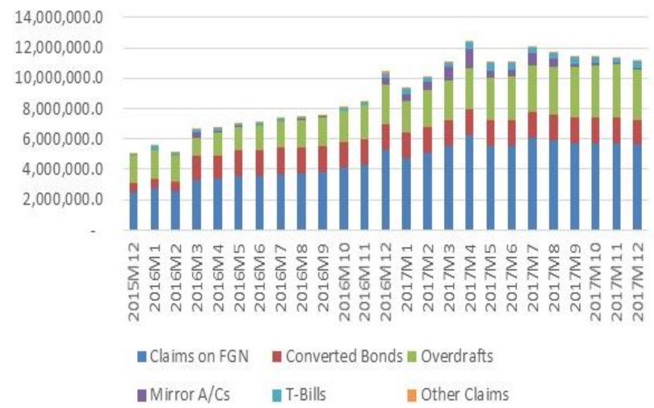
Figure 1. MPR and Other Interest Rates



Source: Central Bank of Nigeria.
1/ The wide lending-deposit rates spread is mainly explained by high non-interest cost (please see AIV and SIP 2016 for details).

12. Nigeria's monetary policy operations are compromised by the desire to meet conflicting objectives. These objectives include contributing to economic growth and managing the exchange rate. The bank has also been involved in recent times in financing the government deficit and in quasi-fiscal activities. In 2016 for example, the CBN contributed 2 trillion naira in converted bonds and overdraft financing of the federal budget (chart) alongside additional direct financing of activities in the agricultural and other priority sectors.

Figure 2. CBN Lending to FGN, Dec. 2015-Dec. 2017



D. Improving the Operation of the Monetary Policy Framework

13. The following two principles can be considered as being of critical importance for the current monetary policy framework.

- **Primacy of the price stability objective.** With persistently high inflation, the CBN faces a difficult challenge in building credibility and anchoring expectations. An important issue is that high inflation extends the time horizon over which the central bank can reasonably expect to achieve its inflation target as the lack of policy credibility typically increases inflation inertia. For this reason, the CBN could consider setting out a clear disinflation path in its communications, to provide better signaling of its policy intentions.
- **Central Bank independence in conducting monetary policy.** This applies particularly to the issue of fiscal dominance where the operation of monetary policy is compromised by the central bank's role in financing the government deficit. Operational independence should moreover take place within a context of clear accountability to the government and the public. CBN communications could explain the rationale for MPC decisions by reference to the inflation outlook and its implications for macroeconomic trends. As inflation has been deviating persistently from the 6-9 percent target range, the MPC communique is the appropriate forum for setting out what adjustments to policy will be undertaken to bring the inflation rate back towards the target and over which time horizon.

The Problem of Multiple Objectives

14. Having multiple objectives inevitably gives rise to multiple instruments pulling in different directions at the same time with the result that it becomes very difficult to determine the policy stance and to explain it clearly to the public. Cross-country experience (IMF, 2015) suggests that credibly establishing the primacy of the price stability objective and thereby anchoring inflation expectations creates more room for the central bank to manage the policy trade-offs arising from conflicting objectives in determining the magnitude and the pace of monetary policy adjustments. For example, in such circumstances, it may be easier for the central bank to ignore sharp increases in inflation which it considers temporary whereas a less credible regime may be required to respond more aggressively to inflationary shocks than would seem appropriate.

15. Price stability should be maintained as the centerpiece of the monetary policy framework. While the central bank could consider other objectives in determining the shape of policy adjustment, there are compelling reasons why price stability should be maintained as the centerpiece of the monetary policy framework. The central bank can determine the inflation rate over the medium term, whereas the sustainable path of the real economy is largely determined by nonmonetary factors that cannot be directly observed and are in any event, outside of its control.

Upgrading the Operational Framework

16. The MPR is intended to stabilize and align short-term market rates to reduce liquidity risks and assist banks with their pricing policies. With stable short-term rates, changes in the policy rate are more likely to be quickly reflected in changes in banks' own deposit and lending rates thereby aiding monetary transmission. By setting aside the MPR, as the CBN has done recently, a good opportunity to impact banks' pricing behavior is being neglected. In addition, more stable and predictable short-term interest rates facilitate the development of markets for securities at longer maturities, reinforcing policy transmission further along the yield curve.

17. Allowing market rates to deviate from announced "policy" rates creates market distortions. Interbank rates in this case often better represent the true stance of monetary policy than the MPR as they are determined by reference to actual quantity adjustments. From a policy perspective, this creates problems of consistency, and as a result, communication of the policy stance and its links to targets and objectives becomes very challenging. With interbank rates outside the limits of the interest rate corridor for extended periods, there is a clear inconsistency between interest rates and the target for broad money which needs to be resolved through either a revision of the reserve money target and/or repositioning of the interest rate corridor.

Supporting Measures

18. Robust short-term liquidity forecasting capacity is critical to help the CBN decide on how much liquidity to provide or withdraw from the market to smooth large interest rate fluctuations. It needs to be well coordinated with liquidity needs for government cash management. Building the analytical capacity to support a forward-looking approach to monetary policy is an ongoing task requiring *inter alia* continuous investment in improving data quality and availability.

Moving Away from Broad Money and Exchange Rate Targeting

19. As monetary policy-making becomes more sophisticated, the role of money as an intermediate target may be reduced. Analysis of monetary aggregates cannot take the place of developing an analytical framework for the transmission channels through which various shocks affect the economy, and the appropriate policy mechanisms to contain their impact on inflation. In particular, the primacy of the medium-term inflation objective can help provide the right perspective (and flexibility) on intermediate targets on money which can then play more of an indicator role to guide policy.

20. The empirical analysis in this chapter suggests that the exchange rate is the de facto anchor for the monetary policy framework, with clear primacy over the price stability objective. This central role assigned to the exchange rate raises many issues. While some attention to the exchange rate is warranted given its impact on inflation dynamics and expectations formation, managing the exchange rate without a policy framework with a clear hierarchy of objectives, poses major challenges. These include the need for a transparent way to model the equilibrium exchange rate and identify situations in which the real exchange rate deviates substantially from equilibrium. In any event, it seems plausible that Nigeria can target to achieve its aims to limit the impact of pass-through inflation using the MPR as an anchor rather than the exchange rate. Countries which have transitioned to greater exchange rate flexibility have done so within the context of a clear communications strategy which emphasizes the primacy of the price stability objective and using a unified framework within which to analyze monetary and exchange rate policy. The policy framework moreover requires efforts by the authorities to develop deep and liquid FX markets to facilitate exchange rate flexibility as well as enhanced capacity to manage exchange rate risk.

Enhancing Communications

21. The central bank communications policy is a central element in the monetary policy framework. It should include (i) the inflation objective and its rationale; (ii) the monetary policy strategy— how CBN actions relate to inflation objectives; and (iii) the expected future trajectory of the key policy rate and its relationship to the inflation target. There are a number of ways in which the CBN can improve its communications. Of central importance in this regard is using the monthly MPC meeting communique to strengthen the forward-looking content of communications on monetary policy, in particular by signaling the trajectory of the MPR.

E. Conclusion

22. Successful conduct of monetary policy hinges critically on the extent to which the central bank is equipped with a clear mandate that assigns primacy to price stability, and sufficient operational independence. Experience from other countries suggests that fiscal dominance, frequent political interference, and murky objectives severely hamper the smooth implementation of monetary policy. Sequencing is important therefore and clearly establishing the primacy of price stability among CBN objectives as well as the principle of independence will moreover clear the way for progress on a broader range of macroeconomic objectives.

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